

52nd



EASD Annual Meeting
12 -16 September 2016



52ND ANNUAL MEETING OF THE EUROPEAN ASSOCIATION FOR THE STUDY OF DIABETES

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DEAR MEMBERS, DEAR GUESTS,

It is my great privilege to invite you to the 52nd EASD Annual Meeting which will take place from 12 to 16 September 2016.

The city of Munich will host the largest international scientific meeting on diabetes and its complications where the EASD will celebrate its 52nd Annual Meeting with an outstanding scientific programme.

Assembled under the chairmanship of our Honorary Secretary, Per-Henrik Groop, the programme will comprise six parallel tracks which will include stimulating symposia, keynote lectures and debates covering basic and clinical science.



The EASD Annual Meeting has a longstanding tradition of not only presenting science of the highest calibre, but also of bringing researchers and clinicians of the highest calibre together. This year will be no exception and will be even more accommodating thanks to our Virtual Meeting and active social networking.

I look forward to welcoming you in Munich, a city renowned for its history, music and culture, and take this opportunity to wish you an inspiring and stimulating EASD Annual Meeting of striving to promote excellence in diabetes care through research and education.

A handwritten signature in blue ink, appearing to read 'J. Zierath', with a long horizontal flourish extending to the right.

Juleen R. Zierath
President EASD/EFSD

WELCOME ADDRESS

On behalf of the Local Organising Committee, it is my great pleasure to have the honour of inviting you to participate in the 52nd EASD Annual Meeting in Munich, Germany. Nestled at the foot of the Alps, Munich is the capital and largest city in the German state of Bavaria and is renowned worldwide for its traditions, history, culture, sport and commerce.

Famous landmarks such as the Englischer Garten, Marienplatz and the Frauenkirche await you and no visit to Munich would be complete without sampling our delectable cuisine. With over 80 different museums, an eclectic mix of old and new architecture, parks, theatres and an array of other attractions, Munich has something to offer everybody. I encourage you to explore, enjoy and experience as much as you can of our fascinating city.

The EASD Annual Meeting will take place at the Messe München, which is easily accessed using public transport. I look forward to welcoming you there from 12-16 September 2016 for a meeting which promises to offer outstanding new insights into the most recent research findings and health care in diabetology. I wish all participants a productive and engaging meeting and invite you all to experience the Bavarian hospitality in our capital. I am confident that you will take home much new scientific information as well as fond memories of your time in Munich.



Hans J. Hauner
Chairman, Local Organising Committee



MESSAGE OF GREETING



Photo: Bundesregierung/Steffen Kugler

Diabetes is often underestimated and that is probably why it is the world's most common metabolic disease. More than 415 million people suffer from diabetes - and this figure is set to increase.

In Germany, too, it has long been a widespread disease. According to estimates, one in ten people here will be affected by 2030 if we do not manage to do something major to counteract it. Young people are also increasingly at risk. This is an alarming trend.

What makes the matter particularly difficult is that diabetes is often only diagnosed when serious health problems emerge

which can massively restrict quality of life and earning capacity or even reduce life expectancy. That is why prevention and early detection are so important. At the same time, we remain dependent on further advances in research so we can develop the best possible treatments. The German Government thus supports the German Center for Diabetes Research (DZD) - a cluster of excellent research institutions focusing on the challenge of diabetes in all its facets.

International research cooperation is decisive in the fight against diabetes. I am thus very grateful to the European Association for the Study of Diabetes for its wide range of work in the fields of training, research and innovation. With this the world's largest specialist congress, it is furthering scientific exchange and helping ensure that new research and development findings benefit those affected as quickly as possible.

Allow me to take this opportunity to wish all those taking part in the 52nd EASD Annual Meeting a successful and beneficial time in Munich.

Dr. Angela Merkel
The Federal Chancellor
The Federal Republic of Germany



European Association for the Study of Diabetes

EXECUTIVE COMMITTEE

President	J.R. Zierath, SE
Senior Vice-President	P. Fioretto, IT
Vice-President	M. Stoffel, CH
Honorary Secretary	P.-H. Groop, FI
Honorary Treasurer	M. Roden, DE
Chairman of the PGEC	L. Czurpnyiak, PL
Editor-in-Chief, DIABETOLOGIA	S. Marshall, UK

The EASD Council comprises of the officers above and the following members:

Term expiring 2016	Term expiring 2017	Term expiring 2018
A. Adler, UK	B. Åhrén, SE	T. Hansen, DE
H. Hauner, DE	S. Karadeniz, TR	N. Lalic, RS
V. Lyssenko, SE	M. Solimena, DE	M. Mota, RO
V. Urbancic-Rovan, SI	N. Tentolouris, GR	E. Renard, FR

The Past President, A. Boulton (UK) is a member of the Council ex officio.

HONORARY AUDITORS

A. Pfeiffer, DE and M. Porta, IT

HONORARY MEMBERS

G. Alberti, UK; D. Andreani, IT; J.-P. Assal, CH; P. Bennett, US; A. Cerami, NL; E. Cerasi, IL; O.-B. Crofford, US; T. Deckert, DK; J. Eng, US; A.-M. Felton, UK; P. Freychet, FR; P.A. Halban, CH; B. Hellmann, SE; V. Jørgens, DE; E. Kohner, UK; H. Leibovitz, US; P. Lefèbvre, BE; J. Luvigsson, SE; W. Malaisse, BE; C.C.E. Mogensen, DK; J. Nerup, DK; L. Orci, CH; H.-H. Parving, DK; G.M. Reaven, US; J. Roth, US; E. Shafir, IL; D. Steiner, US; R. Unger, US; I. Valverde, ES; E. von Wasielowski, DE; W. Waldhäusl, AT; J.D. Ward, UK; C.B. Wollheim, CH; P. Zimmet, AU

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1040 Brussels, Belgium

European Association for the Study of Diabetes

LOCAL ORGANISING COMMITTEE

Chairman

Hans J. Hauner, Munich

Members

Martin Hrabe de Angelis, Munich

Jochen Seissler, Munich

Matthias Tschoep, Munich

Anette Ziegler, Munich



European Association for the Study of Diabetes

The mission of EASD is to promote excellence in diabetes care through research and education

Since its foundation in 1965, EASD has been organising an Annual Meeting, which has become the largest international annual conference on diabetes research worldwide. Although the meetings have grown so dramatically, they are still driven by the academic traditions of the founding members. The EASD Meeting is a meeting of members where guests are welcome. Chairpersons of oral presentations and poster sessions are chosen exclusively from the EASD membership. The abstracts are evaluated on a strictly anonymous basis and the selection is based exclusively on the quality of the science, regardless of the place of work. The EASD Honorary Secretary is solely responsible for inviting speakers and chairpersons for symposia and lectures. Comments, advice and proposals from the membership and the Programme Committee are welcome. None of the speakers or chairpersons at the EASD Annual Meeting receives an honorarium; reimbursement of their travel costs is exclusively provided by the Association.

EASD and its Foundation EFSD are academic charities dedicated to diabetes research. As an academic society, EASD encourages cooperation with industry and other institutions conducting and funding diabetes research. EASD is committed to transparency. In 2005, its Annual Meeting endorsed the following policy with respect to duality of interest: prior to the Meeting speakers invited to symposia or lectures declare to EASD the existence of any relationship or arrangement that could be reasonably considered to affect the content of the presentation. Invited speakers who declare a duality of interest are asked by EASD to disclose this on a slide of their presentation.

Any occasional, positive balance resulting from the Annual Meeting is used to encourage further diabetes research in Europe. Increasingly, major end-point related trials are carried out to evaluate diabetes treatments. EASD encourages these trials and provides an outstanding forum to announce their results to the scientific community.

European Association for the Study of Diabetes

The EASD regulations on the presentation of major clinical trials state that all data of the trial must be openly available, and clear information should be provided on the role of the funding source/sponsor on study design, data collection, analysis and interpretation of the data. Moreover, a commentator, nominated by the EASD Honorary Secretary, must have prior access to the data in order to prepare an unbiased review. EASD Meetings are organised in such a way as to ensure the academic independence of physicians and scientists as the patients' advocates.

Article 1, Section 2

Statutes of the European Association for the Study of Diabetes,
Diabetologia 1, 256-260 (1965):

The aims of the Association are to encourage and support research in the field of diabetes, to rapidly spread acquired knowledge and to facilitate its application.

EASD

The European Association for the Study of Diabetes



EASD is committed not only to strengthening diabetes research, but also to facilitating the application of patient care. EASD has a long history of organising innovative clinical postgraduate courses all over the world.

European Association for the Study of Diabetes

EASD POSTGRADUATE COURSES

1972	Yugoslavia
1975	Yugoslavia
1977	German Democratic Republic, Italy, UK
1979	Hungary, Austria
1983	Turkey, Greece
1986	Italy
1988	France
1989	Portugal
1990	Albania, Denmark, Portugal
1991	Ireland
1992	Czech Republic, Germany, Romania
1993	Bulgaria, Germany, Poland, Turkey
1994	Germany, Georgia, Hungary, Macedonia
1995	Czech Republic, Germany, Lithuania, Malta
1996	Austria, Czech Republic, Greece
1997	Austria, Turkey, Ukraine
1998	Austria, France, Poland, Spain
1999	Bulgaria, Lithuania
2000	Austria, France, Israel, Italy, UK
2001	Austria, Germany, Ireland, Lithuania
2002	Austria, Germany, Hungary, Italy, USA
2003	Austria, Germany, Lithuania
2004	Austria, Germany, Italy, Poland, Romania, UK
2005	Austria, Cameroon, Germany, Kenya, Lithuania, Serbia, UK
2006	Austria, Germany, Italy, Lithuania, Panama, Poland, UK
2007	Austria, Brazil, Russia, Spain, UK
2008	China, Finland, India, Poland, UK, Vietnam
2009	Austria, China, Finland, Germany, India, Ukraine, UK
2010	China, Germany, India, Lithuania, Nepal, Poland, Tanzania, Ukraine, UK
2011	Azerbaijan, Ethiopia, Germany, India, Poland, Serbia, Ukraine, UK
2012	China, Dubai, Germany, Kazakhstan, Lithuania, Poland, South Africa, Ukraine, UK
2013	China, Germany, India, Oman, Russia, Sri Lanka, Turkey, Ukraine, UK
2014	Azerbaijan, China, Croatia, Germany, Hungary, Netherlands, Poland, Qatar, Russia, Slovenia, UK
2015	Albania, Bahrain, Bulgaria, Czech Republic, Georgia, Germany, India, Iran, Kazakhstan, Lithuania, Slovenia, Ukraine, Uzbekistan, UK
2016	Azerbaijan, Belarus, Dubai, Germany, Greece, Hungary, India, Jordan, Poland, Romania, Russia, Serbia, UK

European Association for the Study of Diabetes

EASD HAS THE FOLLOWING STUDY GROUPS

Artificial Insulin Delivery, Pancreas and Islet Transplantation Study Group (AIDPIT)

Diabetes and Cancer Study Group (DCSG)

Diabetes Education Study Group (DESG)

Biomedical Imaging in Diabetes Study Group (DIAB IMAGE)

Diabetes Pregnancy Study Group (DPSG)

Non-alcoholic Fatty Liver Disease (NAFLD)

Diabetes Neuropathy Study Group (NEURODIAB)

Eye Complication Study Group (EASDec)

European Diabetic Nephropathy Study Group (EDNSG)

Incretin Study Group

Islet Study Group

European Diabetes Epidemiology Group (EDEG)

Diabetes and Nutrition Study Group (DNSG)

Psychosocial Aspects of Diabetes Study Group (PSAD)

Diabetic Foot Study Group (DFSG)

Study Group on Primary Care Research in Diabetology (PCDE)

Study Group on Genetics of Diabetes (SGGD)

Diabetes and Cardiovascular Disease Study Group (DCVD)

Exercise and Physical Activity Study Group (ExPAS)

Reactive Metabolites in Diabetes Study Group (RM)

GENERAL INFORMATION

Meeting Venue:

Messe München/ICM

Messegelände

81823 München

Tel.: +49 89 9 49-2 07 20

Fax: +49 89 9 49-2 07 29

E-Mail: info@messe-muenchen.de

<http://www.messe-muenchen.de>



First Aid:

The First Aid Room is located in the Entrance Area (Entrance West).

Registration:

Sunday	10:00 - 18:30
Monday	08:00 - 18:30
Tuesday, Wednesday and Thursday	07:30 - 19:00
Friday	07:30 - 15:00

Children under the age of 18 are not permitted to enter.

Press Registration:

Press delegates can register at a special press registration desk.

The Press Centre and Press Conference Hall are located in the foyer of the ICM (ground floor) left from the Registration Area. The schedule of press conferences is available in the Press Centre.

Delegates' Registration Fee includes:

- Admission to Scientific Programme
- Final Programme
- Admission to the Industry Exhibition
- Free public transportation
- Lunch snacks from Tuesday to Thursday
- Coffee breaks from Tuesday to Friday
- Farewell Reception

CME Accreditation:

The Meeting has been awarded European CME credits. Certificates for CME accreditation are available at the CME counter in the Registration Hall on Friday.

EASD Booth:

The EASD booth is located in the Entrance Area.

Internet Access

Unrestricted Internet access is available throughout the conference venue.

Speakers' Lounge:

The Speakers' Lounge is located in the foyer of the ICM (ground floor). Please check your presentation at the Speakers' Lounge at least two hours before your scheduled presentation time. If your presentation is scheduled in the morning, you are kindly asked to check your presentation at the Speakers' Lounge the day before.

Speakers' Lounge Opening Hours:

Sunday	10:00 - 18:30
Monday	07:00 - 18:30
Tuesday, Wednesday and Thursday	07:30 - 19:00
Friday	07:30 - 15:00

Posters:

Posters can be mounted on Monday 13:00 - 17:30 and Tuesday 07:30 - 10:00. Posters must not be removed before 12:00 on Friday. Posters that have not been taken down by 14:30 on Friday will be removed by the organisation. The authors are required to be present to discuss their work with a Poster Chairperson during the poster events. Poster Chairpersons were nominated by the Programme Committee. They will visit the posters at the indicated time. The Poster Chairperson is a scientist with knowledge of the respective field of work. He/she will have studied the abstracts and will elaborate on the findings together with the author.

Poster Event A	Tuesday	12:00 - 13:00
Poster Event B	Tuesday	13:15 - 14:15
Poster Event C	Wednesday	12:00 - 13:00
Poster Event D	Wednesday	13:15 - 14:15
Poster Event E	Thursday	12:00 - 13:00
Poster Event F	Thursday	13:15 - 14:15

Exhibition Opening Hours

Tuesday to Thursday	10:00 - 17:00
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Silence Room:

The Silence Room is located on the first floor of hall B6 (Entrance East). There is an "Expressway" running between Entrance East and West.

Lunch snacks:

Lunch snacks are served in the Exhibition and in the foyer of the ICM as follows:

Tuesday to Thursday 13 - 15 September 11:30 - 14:30

No lunch snack is served on Friday.

Food and Beverages:

Food and beverages are not allowed in the lecture halls.

Badges:

The delegates' name badges serve as an admission pass to all scientific sessions and the exhibition. Name badges have to be displayed at all times.

Lost badges can be replaced and will be charged for.

Please be aware that when presenting your badge for scanning at an exhibition stand the following data can be retrieved:

first name(s), last name(s), country and area of interest.

**Cloakroom/Lost and Found Counter:**

Cloakrooms as well as the lost and found counter are located in the Entrance Area (Entrance West).

Security:

Any suspicious or unidentified items are to be reported immediately to the nearest staff member. Security staff are on duty to ensure that all persons entering the venue are wearing a badge. For your safety, it is strongly advised to leave all your valuables in a safe at your hotel.

Insurance:

The registration fees do not include the insurance of participants against accidents, sickness, cancellation, theft, property loss or damage.

Participants are advised to take out adequate personal travel insurance.

Disclaimer:

All efforts will be made to adhere to the programme as printed. However, EASD and its agents reserve the right to alter or cancel, without prior notice, any of the arrangements, timetables, plans or other items relating directly or indirectly to the Meeting, for any case beyond their reasonable control. EASD and the local conference organisers are not liable for any other loss or inconvenience caused as a result of such changes.

TRANSPORTATION

Munich Airport – Messe München/ICM (Congress Centre)

From Munich International Airport the congress centre can be reached by taxi which takes about 35 minutes and costs Euro 63 for the shortest route (kilometres). Another possibility is to take the fast city train (S-Bahn) via the central station. From the Airport Terminals follow the green “S” sign for local/regional trains. The S-Bahn lines 1 and 8 depart from the airport every 10 minutes. From the central station you have to take the metro (line U2) to the venue (“Messestadt West”), (60 minutes).

From Sunday to Friday, there will be a shuttle bus between Munich Airport and Messe München/ICM (Entrance West) which commutes non-stop every 30 minutes. Each one-way trip takes approx. 45 minutes. The ticket (single journey Euro 8.00 or round trip Euro 13.50) can be paid in cash (Euro only) or by credit card. To purchase shuttle bus tickets online, please visit www.airport-tradefair-express.com.

By Car

Munich can be easily reached from north via the autobahn A 9 (Nürnberg), from east via A 94 (Passau), from south via A 8 (Salzburg), from south-west via A 95 (Garmisch), from west via A 96 (Lindau) or from north-west via A 8 (Stuttgart). Approaching Munich please follow “Messe/ICM”.

Free Public Transportation

The name badge is also valid as your public transportation ticket and can be used within Munich from 12 - 16 September. This includes S-Bahn (fast city train), U-Bahn (Metro), Tram and Bus throughout the city of Munich, but NOT the airport.

Munich Centre – Messe München/ICM (Congress Centre)

In order to reach the congress venue, take the “red” metro (line U2) from the central station and exit the train at “Messestadt West”.

Messe München/ICM will provide a shuttle bus service which is running between Entrance East and Entrance West from Sunday to Friday.

Lufthansa Counter for Luggage Check-in

Luggage check-in is possible at the Lufthansa Counter, which is located in the foyer of the ICM (ground floor), on 14 and 15 September, 07:30 - 17:00 and on 16 September, 07:30 - 15:00. This applies to the following airlines: Lufthansa, Swiss International Airlines, Austrian Airlines, Scandinavian Airlines, Air Dolomiti, Luxair, Air Malta, TAP Portugal, Egyptair, Croatia Airlines and Adria Airways.

Nur zeitweise
U7 U8
S8
 Abschnitt Ostbahnhof ↔ Ebersberg
S20

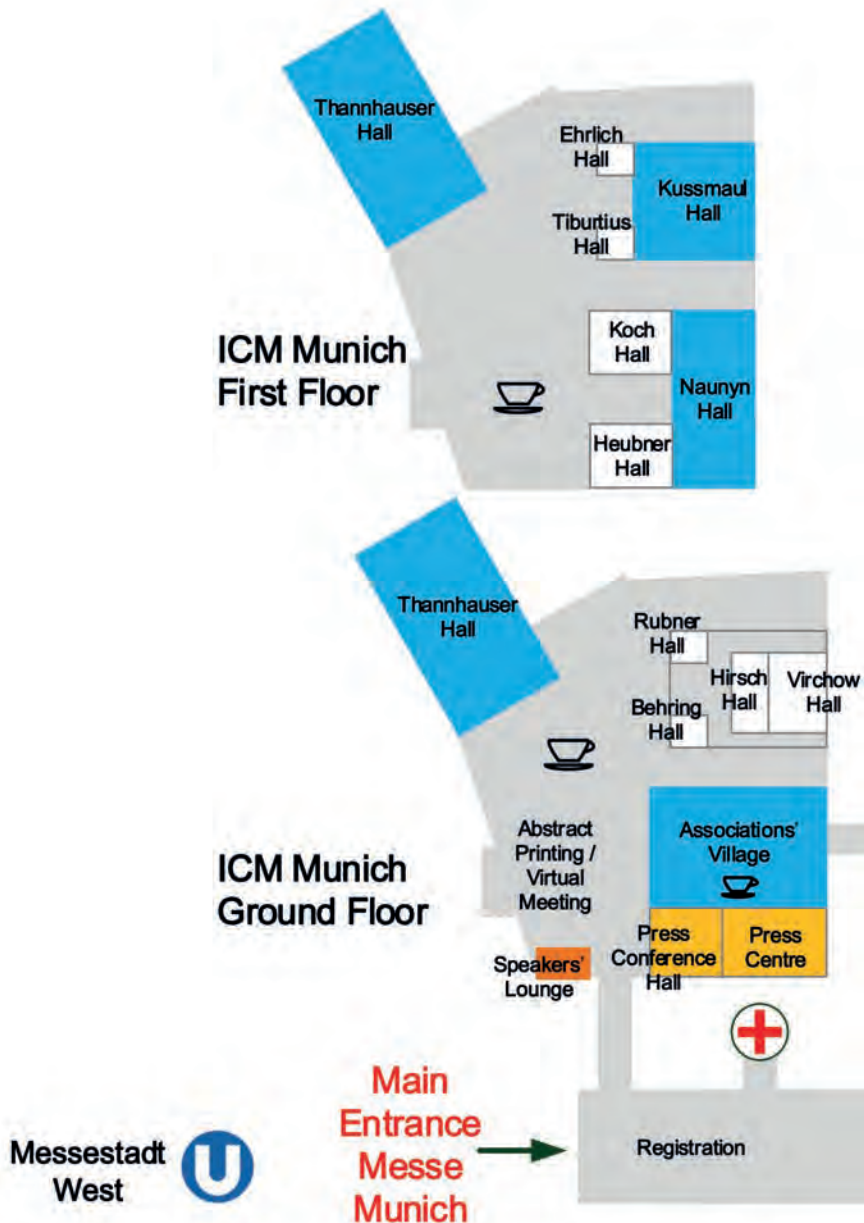
Regional- / Fernverkehr

underground train) network



EASD 52nd Annual Meeting 2016, Munich,

EASD

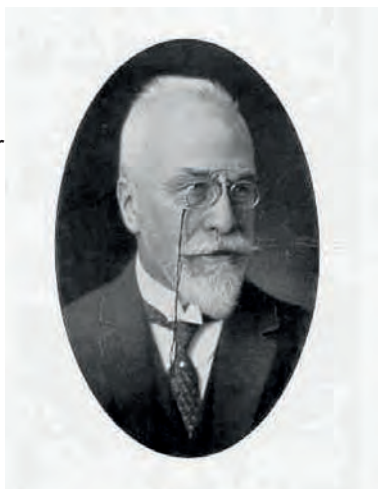


Messe Munich Ground Floor



OSKAR MINKOWSKI

Oskar Minkowski was born in Alexotas, near Kaunas, now in Lithuania in 1858. In 1872, the family emigrated to Königsberg in Prussia, where his older brother later took over the family business. His younger brother Hermann, went on to become a world-famous professor of mathematics and found a place in history as Einstein's teacher.



Oskar completed his medical studies at the University of Königsberg and in 1888 he followed his chief, Bernhard Naunyn, to Strasbourg when the latter took up there the University Chair of Internal Medicine. He worked in Strasbourg until 1904, moved to the Augusta Hospital in Cologne and went on to become Chair of Internal Medicine in Greifswald in 1905. From 1909 to 1926 he served as Chair of Internal Medicine in Wrocław. Oskar Minkowski became a leading figure in German medicine: he chaired the German Insulin Committee, the German Association for Internal Medicine and was part of the German delegation sent to Russia to give advice for the treatment of Lenin. In 1884, Minkowski discovered betahydroxybutyric acid in the urine of severely diabetic patients.

In 1889, together with Freiherr Josef von Mering, he successfully performed the extirpation of the pancreas in dogs and he noticed that they developed diabetes^{1,2}. Minkowski died in 1931.

Since 1966, the European Association for the Study of Diabetes awards the Minkowski Prize for outstanding contributions to the advancement of knowledge in the field of diabetes mellitus.

1. Von Mering J, Minkowski O (1889) Diabetes nach Pankreasextirpation; Centralblatt für Klinische Medizin 23:394

2. Houssay BA (1952) The discovery of pancreatic diabetes. The role of Oscar Minkowski. Diabetes 1:112–116

PAUL LANGERHANS

Paul Langerhans was born in Berlin in 1847. In 1865, he began his medical studies in Jena and completed them in Berlin at the age of 22 with his medical thesis: "Contributions to the microscopic anatomy of the pancreas". He described structures in the pancreas which he called "Zellhäufchen" (little heaps of cells)¹. Langerhans also was the first to describe dendritic cells in the skin². Nearly a century later, in 1971, Inga Silberberg started to unveil the vital role of these cells in the immune process. The Langerhans cells have, in recent years, attracted so much attention that they deserve to be recognised as his second major discovery. Langerhans further deserves recognition for his zoological

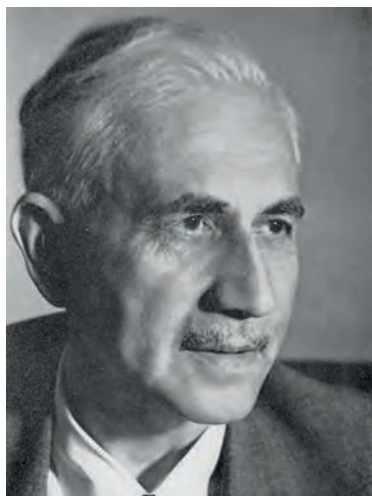


descriptions of hitherto unknown marine worms, several of which still bear his name³. With some help of his godfather Rudolf Virchow, who was a close political and personal friend of his father, Paul Langerhans became a lecturer at the University of Freiburg in 1871 and, with the support of A. Kussmaul, Professor in 1875. Some weeks later he was diagnosed with tuberculosis and moved to Madeira where he died in 1888. Twenty five years after the death of Paul Langerhans, E. Laguesse rediscovered the islet cells and was the first to speculate about their function in regulating carbohydrate metabolism. Laguesse suggested the name îlots de Langerhans (islets of Langerhans).

1. Langerhans P: Beiträge zur mikroskopischen Anatomie der Bauchspeicheldrüse, Dissertation, Berlin 1865
2. Langerhans P (1868) Über die Nerven der menschlichen Haut. Arch. Pathol. Anat. 44:325
3. Langerhans P (1879) Über die Wurmfauna von Madeira. Zschr. f. wissenschaft. Zoologie 33:513-592
4. Hausen B M: Die Inseln des Paul Langerhans. Überreuther Verlag 1998

OTTO MEYERHOF

Otto Fritz Meyerhof was born in Hanover in 1884. He studied medicine and graduated in 1909 in Heidelberg with a dissertation on psychiatry. He went to work in Heidelberg in the clinic of Ludwig Krehl, where he met Otto Warburg. In 1912, he moved to Kiel where he became a professor in 1918. He was awarded the Nobel Prize for Physiology and Medicine in 1922 “for his discovery of the fixed relationship of oxygen and the metabolism of lactic acid in the muscle” sharing it with Archibald V. Hill whose work on heat in muscle contraction had inspired much of Meyerhof’s own research. Otto Meyerhof became the Director of the Kaiser-Wilhelm-

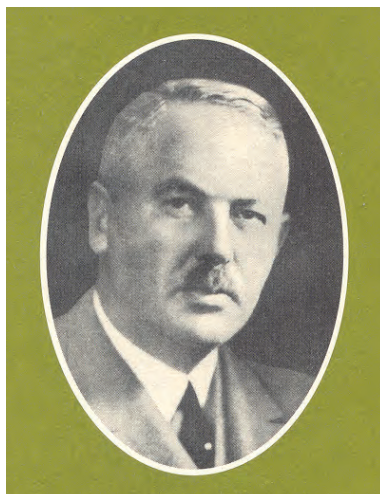


Institute for Biochemistry, first in Berlin in 1924, then in Heidelberg in 1929. He trained Noble prize winners like Hans Adolf Krebs, Fritz Lipmann, and Severo Ochoa. As the situation in Germany became increasingly difficult, he decided to move to Paris in 1939, where he continued research. When the Nazis invaded France, he and his wife had to flee under most difficult circumstances. Via Portugal they emigrated to the United States in 1940, where he became Research Professor at the Department of Biochemistry at the University of Pennsylvania, a position he held until his death. Otto Meyerhof made numerous discoveries¹ including the bio-energetics of the glycolytic pathway² and the energy-rich phosphate³. Meyerhof was “one of the greatest thinkers among the biologists of our time”¹. He published work on the philosophy of J. F. Fries and I. Kant as well as Goethe’s scientific writings, particularly his theory of colours. He died in Pennsylvania in 1951.

1. Meyerhof O (1924) Chemical dynamics of life phenomena. J. B. Lippincott Co, Philadelphia, London
2. Meyerhof O (1930) Die chemischen Vorgänge im Muskel und ihr Zusammenhang mit Arbeitsleistung und Wärmebildung. Julius Springer Berlin
3. Nachmansohn D, Ochoa S, Lipman F A (1952) Otto Meyerhof 1884-1953. Science 115 (2988):365-368
4. Lenzen S. (2014) A fresh view of glycolysis and glucokinase regulation: history and current status. J Biol Chem 289, 12189-12194

SIEGFRIED THANNHAUSER

Siegfried Thannhauser was born in Munich in 1885. In 1910, he received his medical degree at the University of Munich, followed by his doctorate in chemistry in 1912. He qualified as a university lecturer in 1917. He then served as Chair of Internal Medicine in Heidelberg (1924), in Düsseldorf (1927) and at the University of Freiburg (1930). Numerous researchers worked in his clinic and laboratory, including the future Nobel Prize winner Hans Adolf Krebs. In 1933, Thannhauser had to leave his position at the University of Freiburg due to the Nazi regime. He continued to work privately but his wife and the Rockefeller Foundation, which had

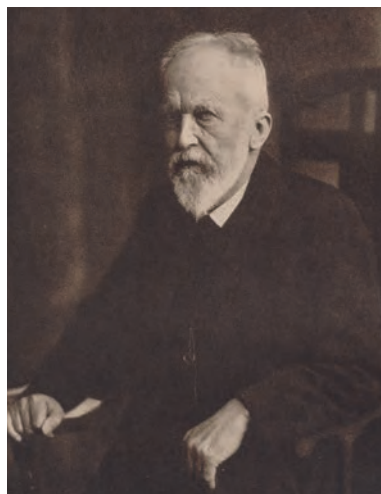


supported him, convinced him to leave the country in 1935. The family settled in Boston where he worked as professor at Tufts University¹. Thannhauser was a great clinician and clinical investigator in the field of uric acid, lipid and glucose metabolism. His forced emigration was an irreplaceable loss for German academic medicine. In 1929, his famous textbook, "Lehrbuch des Stoffwechsels und der Stoffwechselkrankheiten"², by far the best book on the topic in German for decades was published. The Thannhauser laboratory in Boston became an outstanding place for lipid research³. In Boston he discovered and classified Xanthomatosis. But he was also a music and art aficionado and donated his outstanding collection of gothic sculptures to the Boston Museum of fine Arts. Siegfried Thannhauser died in Boston on 18 December 1962, he never returned to Germany.

1. Zöllner N, Hofman A F (2000) Siegfried Thannhauser (1885-1962): physician and scientist in turbulent times. Falk Foundation, Freiburg
2. Thannhauser S J (1929) Lehrbuch des Stoffwechsels und der Stoffwechselkrankheiten. J F Bergmann Verlag München
3. Thannhauser S J (1950) Diseases of the cellular lipid metabolism. Oxford University Press

BERNHARD NAUNYN

Bernhard Naunyn was born in Berlin on 2 September 1839. His father was mayor of Berlin. After receiving his degree in 1863, he became an assistant of Friedrich Theodor von Frerichs in Berlin, known for his research on diabetes and liver diseases. Subsequently he served as Chair of Medicine in Dorpat, today Tartu in Estonia (1869-1871), Bern (1871), Königsberg (1872-1888) and Strasbourg (1888-1904). Naunyn was the author of two medical classics, the first on cholelithiasis¹, which he dedicated to Adolf Kussmaul, which was translated into English by A. E. Garrod for the New Sydenham Society's publications (1896).



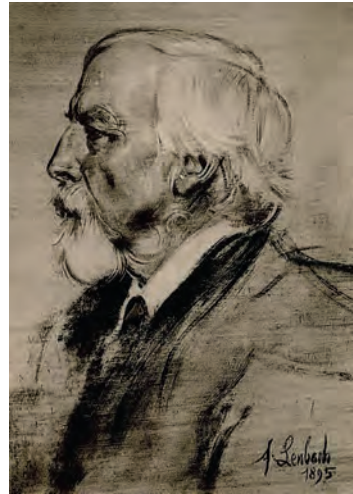
His opus magnum was his book on diabetes melitus (sic!)². He was convinced to respect etymology properly but it remained the only textbook on diabetes with this spelling. He also published important articles on cerebral compression, the problem of fever, coagulation of the blood, gastric fermentation, cirrhosis of the liver, disorders of speech and syphilitic disease of the nervous system. In Strasbourg he created an outstanding school of researchers, including Otto Loewi, Nobel Prize in Physiology and Medicine in 1936 and Adolf Magnus-Levi. Both were forced to immigrate to the USA. The collaborator he considered to be the most outstanding was Oskar Minkowski. Naunyn intervened personally in Berlin to promote his career.

Many visitors from abroad came to Strasbourg including E.P. Joslin who spent three weeks in Strasbourg visiting Naunyn's clinic and he went to see him again on a trip to East Prussia³. Bernard Naunyn retired in 1905 and died in Baden-Baden in 1925.

1. Naunyn B (1892) Klinik der Cholelithiasis. Verlag F.C.W. Vogel, Leipzig
2. Naunyn B (1898) Der Diabetes melitus. Alfred Hölder, Wien
3. Naunyn B (1925) Gedanken, Erinnerungen und Meinungen. J.F. Bergmann Verlag, München

ADOLF KUSSMAUL

Adolf Kussmaul was born in Graben near Karlsruhe in Germany in 1822. He studied in Heidelberg where he graduated in 1846. In 1847 and 1848, he travelled to Vienna and Prague and met Ignatz Semmelweis, Carl von Rokitansky and Ferdinand von Hebra. Due to the revolution in Vienna, he had to return and serve as a surgeon in the army of the Grand Duchy of Baden. In 1850, he married and worked as general practitioner in the Black Forest. In 1853, following a severe infection he started an academic career at the age 31. He began to study in Würzburg where he was supported by Rudolf Virchow. In 1855, he qualified as a professor at the University of Heidelberg, becoming Chair of Medicine at the University of Erlangen (1857), the University of Freiburg (1863) and the University of Strasbourg (1876-88). Connected with his name is Kussmaul respiration. In 1874, he described precisely the symptoms of diabetic ketoacidosis¹. He was the first to define periarteritis nodosa in 1866² and introduced the stomach tube for the treatment of pyloric stenosis in 1869³. Together with a friend he published poetry, he invented the character “Biedermeier” from whom the famous period of arts, literature and design, from 1815-1848, derives its name. He died in Heidelberg in 1902.



1. Kussmaul A (1874) Zur Lehre vom Diabetes mellitus. Über eine eigentümliche Todesart bei Diabetischen. Dtsch. Arch. f. Klin. Med. 14:1-46.
2. Kussmaul A, Maier R (1866) Über eine bisher nicht beschriebene, eigentümliche Arterienerkrankung. Dtsch. Arch. f. Innere Medizin 1:484-518
3. Kussmaul A (1869) Über die Behandlung der Magenerweiterung durch eine neue Methode, mittelst der Magenpumpe. Dtsch. Arch. f. klin. Med. 6:455-500
4. Kussmaul A (1899) Jugenderinnerungen eines alten Arztes. Verlag von Adolf Bonz, Stuttgart

ABSTRACT SELECTION

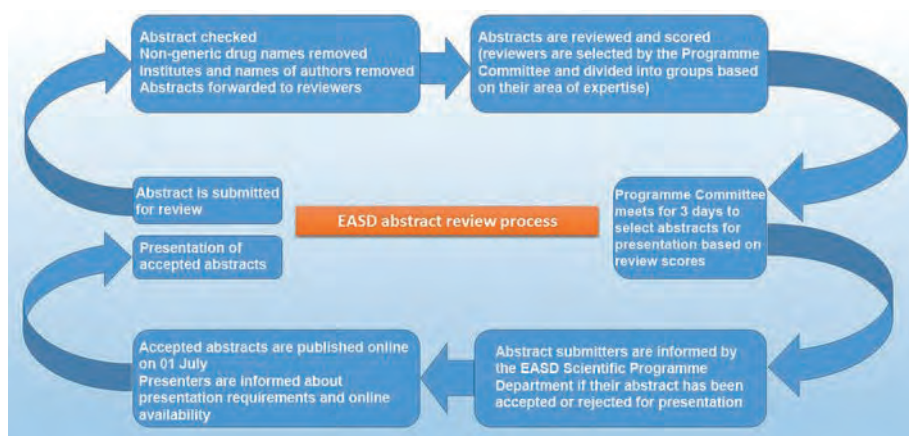
1167 abstracts were accepted for inclusion. All abstracts were considered anonymously and were scored by 40 Abstract Review Committee members. 16 Programme Committee Members designed the programme and created Oral and Poster Sessions based upon the anonymous abstracts.

Publication of Abstracts

Accepted abstracts are published in the Volume of Abstracts which is part of *Diabetologia*, the official journal of the Association. Abstracts are available online in the EASD Virtual Meeting. Participants can print abstracts on Print Stations during the Annual Meeting.

Embargo Policies

Information contained in abstracts may not be released until 1 July when the abstracts are published online. Oral Presentations are under embargo until one (1) minute following the commencement of the speakers' presentation. Poster Presentations are under embargo until 11:59 CET on Tuesday 13 September.



Abstract Review Committee

Francesco Beguinot, IT	Piero Marchetti, IT
Kåre I. Birkeland, NO	David R. Matthews, UK
Matthias Blüher, DE	Juris J. Meier, DE
Amélie Bonnefond, FR	Pirjo Nuutila, FI
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Patricia Iozzo, IT	Jay S. Skyler, US
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Mikael Knip, FI	Norbert Stefan, DE
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Hiddo Lambers Heerspink, NL	Michael Stumvoll, DE
Maciej Malecki, PL	Solomon Tesfaye, UK
Rayaz Malik, UK/QA	Mark Walker, UK
Boris Mankovsky, UA	Raimund Weitgasser, AT

PROGRAMME COMMITTEE



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Richard I.G. Holt, UK



Maciej Malecki, PL



Rayaz Malik, UK



Piero Marchetti, IT



David R. Matthews, UK



Pirjo Nuutila, FI



Peter Rossing, DK



Jay S. Skyler, US



Michael Stumvoll, DE



Solomon Tesfaye, UK



Mark Walker, UK

Tuesday, 13 September						
Time	Minkowski Hall	Langerhans Hall	Meyerhof Hall	Thannhauser Hall	Naunyn Hall	Kussmaul Hall
08:30	Opening Ceremony					
08:45	Presidential Address					
09:15	Claude Bernard Lecture					
Break						
10:15	OP 1	OP 2	OP 3	OP 4	OP 5	OP 6
Break						
12:00	Poster Event A					
Break						
13:15	Poster Event B					
Break						
14:30	OP 7	OP 8	OP 9	OP 10	OP 11	OP 12
Break						
16:15	Camillo Golgi Lecture	Albert Renold Lecture				
Break						
17:30						General Assembly

Wednesday, 14 September						
Time	Minkowski Hall	Langerhans Hall	Meyerhof Hall	Thannhauser Hall	Naunyn Hall	Kussmaul Hall
08:30	Discussing diabetic dementia	New paths to tight glycaemic control	New insights into gestational diabetes	Focus on fat	Physiological inquiries into the benefits of exercise	Curing diabetes through transplantation
	Break					
10:15	OP 13	OP 14	OP 15	OP 16	OP 17	OP 18
	Break					
12:00	Poster Event C					
	Break					
13:15	Poster Event D					
	Break					
14:30	OP 19	OP 20	OP 21	OP 22	OP 23	OP 24
	Break					
16:15	Diabetes Prize for Excellence Lecture					
	Break					
17:30	A decade of DPP-4 inhibition: What have we learned?	Michael Berger debate: Statins for all?	Metformin: oldie but goodie	All grown up? Transitions in diabetes care	Epigenomics and epigenetics	Our "embryonic" understanding of diabetes

Thursday, 15 September						
Time	Minkowski Hall	Langerhans Hall	Meyerhof Hall	Thannhauser Hall	Naunyn Hall	Kussmaul Hall
08:30	Managing pregnant women with microvascular complications	Diabetes management in ageing individuals	Advances in neuropathy management	SOS (Save Our Secretion): rescuing islets in type 2 diabetes	Prime time for omics?	Beyond muscle: the protean effects of exercise
	Break					
10:15	OP 25	OP 26	OP 27	OP 28	OP 29	OP 30
	Break					
12:00	Poster Event E					
	Break					
13:15	Poster Event F					
	Break					
14:30	OP 31	OP 32	OP 33	OP 34	OP 35	OP 36
	Break					
16:15	Minkowski Lecture					
	Break					
17:15	LEADER	Update on diabetes technology	Diabetes in the developing world: A ticking time bomb?	Where have all the beta cells gone in type 2 diabetes?	Interpreting the human genome	Lipids and kidney disease

Friday, 16 September						
Time	Minkowski Hall	Langerhans Hall	Meyerhof Hall	Thannhauser Hall	Naunyn Hall	Kussmaul Hall
08:30	EASD/ADA Symposium: Changing paradigms: the role of SGLT2 inhibitors	Dogmata debate: Time to stop measuring diastolic blood pressure?	SUSTAIN 6	The brain - fat connection	Is the well dry? Beta cell function in early type 1 diabetes	Genetics and metabolism: a decade later
Break						
09:45	OP 37	OP 38	OP 39	OP 40	OP 41	OP 42
Break						
11:00	OP 43	OP 44	OP 45	OP 46	OP 47	OP 48
Break						
12:15	Diabetes prevention: What has the ADDITION trial added?	EASD/ESC Symposium: Blood pressure in diabetes: How low to go?	Reducing residual risk: optimising CV outcomes in diabetes	Rising Star Symposium	EASD/JDRF Symposium: The intestinal microbiome in type 1 diabetes	EMPA-REG OUTCOME: one year later
13:30						Combination treatment with SGLT2// GLP-1 RA

EASD VIRTUAL MEETING

ABSTRACTS WEBCASTS EPOSTER

The EASD Virtual Meeting* has changed the face of scientific meetings as we know it.

From its humble beginnings, the EASD Virtual Meeting is now the world's leading online platform for showcasing scientific excellence. Unlike many other medical associations, in our effort to spread knowledge and to promote excellence in diabetes care, EASD makes this available, to all, for free.

Up-to-date science which influences day-to-day health care around the world is a priority for all and not only the privileged few.

Easy to navigate, the EASD Virtual Meeting contains 1000's of presentations from recent years and is updated hourly during the Annual Meeting with the newest content.

Visit www.easdvirtualmeeting.org on your desktop or smart device to access this invaluable resource.



www.easdvirtualmeeting.org

* The EASD Virtual Meeting is unsponsored and is financed entirely by EASD

ASSOCIATIONS' VILLAGE

The Associations' Village is a special exhibition area, organised by EASD in collaboration with IDF Europe, which brings together international diabetes associations, societies and study groups. Each represented association, society and study group has an exhibition stand displaying its current activities and highlighting its work and practices. The Associations' Village is a multinational networking platform which aims to further increase and facilitate the exchange of knowledge and experiences among diabetes associations, and to provide information to physicians and researchers from all over the world on the existing professional and patient associations. At the Associations' Village you will have the opportunity to learn about diabetes in a variety of different countries, speak with colleagues and receive the latest information on diabetes research from all over Europe, and beyond. Representatives at each stand will be happy to answer any questions.

Associations' Village Opening Hours:

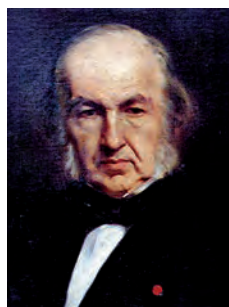
Tuesday - Thursday 09:30 - 17:00

Friday 09:30 - 12:00



CLAUDE BERNARD LECTURE

The Claude Bernard Lectureship recognises contributions to the advancement of knowledge in the field of diabetes mellitus and related metabolic diseases. The Claude Bernard Award is presented to the lecturer by the President of the EASD at the Award Ceremony immediately preceding this lecture.



Claude Bernard

CLAUDE BERNARD LECTURERS

1969 Montpellier	C. DE DUVE, BE	1994 Düsseldorf	G. REAVEN, US
1970 Warsaw	E.W. SUTHERLAND, US	1995 Stockholm	M. BERGER, DE
1971 Southampton	M. DEROT, FR	1996 Vienna	J.D. WARD, UK
1972 Madrid	K. LUNDBAEK, DK	1997 Helsinki	C.E. MOGENSEN, DK
1973 Brussels	A.E. DONIACH, CH	1998 Barcelona	C. WOLLHEIM, CH
1974 Jerusalem	T.R. FRASER, UK	1999 Brussels	J.P. ASSAL, CH
1975 Munich	R.G. SPIRO, US	2000 Jerusalem	W. MALAISSE, BE
1976 Helsinki	H.G. HERS, BE	2001 Glasgow	P.E. CRYER, US
1977 Geneva	D.L. COLEMAN, US	2002 Budapest	M.R. TASKINEN, FI
1978 Zagreb	W. CREUTZFELDT, DE	2003 Paris	M. BROWNLEE, US
1979 Vienna	D.A. PYKE, UK	2004 Munich	C.R. KAHN, US
1980 Athens	R.H. UNGER, US	2005 Athens	J.J. HOLST, DK
1981 Amsterdam	G.R.E. MEYER-SCHWICKERATH, DE	2006 Copenhagen	L. GROOP, SE
1982 Budapest	J. MIROUZE, FR	2007 Amsterdam	E. VAN OBBERGHEN, FR
1983 Oslo	C. HELLERSTRÖM, SE	2008 Rome	R.A. DEFRONZO, US
1984 London	P.J. LEFEBVRE, BE	2009 Vienna	O. PEDERSEN, DK
1985 Madrid	E.F. PFEIFFER, DE	2010 Stockholm	M. KASUGA, JP
1986 Rome	W. K. WALDHÄUSL, AT	2011 Lisbon	E. FERRANNINI, IT
1987 Leipzig	H. KEEN, UK	2012 Berlin	D.J. DRUCKER, CA
1988 Paris	T. DECKERT, DK	2013 Barcelona	M. LAAKSO, FI
1989 Lisbon	G. TCHOBRUTSKY, FR	2014 Vienna	D. ACCILI, USA
1990 Copenhagen	K.G.M.M. ALBERTI, UK	2015 Stockholm	H.-U. HÄRING, DE
1991 Dublin	E. SHAFRIR, IL		
1992 Prague	P.H. BENNETT, US		
1993 Istanbul	D. ANDREANI, IT		

8:30	OPENING CEREMONY J.R. Zierath, President, EASD and EFSD H.J. Hauner, Local Organising Committee	Minkowski Hall
8:45	PRESIDENTIAL ADDRESS J.R. Zierath, President, EASD and EFSD followed by	
9:15	48TH CLAUDE BERNARD LECTURE	
Chair:	J.R. Zierath, President, EASD and EFSD	
Speaker:	M.E. Cooper, Australia	
Title:	Uncomplicating diabetes: interactions between metabolic and haemodynamic signalling pathways in the pathogenesis of diabetic complications	

Mark E. Cooper is the Chief Scientific Officer of the Baker IDI Heart & Diabetes Institute as well as the Director of the JDRF Centre for Diabetes Complications at the Baker IDI Heart & Diabetes Institute. He holds honorary appointments as a Professor of Medicine at both Monash University and University of Melbourne. He is a trained endocrinologist with an appointment at the co-located Alfred Hospital. Cooper studied medicine at the University of Melbourne and then completed his physicians training at the Austin Hospital as well as his PhD under George Jerums and Austin Doyle in the University of Melbourne, Department of Medicine, Austin Hospital. Cooper has successfully competed for a large number of peer reviewed grants over the last 15 years from a range of organisations including not only JDRF but also the National Health & Medical Research Council of Australia, National Institutes of Health, National Heart Foundation of Australia, Diabetes Australia and Kidney Health Australia. In 1999, Mark Cooper was awarded the Eric Susman prize from the Royal Australasian College of Physicians for his research in the field of renal and vascular complications of diabetes. In 2005, he was awarded the Australian Diabetes Society (ADS) Kellion Award for outstanding contribution to diabetes research in Australia. In 1999, he was awarded a Centre Grant from JDRF which was subsequently renewed in 2003. He is a previous recipient of a scholar's award from the JDRF. This work was further supported by a 5 year Australia Fellowship awarded by NHMRC in 2009. Cooper is currently Co-Chair of the JDRF Medical Science Review Committee (Complications Panel). He is regularly invited to international meetings and has over 500 peer reviewed publications.



10:15 - 11:45

Minkowski Hall

OP 01 GLP-1 receptor agonists: combinations, type 1 diabetes and long-term use

Chair: C.F. Deacon, Denmark, M.A. Nauck, Germany

1 Switching from sitagliptin to liraglutide in subjects with type 2 diabetes: analysis of composite endpoints from the LIRA-SWITCH randomised trial

T. Bailey, R. Takács, F.J. Tinahones, P.V. Rao, G.M. Tsoukas, S.B. Christensen, M.S. Kaltoft, M. Maislos, USA, Hungary, Spain, India, Canada, Denmark, Israel

2 Efficacy and safety of liraglutide added to insulin treatment in type 1 diabetes, the ADJUNCT ONE™ treat-to-target randomised trial

B. Zinman, B. Bode, J.U. Hemmingson, V. Woo, P. Colman, E. Christiansen, M. Linder, C. Mathieu, Canada, USA, Sweden, Australia, Denmark, Belgium

3 The differential and combined action of insulin glargine and lixisenatide on the fasting and post-prandial components of glucose control

B. Kovatchev, G. Umpierrez, E. Renard, USA, France

4 Efficacy and safety of LixiLan, a fixed-ratio combination of insulin glargine plus lixisenatide in type 2 diabetes not adequately controlled on basal insulin: LixiLan-L trial

V.R. Aroda, J. Rosenstock, C. Wysham, J. Unger, D. Bellido, G. Gonzalez Galvez, A. Takami, H. Guo, E. Niemoeller, E. Souhami, R.M. Bergenstal, LixiLan-L trial investigators, USA, Spain, Mexico, Japan, Germany, France

5 Factors associated with three years of response to HbA_{1c} goal with Exenatide QW or insulin glargine: retrospective analysis of DURATION-3

M.E. Trautmann, B. Guerci, T. Lin, E. Hardy, J. Vora, S. Mudaliar, Germany, France, USA, UK

6 DURATION-1 extension in patients with type 2 diabetes: efficacy and tolerability of exenatide once weekly over 7 years

P. Öhman, C.H. Wysham, A. Philis-Tsimikas, E.J. Klein, N. Iqbal, J. Han, R.R. Henry, USA

OP 02 Insulin insights

Chair: J.B. Buse, USA, T. Heise, Germany

7 Ultra-rapid BioChaperone Lispro ameliorates postprandial blood glucose control compared to insulin lispro commercial formulation in subjects with type 1 diabetes mellitus

G. Andersen, G. Meiffren, B. Alluis, A. Ranson, R. Soula, M. Gaudier, O. Soula, C. Kazda, T. Heise, S. Bruce, Germany, France

8 BioChaperone Combo, a co-formulation of lispro and glargine, demonstrates both prandial and basal insulin time-action profiles in a single injection in type 2 diabetes

G. Meiffren, U. Hoevelmann, A. Fischer, O. Klein, C. Maigret, R. Soula, M. Gaudier, O. Soula, S. Bruce, E. Cengiz, T. Heise, France, Germany, USA

9 Double-blind mealtime faster-acting insulin aspart improves glycaemic control with superior reduction in postprandial glucose excursions vs insulin aspart in type 1 diabetes: onset® 1

D. Russell-Jones, B.W. Bode, C. De Block, E. Franek, S. Heller, C. Mathieu, A. Philis-Tsimikas, L. Rose, V. Woo, A.B. Østerskov, T. Graungaard, R.M. Bergenstal, UK, USA, Belgium, Poland, Germany, Canada, Denmark

10 Hypoglycaemia as a function of HbA_{1c} in type 2 diabetes: insulin glargine 300 U/ml in a patient-level meta-analysis of EDITION 1, 2 and 3

P. Choudhary, R. Bonadonna, J.-F. Yale, C. Brulle-Wohlhueter, E. Boëlle-Le Corfec, T.S. Bailey, UK, Italy, Canada, France, USA

11 Cost-effectiveness of switching to insulin degludec from other basal insulins: evidence from Swedish real-world data

J. Gundgaard, L. Landstedt-Hallin, Å. Ericsson, S. Ellfors-Zetterlund, Denmark, Sweden

12 Obese patients gain less weight than non-obese patients when treated with insulin, with similar HbA_{1c} reduction: new evidence from real-world data in type 2 diabetes

S. Paul, J. Shaw, K. Klein, Australia

10:15 - 11:45

Meyerhof Hall

OP 03 Milk, olive oil or paleo: how to feed the person with type 2 diabetes

Chair: T. Pelikánová, Czech Republic, N. Katsilambros, Greece

13 Whey protein at breakfast, induces greater reduction of postprandial glycaemia and HbA_{1c}, weight loss and satiety, compared to other protein sources in type 2 diabetes

D. Jakubowicz, J. Wainstein, Z. Landau, Y. Bar-Dayana, M. Barnea, O. Froy, Israel

14 A whey/guar “preload” improves postprandial glycaemia and HbA_{1c} in type 2 diabetes: a 12-week, single-blind, randomised and placebo controlled trial

L.E. Mignone, T. Wu, L.K. Phillips, M.J. Bound, H. Checklin, J. Grivell, K.L. Jones, P.M. Clifton, M. Horowitz, C.K. Rayner, Australia

15 Identification of a novel milk-protein derived bioactive for glycaemic management

K. Horner, S. Hu, S. Flynn, E. Drummond, L. Brennan, Ireland

16 Extra-virgin olive oil reduces postprandial glycaemia in type 1 diabetes by modulating GLP-1 levels and gastric emptying rate

L. Bozzetto, G. Clemente, A. Alderisio, M. Giorgini, F. Barone, G. Costabile, P. Cipriano, A. Giacco, G. Riccardi, A.A. Rivellese, G. Annuzzi, Italy

17 Effects of a paleolithic diet with and without supervised exercise on liver fat and insulin sensitivity: a randomised controlled trial in individuals with type 2 diabetes

J. Otten, A. Stomby, M. Ryberg, M. Svensson, J. Hauksson, T. Olsson, Sweden

18 Effect of overfeeding diets enriched with unsaturated or saturated fatty acids or sugars on de novo lipogenesis, lipolysis and liver fat in humans

P.K. Luukkonen, S. Sädevirta, M. Umpleby, A. Rissanen, R. Harjula, H. Gylling, S. Lallukka, A. Hakkarainen, N. Lundbom, L. Hodson, H. Yki-Järvinen, Finland, UK

OP 04 The diabetic heart in men and mice

Chair: H.C. Gerstein, Canada, H.-H. Parving, Denmark

19 A novel and practical screening tool for the detection of silent myocardial infarction in diabetes

P.P. Swoboda, A.K. McDiarmid, B. Erhayiem, P. Haaf, A. Kidambi, G.J. Fent, L.E. Dobson, T.A. Musa, P. Garg, M.T. Kearney, J.H. Barth, R. Ajjan, J.P. Greenwood, S. Plein, UK, Switzerland

20 Streptozotocin-induced diabetes mellitus increases the risk for atrial fibrillation

K. Ziberna, A. Recalde, R. Carnicer, B. Casadei, UK

21 Epicardial adipose tissue and cardiovascular disease in type 2 diabetes

R.H. Christensen, B.J. Scholten, C.S. Hansen, J. Rosenmeier, H. Reinhard, H. Ellingsgaard, B.K. Pedersen, M.E. Jørgensen, H.H. Parving, P.K. Jacobsen, P. Rossing, Denmark

22 Platelets from poorly controlled type 2 diabetes subjects show an impaired ability to protect against the cardiac ischaemia/reperfusion injury

I. Russo, S. Femminò, C. Barale, F. Cavalot, F. Tullio, C. Penna, P. Pagliaro, Italy

23 The novel adipokine chitinase-3-like-protein 1 (CHI3L1) is up-regulated in fibrotic and calcified aortic valves of type 2 diabetic patients

J. Kistner, S. Raschke, M. Barth, P. Akhyari, A. Lichtenberg, Germany

24 Endothelial monocyte-activating polypeptide-II improves heart function and endothelium-dependent relaxation of aorta in type 1 diabetes mellitus

N. Dorofeyeva, G. Vorobyov, L. Mogylnytska, V. Sagach, Ukraine

10:15 - 11:45

Naunyn Hall

OP 05 (Epi-)genetics of adipose tissue

Chair: A. Chadt, Germany, A. Schürmann, Germany

25 Maternal and paternal pre-conceptional overweight results in different sex-specific transcriptome changes of blastocysts and spermatozoa sncRNAs

K. Hedegger, S. Krebs, A. Graf, H. Blum, E. Wolf, M. Dahlhoff, Germany

26 Family risk of type 2 diabetes is accompanied by a different epigenetic signature in pre-adipocytes from type 2 diabetic relatives

L. Parrillo, G.A. Raciti, A. Hammarstedt, P. Mirra, M. Longo, C. Nigro, A. Desiderio, M. Campitelli, T. Tortora, U. Smith, F. Beguinot, Italy, Sweden

27 Epigenetic changes at PPAR γ and Zfp423 promoters influence adipogenic commitment of NIH-3T3 cells

M. Longo, F. Zatterale, G.A. Raciti, S. Hedjazifar, J.M. Hoffmann, R. Spinelli, G. Cacace, D. Conza, L. Ulianich, U. Smith, F. Beguinot, Italy, Sweden

28 Functional evaluation of the human fat distribution HOXC13 gene locus

F.-C. Kuo, M. Neville, K.E. Pinnick, F. Karpe, UK, Taiwan

29 Differences of SSPN methylation pattern in human subcutaneous and omental visceral adipose tissue

M. Keller, L. Hopp, X. Liu, T. Wohland, K. Rohde, R. Canello, K. Bacos, A. Dietrich, M. Stumvoll, P. Kovacs, A.-M. DiBlasio, C. Ling, H. Binder, M. Blüher, Y. Böttcher, Germany, Italy, Sweden

30 Zinc finger 521 (ZNF521) is a key regulator of early commitment of human adipose precursor cells and adipogenesis

B. Gustafson, A. Nerstedt, U. Smith, Sweden

OP 06 Diabetic foot screening, treatment and outcomes

Chair: Z.G. Abbas, Tanzania, United Republic of, K. Schara, Slovenia

31 Combined retinal/neuropathy/renal screening service: an effective model for early detection of diabetic peripheral neuropathy

S. Tesfaye, O. Binns-Hall, D. Selvarajah, D. Sanger, J. Walker, A. Scott, UK

32 Impaired vibration perception thresholds at low frequencies are strong risk factors for diabetic foot ulcers in type 1 diabetic patients

E. Lindholm, K. Fagher, M. Löndahl, L. Dahlin, Sweden

33 Inherited thrombotic disorders may influence the effect of autologous cell therapy of critical limb ischaemia and diabetic foot

M. Dubský, A. Jirkovska, A. Nemcova, R. Bem, V. Fejfarova, V. Woskova, L. Pagacova, K. Navratil, J. Skibova, Czech Republic

34 Autologous mesenchymal stem cells in treatment of recalcitrant neuropathic diabetic foot ulcer: randomised controlled trial

A. Albehairy, H. Abdelghaffar, H. Abdelhafez, A. Emam, M. Elhussiny, M. Tarshoby, Egypt

35 MicroRNA-210 role for wound healing in diabetes

S. Narayanan, X. Zheng, S. Eliasson, J. Grunler, C. Xu, M. Ivan, S.-B. Catrina, Sweden, USA

36 Severity of foot pathology (IWGDF categories 2 and 3) shows the strongest association with mortality in diabetes

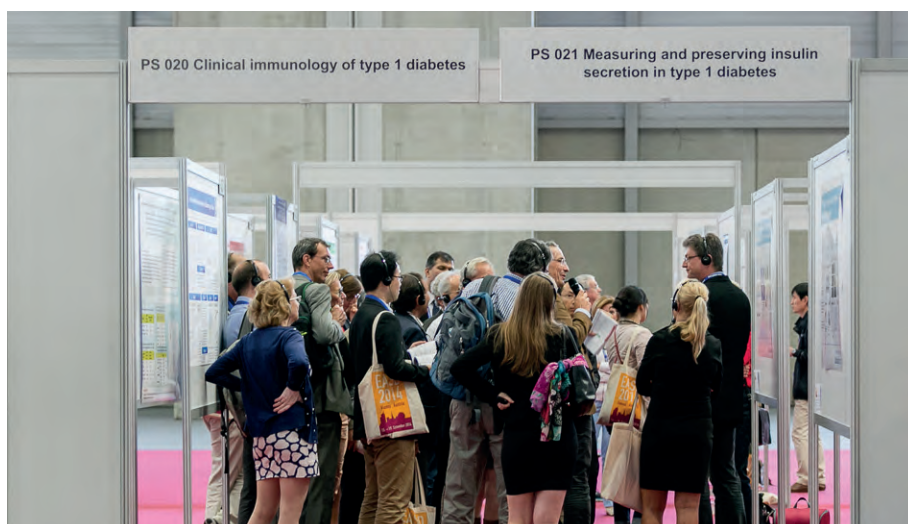
D.S. Tescic, N. Papanas, M. Mitrovic, M. Medic-Stojanoska, I. Bajkin, D. Benc, T. Icin, J. Novakovic-Paro, R. Pejcin, D. Popovic, D. Tescic, D. Tomic, B. Vukovic, Serbia, Greece

Poster Events

Poster presentations rank equally with oral presentations at EASD Annual Meetings. Posters must be displayed throughout the duration of the Meeting and should be already mounted in the morning of the first day and removed at the end of the EASD Meeting. The posters must be accessible at any time during the hours of the Annual Meeting. Furthermore, all posters are presented at six Poster Events which will be held on Tuesday, Wednesday and Thursday from 12:00 to 14:15 when no other scientific sessions will take place.

During the Poster Presentation Sessions, the presenting author must be present or make arrangements for somebody with knowledge of the displayed work to be present at the poster. An average of 3 to 5 minutes will allow for each author to present the poster, followed by open discussion of 3 to 5 minutes (depending on the number of abstracts in the poster session). Participants can collect a headset on a first come first served basis to follow the presentations within the corresponding sessions.

EASD will also make posters available via its Virtual Meeting. Participants are invited to discuss and comment on the posters using the Virtual Conference Tool.



12:00 - 13:00 Poster Event A	Page
PS 001 Mortality rate in diabetes around the world	124
PS 007 It's all about HbA_{1c}	130
PS 013 Complications: patterns, treatments and detection	137
PS 019 Islet development	143
PS 025 How do beta cells work?	149
PS 031 Action of insulin and other agents on target tissues: new insights	155
PS 037 Dissecting islet biology in vivo and in vitro	161
PS 043 Inflammation in type 2 diabetes	166
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OP 07 Novel insights into diabetic nephropathy

Chair: C.M. Forsblom, Finland, J. Sokolovska, Latvia

37 Significant variation in rate of progression to end-stage renal disease between cohorts of patients with type 1 diabetes and proteinuria

J. Skupien, A.M. Smiles, N. Sandholm, E. Valo, C. Forsblom, T.S. Ahluwalia, B. Gyorgy, M. Lajer, O. Pedersen, T. Hansen, M. Marre, S. Hadjadj, P. Rossing, P.-H. Groop, A.S. Krolewski, Poland, USA, Finland, Denmark, France

38 Regression of albuminuria: causes and consequences in patients with type 1 diabetes

F. Jansson, C. Forsblom, V. Harjutsalo, L. Thorn, J. Wadén, N. Elonen, P.-H. Groop, the FinnDiane Study Group, Finland

39 Genome wide association study identifies novel loci associated with end stage renal disease in Chinese patients with type 2 diabetes

R.C. Ma, C.H. Tam, G. Jiang, A.O. Luk, H.M. Lee, C.K. Lim, S.K. Tsui, W. Yu, B. Tomlinson, Y. Huang, H.-Y. Lan, C.C. Szeto, W.Y. So, J.C. Chan, TRANSCEND Consortium, China

40 Heritability of renal function decline measured by the rate of eGFR loss in type 1 diabetes

E. Valo, N. Sandholm, I. Toppila, C. Forsblom, P.-H. Groop, FinnDiane Study Group, Finland

41 Identifying novel phenotype profiles and their genetic differences in patients with type 1 diabetes using machine learning approaches

I. Toppila, N. Sandholm, C. Forsblom, P.-H. Groop, on behalf of the FinnDiane Study Group, Finland

42 Multiple novel regions for diabetic nephropathy revealed by linkage analysis with dense genetic marker set

J. Haukka, N. Sandholm, I. Toppila, E. Valo, C. Forsblom, P.-H. Groop, Finland

14:30 - 16:00

Langerhans Hall

OP 08 Can we make new beta cells?

Chair: J. Ferrer, Spain, J.D. Johnson, Canada

43 Differentiation of functional human insulin-producing stem cell derived beta cells from iPS cells

F. Chimienti, A. Kvist, A. Forsl w, J. Eriksson, P. Stillemark-Billton, M. S rhede-Winzell, C. Wennberg-Huldt, E.-M. Andersson, P. Eliasson, R. Hicks, D. Shvartsman, D.A. Melton, B. Tyrberg, Sweden, USA

44 Differentiation of human iPSCs into glucose responsive beta-like cells through programmable cell fate decisions by synthetic lineage control network

H. Zulewski, P. Saxena, B. Heng, P. Bai, M. Folcher, M. Fussenegger, Switzerland

45 CRISPR/Cas9-mediated transcriptional activation for maturation of human stem cell derived beta cells

D. Balboa, J. Saarim ki-Vire, S. Eurola, V. Lithovius, J. Weltner, H. Grym, J. Ustinov, T. Otonkoski, Finland

46 Anterior-posterior patterning of definitive endoderm derived from human embryonic stem cells by BMP-, Wnt/beta-catenin-, and ATRA signalling

O. Naujok, C. Davenport, U. Diekmann, I. Budde, N. Detering, S. Lenzen, Germany

47 Neonatal beta cell but not acinar cell neogenesis evidenced by lineage tracing

I. Houbracken, L. Bouwens, Belgium

48 Pro-proliferative and anti-apoptotic action of exogenously introduced YAP in pancreatic beta cells

S. Rafizadeh, T. Yuan, Z. Azizi, K. Gorrepati, S. Awal, J. Oberholzer, K. Maedler, A. Ardestani, Germany, USA

OP 09 SGLT-2 inhibitors: metabolic effects

Chair: M.E. Cooper, Australia, J. Rosenstock, USA

49 Effect of empagliflozin (EMPA) on bone fractures in patients with type 2 diabetes (T2DM)

S. Kohler, S. Kaspers, A. Salsali, C. Zeller, H.-J. Woerle, Germany, USA

50 Effect of empagliflozin (EMPA) on diabetic ketoacidosis (DKA) in patients with type 2 diabetes (T2DM): pooled clinical trial data

S. Lund, F. Solimando, S. Kohler, C. Zeller, S. Kaspers, Germany

51 Metabolic mechanisms of increased plasma ketones with dapagliflozin

C. Solis-Herrera, G. Daniele, D. Tripathy, J. Xiong, C. Triplitt, A. Merovci, L. Norton, M. Abdul-Ghani, R.A. DeFronzo, USA

52 Impact of the SGLT-2-Inhibitor dapagliflozin on micro- and macrocirculation in type 2 diabetes

C. Ott, I. Kistner, A. Jumar, S. Friedrich, P. Bramlage, R. Schmieder, Germany

53 Canagliflozin slows progression of renal function decline independent of glycaemic effects

H.J. Heerspink, M. Desai, M. Jardine, G. Meininger, V. Perkovic, Netherlands, USA, Australia

54 Differential effects of dapagliflozin on cardiovascular risk factors at varying degrees of renal function

C.D. Sjöström, P.J. Greasley, J. Xu, H.J. Heerspink, Sweden, USA, Netherlands

14:30 - 16:00

Thannhauser Hall

OP 10 Predicting and preventing macrovascular disease

Chair: S. Hadjadj, France, N. Sattar, UK

55 Time to treatment intensification and its association with subsequent macrovascular outcomes among patients with type 2 diabetes

J. Kim, U. Desai, N.Y. Kirson, S.B. King, E. Trieschman, M. Hellstern, P.R. Hunt, J. Mukherjee, USA

56 Combination therapy with a SGLT2 inhibitor and a DPP-4 inhibitor suppresses macrophage foam cell formation in type 2 diabetic mice

M. Terasaki, M. Hiromura, K. Kohashi, H. Kushima, Y. Mori, T. Hirano, Sweden, Japan

57 Dapagliflozin, a SGLT-2 inhibitor, alleviates atherosclerosis in ApoE^{-/-} mice by inhibiting NLRP3 inflammasome

Z. Liang, W. Leng, X. Lei, L. Chen, Q. Wu, M. Wu, X. Ouyang, China, USA

58 Performance of the validated ORIGIN cardiovascular biomarker panel in HOPE study participants with diabetes

H.C. Gerstein, G. Pare, M. McQueen, S. Lee, H. Haenel, S. Hess, Canada, Germany

59 Combined Nox1/4 inhibition with GKT137831 rescues established micro- and macrovascular diabetic complications

S.P. Gray, J.C. Jha, K. Kennedy, E. Van Bommel, P. Chew, C. Szyndralewicz, R. Touyz, H. Schmidt, M. Cooper, K. Jandeleit-Dahm, Australia, Austria, UK, Netherlands

60 Angiotensin-like 2 is prognostic for all-cause death in patients with type 2 diabetes

M. Fraty, B. Gellen, S. Hadjadj, E. Gand, N. Thorin Trescases, E. Thorin, P. Saulnier, R. Roussel, P. Zaoui, D. Montaigne, J. Halimi, France, Canada

OP 11 Novel approaches to unravel glucose homeostasis in humans

Chair: R.C. Bonadonna, Italy, P. Schrauwen, Netherlands

61 Glucose-stimulated pancreatic blood flow in healthy subjects and in patients with type 1 diabetes using positron emission tomography

J. Mäkinen, T. Kalliokoski, J. Teuho, R. Parkkola, A. Mari, J. Toppari, R. Veijola, P. Nuutila, Finland, Italy

62 Reduced skeletal muscle phosphocreatine concentrations in type 2 diabetic patients: quantitative image-based phosphorus-31 MR spectroscopy study

V. Hamidi, E.M. Ripley, R.A. Martinez, J. King, J. Kincade, D. Tripathy, R.A. DeFronzo, G.D. Clarke, USA

63 Skeletal muscle and liver, but not brain, account for impaired glucose utilisation in type 2 diabetes: whole-body PET/MR during hyperinsulinaemic euglycaemic clamp

G.J. Boersma, E. Johansson, M.J. Pereira, S. Skrtic, J.L. Börjesson, P. Katsogiannis, G. Panagiotou, H. Ahlström, J. Kullberg, J.W. Eriksson, Sweden

64 Load-dependent effects of small intestinal glucose on glycaemia, insulinaemia and incretin hormone release in obese subjects

C.S. Marathe, L.G. Trahair, S. Standfield, C.K. Rayner, C. Feinle-Bisset, M. Horowitz, K.L. Jones, Australia

65 GIP contributes to post-meal hyperglucagonaemic response after bariatric surgery

H. Honka, J. Koffert, S. Kauhanen, S. Hurme, A. Mari, A. Lindqvist, N. Wierup, L. Groop, P. Nuutila, Finland, Italy, Sweden

66 Are incretin responses to oral glucose and mixed meal tests associated with glucose levels 7 years later?

A.D. Koopman, F. Rutters, S.P. Rauh, M. Alsema, G. Nijpels, J.M. Dekker, Netherlands

14:30 - 16:00

Kussmaul Hall

OP 12 Health or disease?

Chair: S. Gudbjörnsdottir, Sweden, B.H.R. Wolffenbuttel, Netherlands

67 Glycaemic control and patient-reported outcome measures (PROMs) in type 1 diabetes

K. Eeg-Olofsson, M. Svedbo Engström, S. Borg, B. Palaszewski, J. Leksell, U.-B. Johansson, S. Gudbjörnsdottir, Sweden

68 Doubled healthcare costs of type 2 diabetes mellitus during years 2006-2014: a nationwide cost-of-illness study in Sweden

A. Kalkan, J. Bodegård, J.W. Ericsson, T. Nyström, A. Norhammar, U. Olsson, D. Nathanson, Sweden

69 Direct medical costs of type 2 diabetes in Singapore (2011-2014) - a multiethnic Asians population with high prevalence of diabetes

S.K. Low, S.C. Lim, X. Zhang, L.Y. Yeoh, Y.L. Liu, S. Pek, S.B. Lee, W.E. Tang, S. Tavintharan, C.F. Sum, Singapore

70 Poor socio-economic status equals poor glycaemic control? Data from the Dutch Diabetes Pearl cohort

A. Rutte, S.P. Rauh, M.T. Schram, P.J. Elders, G. Nijpels, F. Holleman, H. Pijl, E.J. Sijbrands, C.J. Tack, H.W. De Valk, B.H. Wolffenbuttel, C.D. Stehouwer, J.M. Dekker, F. Rutters, on behalf of the Diabetes Pearl from the Parelsnoer Initiative, Netherlands

71 The UK Civil Aviation Authority protocol to certify commercial pilots with insulin-treated diabetes: preliminary results of monitoring

J.L. Hine, S. Mitchell, J. Vening, J. Montague, K. Shaw, D. Russell-Jones, UK

72 Overuse and underuse of acetyl-salicylic acid for primary prevention of cardiovascular disease in people with diabetes

A.L. Crain, J.M. Sperl-Hillen, P.J. O'Connor, J.R. Desai, K.L. Margolis, H.L. Ekstrom, USA



Tuesday, 13 September

CAMILLO GOLGI PRIZE

Camillo Golgi (1843 - 1926) was awarded the Nobel Prize in 1906 for his studies on the nervous system and kidney physiology. The EASD Camillo Golgi Prize is awarded for outstanding contributions in the field of the histopathology, pathogenesis, prevention and treatment of the complications of diabetes mellitus, which have been carried out in Europe by a member of EASD normally resident in Europe. The awardee delivers a lecture named in honour of Camillo Golgi at the EASD Annual Meeting in the year of the award.



Camillo Golgi

CAMILLO GOLGI LECTURERS:

1986	Rome	G.C. VIBERTI, UK
1987	Leipzig	D.J. EWING, UK
1988	Paris	C.E. MOGENSEN, DK
1989	Lisbon	G.B. BOLLI, IT
1990	Copenhagen	P.J. WATKINS, UK
1991	Dublin	R. OSTERBY, DK
1992	Prague	E. KOHNER, UK
1993	Istanbul	K.F. HANSSEN, DK
1994	Düsseldorf	J.E. TOOKE, UK
1995	Stockholm	R. LANDGRAF, DE
1996	Vienna	M.-R. TASKINEN, FI
1997	Helsinki	H.-H. PARVING, DK
1998	Barcelona	D.R. TOMLINSON, UK
1999	Brussels	E. STANDL, DE
2000	Jerusalem	U. DI MARIO, IT
2001	Glasgow	A. FLYVBJERG, DK
2002	Budapest	J. TUOMILEHTO, FI
2003	Paris	A. J. M. BOULTON, UK
2004	Munich	A. CERIELLO, IT
2005	Athens	C. STEHOUWER, NL
2006	Copenhagen	M. LAAKSO, FI
2007	Amsterdam	P. FIORETTO, IT
2008	Rome	A. AVOGARO, IT
2009	Vienna	P.-H. GROOP, FI
2010	Stockholm	D. ZIEGLER, DE
2011	Lisbon	A. BIERHAUS, DE
2012	Berlin	G. PUGLIESE, IT
2013	Barcelona	T. LAURITZEN, DK
2014	Vienna	S. TESFAYE, UK
2015	Stockholm	H.-P. HAMMES, DE

16:15

31ST CAMILLO GOLGI LECTURE

Minkowski Hall

Chair: J.R. Zierath, President, EASD and EFSD
P. Fioretto, Italy

Speaker: P. Rossing, Denmark

Title: Personalising prevention of diabetic nephropathy, from proteinuria to profile-omics

Peter Rossing graduated as a MD from the University of Copenhagen Medical School in 1991. After graduating, he joined the Steno Diabetes Center as a research fellow 1991-96. After submitting his DMSc. thesis "Promotion, prediction and prevention of progression in diabetic nephropathy", defended in 1998, he entered his clinical training at the University of Copenhagen Hospitals to obtain a specialist degree in internal medicine and endocrinology 2004. Since 2007, he has been a chief physician and manager of the Steno Diabetes Center research team dedicated to the research of micro- and macrovascular complications of diabetes, and from 2010-14 and 2016 Head of Research at SDC. Since 2012, he is Professor in diabetic angiopathy at University of Copenhagen and at Aarhus University. Peter Rossing has in epidemiological studies investigated key features of the pathophysiology of the diabetic kidney at different stages. He has identified several markers for development of diabetic nephropathy, making it possible to predict the individual risk. He demonstrated that a reduction in urinary albumin excretion after onset of antihypertensive therapy in diabetic nephropathy was the best predictor of a successful treatment outcome. He has been involved in several intervention studies in patients with overt diabetic nephropathy aiming at improving the prognosis. He is coordinator of the EU FP7 project PRIORITY aiming to test if urinary proteomics can be used to stratify prevention of renal complications in type 2 diabetes, and the NNF Challenge grant PROTON aiming at personalising prevention of diabetic nephropathy. He has co-authored >300 papers, and his h-index is 55. He received the Minkowski Prize from EASD in 2005, Ruth Østerby award in 2013 and Niels A Lassen award 2015. Past president of the Danish Endocrine Society, current president of the European Diabetic Nephropathy Study group and chairman of the Danish National Diabetes Registry.



Tuesday, 13 September

ALBERT RENOLD PRIZE

The Albert Renold Prize and Lecture honours the memory of A. Renold, the distinguished diabetologist and researcher. The aim of the Lectureship is to recognise an individual's outstanding contribution to the advancement of knowledge in the field of research on the islets of Langerhans. Not only do many generations of scientists consider A. Renold their principal mentor, but he was also one of the founding fathers of EASD, serving as Honorary Secretary (1965-1969) and President (1974-1977). He trained with the eminent diabetologist, Dr. E.P. Joslin, and was the first full-time director of the Joslin Research Laboratory in the mid-1950s. In 1963, he returned to Geneva, where he founded the Institut de Biochimie Clinique. Under his leadership, it became an international centre of excellence in islet research until his death in 1988.



A. Renold
1923 - 1988

P. Langerhans Jr. was born in Berlin and entered the famous "School of the Grey Monastery" in the same city. He began medical studies at the University of Jena and completed them in Berlin. The discovery of the islets of Langerhans was published in his thesis in 1869. Later he became Professor of Pathology in Freiburg. He also gained fame due to his discovery of the Langerhans cells in the skin. In 1887, while living on the island of Madeira, progressive renal failure brought his medical activities to an end and he died of uraemia in 1888.



P. Langerhans Jr.
1847 - 1888

ALBERT RENOLD LECTURERS

2007	Amsterdam	F. ASHCROFT, UK
2008	Rome	J.-C. HENQUIN, BE
2009	Vienna	B. THORENS, CH
2010	Stockholm	S. SEINO, JP
2011	Lisbon	M. PRENTKI, CA
2012	Berlin	D.L. EIZIRIK, BE
2013	Barcelona	P. RORSMAN, UK
2014	Vienna	S.E. KAHN, US
2015	Stockholm	A. HATTERSLEY, UK

16:15 **10TH ALBERT RENOLD LECTURE** **Langerhans Hall**

Chair: **P.A. Halban, Switzerland**

Speaker: **Michael S. German, USA**

Title: **Balancing beta cell mass: generation, degeneration and regeneration**

Michael S. German is a Professor in the Department of Medicine at UCSF, Associate Director and Clinical Director of the UCSF Diabetes Center, Director of the Hillblom Islet Genesis Network and the UCSF NIH Diabetes Research Center (DRC), and a Principal Investigator in the Hormone Research Institute. He cares for patients at the UCSF Diabetes Clinic and hospital wards, teaches medical students, and lectures at the UCSF Diabetes Center's patient self-management training courses while maintaining a research laboratory investigating diabetes at the most basic level.



Insulin, the hormone that controls energy metabolism and regulates blood glucose levels, is produced exclusively in the pancreatic beta-cells. When the insulin supplied by the beta-cells is inadequate for an individual's metabolic requirements, blood glucose levels rise and diabetes mellitus ensues. The central focus of German's research programme is the pancreatic beta-cell, the cell in the pancreas that makes insulin. He is interested in the genes that control the development of the beta-cells from stem cells. He is also interested in where these processes break down in diabetes, and in how to translate our knowledge of the beta-cell into novel strategies for curing diabetes. The German Lab's general strategy is to identify the genes that regulate the transition of stem cells to mature beta-cells. These factors and their genes are then used as tools to understand the process of beta-cell development by studying both how they regulate development and how they are regulated themselves, both in the culture dish and in the intact organism.

17:30 **EASD General Assembly**

Kussmaul Hall

Tuesday, 13 September

MUSEUM NIGHT**19:00 - 22:00**

EASD is very grateful to the City Council and the Convention Bureau for the opening of the Museums. Admission is free for registered delegates. Please bring your badge.

Pinakothek der Moderne

www.pinakothek.de/pinakothek-der-moderne

Pinakothek der Moderne is one of the largest museums of 20th/21st century art and design in the world. Under one roof you will find the Modern Art Collection, the Design Museum, the Architecture Museum and the State Graphics Collection. Principal works of classical modern art as well as contemporary artistic positions, photography and new media art are also on display.

Museum Brandhorst

www.museum-brandhorst.de

Museum Brandhorst offers an ensemble of works of contemporary art. Paintings, sculptures and installations provide experiences of an unusual presence and variety, almost unequalled among privately initiated collections in Germany. The architecture of the Sauerbruch Hutton building functions as a perfect framework.

State Museum of Egyptian Art

www.smaek.de

Its roots go back to Duke Albrecht V's "Curiosity Cabinet", which included Egyptiaca as early as the 16th century. Today, the State Museum of Egyptian Art is the only museum of its kind, to specialise in the art of ancient Egypt, expressed in the presentation of the objects. The chronological frame extends from Prehistory in the 4th millennium BC into the early Christian Period.

Lenbachhaus

www.lenbachhaus.de

The Lenbachhaus today holds the world's largest collection of works by Wassily Kandinsky and Franz Marc as well as other members of the "Blue Rider" group they founded, including important paintings by Gabriele Münter, Paul Klee, August Macke, Alexej Jawlensky and many others.

08:30

Minkowski Hall

Discussing diabetic dementia

Chair: F. Beguinot, Italy

G.-J. Biessels, Netherlands:
Diabetes and dementia: more than a chance finding

M.W. Strachan, UK:
Cognitive decline in diabetes: lessons from Edinburgh

J.C. Brüning, Germany:
Insulin action and the link to ageing associated disease

Langerhans Hall

New paths to tight glycaemic control

Chair: L. Czubryniak, Poland

J. Seufert, Germany:
Two drugs are better than one

S. Del Prato, Italy:
From the start: combination therapy

J.P.H. Wilding, UK:
Clinical profiling as a key to optimal drug selection

Wednesday, 14 September

08:30

Meyerhof Hall

New insights into gestational diabetes

Chair: E.R. Mathiesen, Denmark

R.M. Freathy, UK:

Using genetics to understand how the intrauterine environment influences birth weight

G. Desoye, Austria:

The role of the placenta

T. Hansen, Denmark:

Monogenic causes of gestational diabetes

Thannhauser Hall

Focus on fat

Chair: P. Nuutila, Finland

P. Seale, USA:

Regulation of brown and beige fat cell fate

K.A. Virtanen, Finland:

The role of brown fat in obesity and type 2 diabetes

A. Pfeifer, Germany:

Pharmacological options for brown fat activation

08:30

Naunyn Hall

Physiological inquiries into the benefits of exercise

Chair: D. Pesta, Germany

M.I. Trenell, UK:

**Physical activity and exercise in type 2 diabetes:
moving beyond glucose control?**

R. Balaban, USA:

Dynamics of the mitochondrial reticulum in muscle

C. Cantó, Switzerland:

**Mitochondrial dynamics in skeletal muscle: influence on insulin
resistance and exercise adaptations**

Kussmaul Hall

Curing diabetes through transplantation

Chair: M. Solimena, Germany

U. Boggi, Italy:

Update on pancreatic transplantation

R.P. Robertson, USA:

Update on islet cell transplantation

C. Ricordi, USA:

Future technologies

Wednesday, 14 September

10:15 - 11:45

Minkowski Hall

OP 13 Pills or surgery for weight loss?

Chair: S. Madsbad, Denmark, D.J. Pournaras, UK

73 Durable diabetes remission after bariatric surgery is associated with reduced incidence of microvascular events

M. Taube, P.-A. Svensson, K. Sjöholm, B. Carlsson, M. Peltonen, L.M. Carlsson, Sweden, Finland

74 Combined actions of PYY and GLP-1 contribute to weight loss after Roux-en-Y gastric bypass

M.S. Svane, N.B. Jørgensen, K.N. Bojsen-Møller, C. Dirksen, S. Nielsen, V.B. Kristiansen, N.J. Wewer Albrechtsen, B. Hartmann, S. Madsbad, J.J. Holst, Denmark

75 Safety- and efficacy-outcomes of the duodenal-jejunal bypass liner (DJBL) registry in obese patients with type 2 diabetes

N. Sauer, J. Aberle, A. Lautenbach, J. Seufert, K. Laubner, Germany

76 Coadministration of canagliflozin and phentermine for weight management in overweight and obese adults

N. Erondur, P.A. Hollander, H. Bays, J. Rosenstock, M. Frustaci, A. Fung, F. Vercruysse, USA, Belgium

77 Comparable efficacy and safety of liraglutide 3.0 mg for weight management across baseline BMI subgroups: results from the SCALE obesity and prediabetes trial

S. Madsbad, G. Lieberman, T.V. Skjøth, S.K. Lilleøre, R.A. DeFronzo, Denmark, Israel, USA

78 Beneficial effects of canagliflozin on energy metabolism and visceral fat volume through a possible mechanism of fatty acid oxidation in an animal model of obese type 2 diabetes

H. Mifune, Y. Sakai, K. Hara, Y. Tajiri, Japan

OP 14 Hypoglycaemia: the low down

Chair: B.M. Frier, UK, S.R. Heller, UK

79 Increased thalamic activation during hypoglycaemia in type 1 diabetes is associated with reduced adrenaline responses but preserved symptoms

M. Nwokolo, P. Choudhary, F.O. Zelaya, G.F. Cross, S.A. Amiel, UK

80 Cerebral blood flow response to hypoglycaemia is altered in patients with type 1 diabetes and impaired awareness of hypoglycaemia

E.C. Wiegers, K.M. Becker, H.M. Rooijackers, F.C. Von Samson-Himmelstjerna, C.J. Tack, A. Heerschap, M. Van der Graaf, B.E. De Galan, Netherlands, Germany

81 SWITCH 1: reduced risk of hypoglycaemia with insulin degludec vs insulin glargine U100 in patients with type 1 diabetes: a randomised, double-blind, crossover trial

W. Lane, T.S. Bailey, G. Gerety, J. Gumprecht, A. Phillis-Tsimikas, C.T. Hansen, T.S. Nielsen, M.L. Warren, USA, Poland, Denmark

82 SWITCH 2: reduced risk of hypoglycaemia with insulin degludec vs insulin glargine U100 in a type 2 diabetes population on basal insulin: a randomised, double-blind, crossover trial

C. Wysham, A. Bhargava, L.B. Chaykin, R. De la Rosa, Y. Handelsman, L.N. Troelsen, K. Kvist, P. Norwood, USA, Denmark

83 Hypoglycaemia is associated with increased risk of cardiovascular events: results from the EXAMINE trial

S.R. Heller, R. Bergenstal, C.P. Cannon, S. Kupfer, C. Wilson, W.B. White, EXAMINE Investigators, UK, USA

84 Differences in cognitions and behaviours between adults with type 1 diabetes with intact and impaired awareness of hypoglycaemia

G. Margiotta, E. Smith, C. Halevy, E. Sepulveda, P. Choudhary, J. Speight, J.A. Shaw, S. Amiel, N. De Zoysa, UK, Australia

10:15 - 11:45

Meyerhof Hall

OP 15 Gestational diabetes from A to Z

Chair: R.M. Freathy, UK, E.R. Mathiesen, Denmark

85 Gestational diabetes: What is the real level of risk? Data from the French population in 2012

D. Mitanchez, C. Billonnet, A. Weill, F. Alla, A. Hartemann, S. Jacqueminet, France

86 Seasonal pattern in the diagnosis of gestational diabetes mellitus in southern Sweden

A. Katsarou, R. Claesson, N. Shaat, C. Ignell, K. Berntorp, Sweden

87 Diet composition and gut microbiota composition of overweight pregnant women at risk of gestational diabetes are related to intestinal permeability

T. Rönnemaa, K. Morkkala, H. Rönkä, E. Munukka, S. Pietilä, U. Ekblad, E. Eerola, A. Laiho, K. Laitinen, Finland

88 Global placental DNA methylation status and gestational diabetes

C. Reichetzeder, S. Dwi Putra, T. Pfab, T. Slowinski, C. Neuber, B. Kleuser, B. Hoher, Germany, Indonesia

89 miRNA signatures in maternal whole blood cells of women with gestational diabetes

L. Stirm, P. Huypens, S. Sass, L. Fritsche, A. Fritsche, J. Beckers, M. Hrabě de Angelis, H. Staiger, H.-U. Häring, Germany

90 Pregnancy outcomes of women with gestational diabetes based on the WHO 2013 and the NICE 2015 diagnostic criteria

A. Kun, J. Tornoczky, Z. Sudar, Z. Kerenyi, A.G. Tabak, Hungary, UK

OP 16 Browning: grow old along with me

Chair: M. Faßhauer, Germany, A. Pfeifer, Germany

91 Transplantation of adipose tissue from mice overexpressing WISP2 increases FAHFAs and glucose tolerance in obese mice

J.R. Grünberg, J.M. Hoffmann, S. Hedjazifar, I. Syed, A. Saghetelian, B.B. Kahn, A. Hammarstedt, U. Smith, Sweden, USA

92 Increased serum levels of BMP4 in mature mice protects from obesity by browning the subcutaneous fat

J.M. Hoffmann, J.R. Grünberg, I. Elias, V. Palsdottir, J.-O. Jansson, F. Bosch, A. Hammarstedt, S. Hedjazifar, U. Smith, Sweden, Spain

93 Differential effect of a GLP-1R/GCGR dual agonist versus a single GLP-1R agonist in the activation of BAT and browning in diet induced obesity in mice

L. Ruis Cañas, P. Valdecantos, A. Konkar, A. Dos Santos, M. Bednarek, J. Grimsby, C. Rondinone, A.M. Valverde, Spain, USA

94 Knockout of thyrotropin receptor promotes energy expenditure by inducing the browning of white fat in mice

H. Wu, J. Zhang, X. Wang, S. Ma, F. Jing, C. Yu, L. Gao, J. Zhao, China

95 Cannabinoid CB1 receptors in human brown adipose tissue during cold exposure

M. Laheesmaa, O. Eriksson, V. Oikonen, M. Bucci, J. Hirvonen, S. Lahdenpohja, K. Koskensalo, M. Haaparanta-Solin, K.A. Virtanen, P. Nuutila, Finland, Sweden

96 Berberine promotes brown adipogenesis and energy expenditure

J.-Y. Li, L.-Y. Wu, L.-N. Zhang, Y.-N. Duan, H.-W. Jiang, X.-B. Hu, J. Li, China

10:15 - 11:45

Naunyn Hall

OP 17 Type 2 diabetes and complications: the role of genes and environment

Chair: M. Orho-Melander, Sweden, N.J. Wareham, UK

97 Gene-obesogenic environment interactions in the UK Biobank study

J. Tyrrell, H. Yaghootkar, R. Beaumont, S.E. Jones, R.M. Ames, M.A. Tuke, K.S. Ruth, Z. Kutalik, R.M. Freathy, A. Murray, A.R. Wood, M.N. Weedon, T.M. Frayling, UK, Switzerland

98 Dietary predictors of circulating urokinase plasminogen activator receptor

I. Drake, C.A. Schulz, U. Ericson, J. Nilsson, O. Melander, G. Engström, M. Orho-Melander, Sweden

99 Low fructosamine levels and mortality: a 25-year follow-up of 215,011 Swedish non-diabetic subjects

H. Malmström, P. Wändell, M.J. Holzmänn, J. Ärnlov, I. Jungner, G. Walldius, N. Hammar, A.C. Carlsson, Sweden

100 Initiation of cardioprotective medication does not adversely affect health-related behaviours among people with recently diagnosed type 2 diabetes

M.J. Lamb, A.J. Cooper, S. Brage, N.J. Wareham, S.J. Griffin, UK

101 Association between obesity and cognitive decline in people with type 2 diabetes may be mediated by inflammation

A.J. Sluiman, S. McLachlan, M.W. Strachan, I.J. Deary, J.F. Price, UK

102 All is not equal ... or is it? Targeting uncontrolled cardiovascular risk factors in racial and ethnic populations to prevent major cardiovascular events

J.R. Desai, G. Vazquez Benitez, E.B. Schroeder, J.M. Lawrence, B.E. Waitzfelder, L.S. Morales, G.A. Nichols, A.J. Karter, J.F. Steiner, K.J. Coleman, K.M. Newton, R.D. Pathak, J. Elston Lafata, J.B. Segal, P.J. O'Connor, USA

OP 18 Altering the course of type 1 diabetes

Chair: M. Rewers, USA, J.S. Skyler, USA

103 The incidence of pre-clinical type 1 diabetes and celiac disease in the general population from birth to 15 years of age

M. Rewers, F. Dong, K. Waugh, E. Liu, J. Norris, USA

104 Zinc transporter 8 autoantibodies in children with HLA-conferred disease susceptibility and first-degree relatives affected by type 1 diabetes

H. Siljander, T. Härkönen, M.L. Lawson, O. Kordonouri, J. Ilonen, J.P. Palmer, O. Vaarala, J. Mahon, D. Becker, J.P. Krischer, H.K. Åkerblom, M. Knip, The TRIGR Study Group, Finland, Canada, Germany, USA

105 Differences in prevalence of ZNT8ab and other autoantibodies in children and adults at onset of type 1 diabetes

A. Rogowicz-Frontczak, E. Niechcial, S. Pilacinski, P. Fichna, D. Zozulinska-Ziolkiewicz, Poland

106 Is there regulation of the autoimmune response in slow progressors to type 1 diabetes?

K.M. Gillespie, A.E. Long, C. Williams, D.J. Becker, I.M. Libman, F.S. Wong, R. Casas, A.K. Steck, M.J. Rewers, P. Achenbach, A.J. Williams, UK, USA, Sweden, Germany

107 In vitro TNFR2 agonism for correction of Treg activation defect in type 1 diabetes

D.L. Faustman, Y. Okubo, H. Torrey, J. Butterworth, H. Zheng, USA

108 Proinsulin peptide immunotherapy in new-onset type 1 diabetes is well-tolerated and associated with reduced daily insulin usage

M. Alhadj Ali, Y.-F. Liu, R. Stenson, N. Leech, R. Andrews, M. Peakman, C. Dayan, UK

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PS 021 Beta cells under stress	145
PS 027 The control of insulin sensitivity by the endocrine system	151
PS 033 Determinants of insulin sensitivity in skeletal muscle	157
PS 039 The alpha cell and glucagon	163
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PS 069 GLP-1 RA: new agents	194
PS 075 GLP-1 RA: GDM and real world	201
PS 081 Devices: glucose monitoring	208
PS 087 Health care delivery: real world insights	214
PS 093 Gestational diabetes: biomarkers and predictors	221
PS 099 The Charcot foot	228
PS 105 Diabetic nephropathy: progression and outcomes	234
PS 111 Usual and unusual associations in diabetes complications	240
PS 117 Heart failure is not an option	247
PS 123 Liver in diabetes	254

13:15 - 14:15 Poster Event D	Page
PS 004 Focusing on the liver	127
PS 010 Drilling down on genetic mechanisms	133
PS 016 The complexity of beta cell signal transduction	140
PS 022 Beta cells need protection	146
PS 028 Determinants of whole body insulin sensitivity 1	152
PS 034 Insulin action: focus on liver	158
PS 040 Changes of insulin action in response to weight loss and nutritional intervention	164
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PS 052 Liver and lipids	176
PS 058 Circadian rhythm	182
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PS 070 Incretins and the heart	195
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PS 094 The many aspects of diabetic neuropathy	222
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PS 112 Mechanisms and treatment of cardiovascular disease	241
PS 118 Predictive potential of dyslipidaemia	248

14:30 - 16:00

Minkowski Hall

OP 19 Diabetes drugs of the future

Chair: C.J. Bailey, UK, B. Gallwitz, Germany

109 Early clinical development of the dual GLP-1/glucagon receptor agonist SAR425899 and establishment of a population PK/PD model

K. Lindauer, B. Göbel, J. Tillner, M. Posch, L. Teichert, C. Einig, M. Rimbault, K. Bergmann, S. Keil, P.J. Larsen, M. Lorenz, Germany, France

110 Pharmacological characterisation of MEDI0382, a glucagon/GLP-1 dual agonist for treatment of obesity and type 2 diabetes

A. Rossi, J. Naylor, S. Will, N. Bhagroo, M.A. Bednarek, M.P. Coghlan, A. Konkar, D.C. Hornigold, UK, USA

111 YH25724, a novel long-acting GLP-1/FGF21 dual agonist provides potent and sustained glycaemic control, body weight loss and lipid profile improvement in animal models

H.N. Hong, J.H. Kim, H.H. Choi, D. Kim, S. Lim, M. Seo, M.K. Ju, J.Y. Park, B.H. Choi, J.G. Kim, S.Y. Nam, Korea, Republic of

112 CRISPR/Cas-9 engineered pancreatic beta cell lines can delineate the pharmacology of novel dual GIPR/GLP-1R agonists

J. Naylor, A.T. Suckow, A. Seth, D.J. Baker, I. Sermadiras, P. Ravn, R. Howes, J. Li, M.R. Snaith, M.P. Coghlan, D.C. Hornigold, UK, USA

113 PXL770, a novel direct AMPK activator, improves metabolic disorders in a diet-induced mice model of obesity and diabetes

S. Bolze, S. Bozec, J. Roux, M. Roden, France, Germany

114 Transient effect of glucokinase activator on beta cell proliferation

A. Nakamura, K. Takahashi, N. Kitao, H. Miyoshi, Y. Terauchi, T. Atsumi, Japan

OP 20 What's new in type 2 diabetes epidemiology?

Chair: V. Lyssenko, Denmark, M.B. Schulze, Germany

115 Large scale exome array meta-analyses identify multiple novel common, low frequency and rare coding variants associated with glycaemic traits

S.M. Willems, on behalf of the MAGIC Investigators, UK

116 Genetically driven hyperglycaemia increases risk of coronary artery disease separately from type 2 diabetes

J. Merino, A. Leong, B. Porneala, D.C. Posner, L. Masana, J. Dupuis, J.C. Florez, USA, Spain

117 Characteristics of patients with low and high HbA_{1c} variability in type 2 diabetes

J.D. Noyes, E. Soto-Pedre, L.A. Donnelly, M. Lonergan, K. Zhou, E.R. Pearson, UK

118 Prediabetes is associated with white matter atrophy: the MAASTRICHT study

M.J. Van Agtmaal, A.J. Houben, V. Verheggen, N.C. Schaper, R.M. Henry, S.J. Sep, J.F. Jansen, P.A. Hofman, W.H. Backes, A. Koster, C.D. Stehouwer, M.T. Schram, Netherlands

119 Primary care management of type 2 diabetes mellitus in Denmark, Norway and Sweden: a long term observational study

K.I. Birkeland, J. Bodegard, F. Persson, S.T. Knudsen, K. Furuseth, M. Thuresson, A. Lindh, P.M. Nilsson, M. Alvarsson, M.E. Jørgensen, H.L. Gulseth, J. Søndergaard, Norway, Denmark, Sweden

120 Trends in drug therapy for type 2 diabetes in Denmark from 1996 to 2014

M. Linnemann Jensen, B. Carstensen, F. Persson, J. Bodegard, M.E. Jørgensen, Denmark, Sweden

14:30 - 16:00

Meyerhof Hall

OP 21 Retinopathy screening: Can we do better?

Chair: H.-P. Hammes, Germany, R. Simo, Spain

121 Automated diabetic retinopathy screening: large-scale study on consecutive patient visits in a primary care setting

K. Solanki, M. Bhaskaranand, S. Bhat, C. Ramachandra, J. Cuadros, M.G. Nittala, S.R. Sadda, USA

122 Validation of automated diabetic retinopathy screening with the IDx-DR device in the Hoorn Diabetes Care System

A.A. Van der Heijden, M.D. Abramoff, F. Verbraak, M. Van Hecke, A. Liem, G. Nijpels, Netherlands, USA

123 A randomised controlled trial on the impact of financial incentives on attendance at diabetic eye screening in London

G. Judah, J. Valabhji, L. Gunn, P. Tyacke, I. Vlaev, D. King, D. King, C. Bicknell, A. Darzi, UK, USA

124 Retinal arteriolar and venular diameter are associated with diabetic retinopathy in people with type 2 diabetes

E. Sandoval, S. McLachlan, M. Strachan, T. MacGillivray, J. Wilson, J. Price, UK

125 Loss of visual acuity due to diabetic macular oedema arrives with hastened annual decline in renal function

F. Ziemssen, G. Bader, F. Baschiera, P. Margaron, P.M. Paldánus, Germany, Switzerland

126 Retinal microperimetry: a new tool for identifying type 2 diabetic patients at risk of developing Alzheimer's disease

A. Ciudin, O. Simo-Servat, G. Arcos, I. Hernandez, M. Boada, J. Mesa, C. Hernandez, R. Simo, Spain

OP 22 The challenge of angry lipids

Chair: A.F.H. Pfeiffer, Germany, M.-R. Taskinen, Finland

127 Specific phospholipids are differently associated to human visceral and non-visceral adipose tissue depending on the inflammatory state in the NUGAT Twin study

M.A. Osterhoff, R. Schöler, T. Frahnöw, J. Machann, C. Klose, M.A. Surma, K. Simons, S. Hornemann, M. Kruse, A.F. Pfeiffer, Germany

128 Serum ceramides are linked to low microbiome richness and diabetes risk in overweight and obese subjects

B.D. Kayser, M. Lhomme, E. Prifti, M.-C. Dao, J. Aron-Wisnewsky, MICRO-Obes Consortium, A. Kontush, S.W. Rizkalla, I. Dugail, K. Clément, France

129 Regulation of lipolysis and adipose tissue signalling during acute endotoxin-induced inflammation: a human randomised crossover trial

N. Rittig, E. Bach, H.H. Thomsen, S.B. Pedersen, J.O. Jørgensen, N. Jessen, M. Niels, Denmark

130 Intrahepatic lipid content is an independent predictor of circulating CD36

S. Heeböll, M.K. Poulsen, M.J. Ørnstrup, T.N. Kjær, S. Nielsen, S.B. Pedersen, H. Grønbæk, A. Handberg, Denmark

131 Obesity paradox: increased adiposity plays beneficial role in PCSK9-dependent uptake via VLDLR by visceral adipose tissue during sepsis

E. Topchiy, J.H. Boyd, K.R. Walley, Canada

132 Angiopoietin like protein 4 (ANGPTL4): a marker of alteration in lipid metabolism, insulin resistance and ectopic fat accumulation

A. Gastaldelli, M. Gaggini, C. Rosso, V. Della Latta, M. Marietti, G. Caviglia, F. Carli, E. Buzzigoli, D. Ciociaro, M. Abate, A. Smedile, G. Saracco, E. Bugianesi, Italy

14:30 - 16:00

Naunyn Hall

OP 23 Tracking insulin resistance in different tissues

Chair: M. Blüher, Germany, J.-F. Tanti, France

133 Benefit of hepatic denervation on glucose disposal: a long term efficacy study in a canine model of insulin resistance

G. Kraft, M. Scott, D.S. Edgerton, E. Allen, P.E. Williams, B.R. Azamian, A.D. Cherrington, USA

134 Hyperglycaemia-induced endoplasmic reticulum stress decreases skeletal muscle insulin sensitivity

T.P. Solomon, C.S. Shaw, UK, Australia

135 Lack of inducible nitric oxide synthase prevents high fat diet-induced adipose tissue fibrosis in mice

J. Jang, S. Lee, Y. Kang, I.-K. Lee, E. Koh, K.-U. Lee, Korea, Republic of

136 Hepatic hypomethylation and increased secretion of PDGFA links chronic hyperinsulinaemia to liver disease in obese subjects with diabetes

A. Abderrahmani, L. Yengo, M. Canouil, S. Cauchi, R. Caiazzo, A. Bonnefond, F. Pattou, P. Froguel, France

137 A novel role of fibroblast growth factor 21 in activating pancreatic islet autophagy in type 2 diabetes mellitus

T.W. Cheng, P.S. Leung, Hong Kong

138 Decreased circulating bone morphogenetic protein (BMP)-9 levels in patients with type 2 diabetes is a signature of insulin resistance

J. Chen, L. Li, G. Yang, China

OP 24 Making beta cells work better

Chair: K. Maedler, Germany, C. Schalkwijk, Netherlands

139 Glycine and insulin autocrine signalling in human pancreatic beta cell

R. Yan-Do, E. Duong, J.E. Manning-Fox, X. Dai, K. Suzuki, S. Khan, A. Bautista, M. Ferdaoussi, J. Lyon, X. Wu, S. Cheley, P.E. MacDonald, M. Braun, Canada

140 Biased agonism alters GLP-1 receptor trafficking and glucose homeostasis

B. Jones, T. Buenaventura, B. Owen, I.R. Corrêa Jr, P. Johnson, D. Bosco, S.R. Bloom, G.A. Rutter, A. Tomas, UK, USA, Switzerland

141 Role of circular RNAs in the control of beta cell functions

L. Stoll, R. Regazzi, Switzerland

142 Activation of the alternative pathway of complement, represented by factor Bb, is longitudinally associated with beta cell conservation in type 2 diabetes: the CODAM study

M.M. Van Greevenbroek, Y. Xin, T. Schuitemaker, C.J. Van der Kallen, E. Hertle, C.G. Schalkwijk, C.D. Stehouwer, Netherlands

143 Expression of DPP-4 in beta cells of type 2 diabetic subjects and the effects of its inhibition

M. Bugliani, M. Masini, F.M. Paula, B.A. Omar, S. Mossuto, M. Suleiman, F. Grano, U. Boggi, F. Filipponi, L. Marselli, B. Ahren, D.L. Eizirik, P. Marchetti, Italy, Belgium, Sweden

144 Hyperactivation of mTORC1 in human type 2 diabetic human pancreatic islets

K. Gorrepati, T. Yuan, S. Rafizadeh, J. Oberholzer, A. Ardestani, K. Maedler, Germany, USA

EASD-Novo Nordisk Foundation Diabetes Prize for Excellence

EASD, in partnership with the Novo Nordisk Foundation, is again pleased to announce the “Diabetes Prize for Excellence” which was awarded for the first time in 2015.

The EASD-Novo Nordisk Foundation Diabetes Prize for Excellence is to be awarded to an internationally recognised researcher who has contributed significantly to our understanding of diabetes and/or its treatment. The Prize winner’s research may focus on prevention, treatment and/or basic research in physiological biochemistry.

The awardee will deliver a keynote lecture after the award ceremony.

The history of the Novo Nordisk Foundation commences in 1922 when August Krogh, who received the Nobel Prize for Physiology/Medicine in 1920, returned from Canada and the United States holding permission to produce insulin in the Nordic countries. In 1923, the first Foundation was formed - Nordisk Insulinlaboratorium and Nordisk Insulin Foundation which should become the forerunners for the Novo Nordisk Foundation. Today, the Novo Nordisk Foundation is an independent foundation with the vision to improve the health and welfare of people by contributing to research and development.

DIABETES PRIZE FOR EXCELLENCE LECTURER

2015 Stockholm

Sir S. O’Rahilly, UK



Chair: J.R. Zierath, President EASD and EFSD

Speaker: A. Hattersley, UK

Title: Defining heterogeneity in diabetes
to improve clinical care

Andrew Hattersley is Professor of Molecular Medicine at the University of Exeter. He was trained in Medicine at the Universities of Cambridge and Oxford.

He received specialist training in diabetes in London, Oxford and Birmingham before taking up a consultant job in Exeter where he has worked in the diabetes clinic since 1995. His research career started in Oxford where he worked on defining genes in maturity-onset diabetes of the young (MODY) with Robert Turner. He has remained working in

monogenic diabetes since then and has published over 500 papers with >48,000 citations in both molecular and clinical science research.

His work combines clinical observations, cutting edge molecular genetics and in-depth clinical and physiological studies. With Sian Ellard, he has taken Exeter from a centre without a genetics lab in 1995 to being the top international lab for monogenic diabetes that has had over 10,000 referrals from over 85 countries worldwide. The Exeter team have described 14 novel genes that cause monogenic diabetes. Their work on clinical phenotype and treatment is the basis of international guidelines on the diagnosis and clinical care for all subtypes of monogenic diabetes. Recently, he has led work to define subtypes in Type 1 and Type 2 diabetes aiming to replicate the clinical care advances that have come from defining subtypes in monogenic diabetes. Hattersley is a regular speaker at major international conferences and has won a string of national and international awards for his research in diabetes. He was appointed as a fellow of The Royal Society in 2010.



17:30

Minkowski Hall

A decade of DPP-4 inhibition: What have we learned?

Chair: M.A. Nauck, Germany

R.R. Holman, UK:
Cardiovascular outcome trials

A.J.L. Scheen, Belgium:
DPP-4 vs SGLT2: Which to inhibit?

Langerhans Hall

Michael Berger debate: Statins for all?

Chair: D.J. Betteridge, UK

N. Sattar, UK:
No

K.K. Ray, UK:
Yes

17:30

Meyerhof Hall

Metformin: oldie but goodie

Chair: E. Ferrannini, Italy

K.S. Nair, USA:

Do we understand the mechanism of metformin action?

H. Beck-Nielsen, Denmark:

How important is lactic acidosis as a complication of metformin therapy?

Thannhauser Hall

All grown up? Transitions in diabetes care

Chair: R.I.G. Holt, UK

C.B. Johansen, Denmark:

The challenges of diabetes in emerging adulthood

T.M. Vallis, Canada:

Engaging young adults in their diabetes care

Wednesday, 14 September

17:30

Naunyn Hall

Epigenomics and epigenetics

Chair: M.E. Cooper, Australia

A. El-Osta, Australia:

Epigenomic modifications in diabetic complications

M.G. Netea, Netherlands:

Epigenetic memory in trained immunity

Kussmaul Hall

Our “embryonic” understanding of diabetes

Chair: S.J. Persaud, UK

J. Ferrer, Spain:

Genome regulation of pancreatic islets

T. Otonkoski, Finland:

Beta cell dysfunction: lessons from stem cells

8:30

Minkowski Hall

Managing pregnant women with microvascular complications

Chair: R. Kaaja, Finland

**K. Teramo, Finland:
Nephropathy**

**M. Larsen, Denmark:
Retinopathy**

**H.R. Murphy, UK:
Neuropathy**

Langerhans Hall

Diabetes management in ageing individuals

Chair: U. Smith, Sweden

**B.M. Frier, UK:
Ageing and response to hypoglycaemia**

**G. Schernthaner, Austria:
Glucose-lowering therapies in older patients: minimising risk**

**A.J. Sinclair, UK:
Specific concerns in the frail older adult**

Thursday, 15 September

8:30

Meyerhof Hall

Advances in neuropathy management

Chair: P. Kempler, Hungary

P. Anand, UK:

Targeting painful neuropathy: the view from the periphery

D. Selvarajah, UK:

Targeting painful neuropathy: the view from the CNS

R.L. Freeman, USA:

Advances in diabetic autonomic neuropathy

Thannhauser Hall

SOS (Save Our Secretion): rescuing islets in type 2 diabetes

Chair: P. Marchetti, Italy

S. Madsbad, Denmark:

Beta cell function after bariatric surgery

L. Marselli, Italy:

Molecular signatures associated with improved beta cell function

T. Vilsbøll, Denmark:

The important role of alpha cells

8:30

Naunyn Hall

Prime time for omics?

Chair: M. Stumvoll, Germany

K. Sharma, USA:
Omics and the kidney

O. Melander, Sweden:
Omics and cardiovascular disease

A.R. Shuldiner, USA:
Omics: The key to personalising diabetes care?

Kussmaul Hall

Beyond muscle: the protean effects of exercise

Chair: A. Krook, Sweden

H. van Praag, USA:
Exercise and the brain

L.J. Goodyear, USA:
Exercise effects on adipose tissue

N. Marx, Germany:
Exercise effects on the heart

Thursday, 15 September

10:15 - 11:45

Minkowski Hall

OP 25 GLP-1 RA: the longer, the better?

Chair: J.J. Meier, Germany, J. Seufert, Germany

145 Improved glycaemic control and weight loss with once weekly dulaglutide versus placebo, both added to titrated daily insulin glargine in type 2 diabetes patients (AWARD-9)

P. Pozzilli, P. Norwood, E. Jodar, M. Davies, T. Ivanyi, H. Jiang, B. Woodward, Z. Milicevic, Italy, USA, Spain, UK, Hungary, Austria

146 Efficacy and safety by duration of diabetes with once weekly dulaglutide in the AWARD programme

B. Gallwitz, V. Thieu, I. Pavo, N. Jia, N. Zhang, L.-E. Garcia-Perez, Germany, USA, Austria

147 Efficacy and safety of once-weekly semaglutide vs exenatide ER after 56 weeks in subjects with type 2 diabetes (SUSTAIN 3)

A. Ahmann, M. Capehorn, G. Charpentier, F. Dotta, E. Henkel, I. Lingvay, A. Gaarsdal Holst, M. Annett, V. Aroda, USA, UK, France, Italy, Germany, Denmark

148 Efficacy and safety of once-weekly semaglutide vs once-daily insulin glargine in insulin-naïve subjects with type 2 diabetes (SUSTAIN 4)

J.H. DeVries, S.C. Bain, B. Cariou, L. Rose, M. Axelsen, E. Rowe, V.R. Aroda, Netherlands, UK, France, Slovenia, Denmark, USA

149 Dose-dependent glucose lowering and body weight reductions with the novel oral formulation of semaglutide in patients with early type 2 diabetes

M. Davies, T.R. Pieber, S. Jabbour, M.-L. Hartoft-Nielsen, O.K. Højbjerg Hansen, J. Rosenstock, UK, Austria, USA, Denmark

150 Efficacy and tolerability of ITCA 650 versus sitagliptin in uncontrolled type 2 diabetes patients on metformin monotherapy: results of the FREEDOM-2 study

M.A. Baron, D. Denham, P. Prabhakar, R. Azeem, L. Kjems, J. Rosenstock, USA

OP 26 Starving the fatty liver

Chair: P. Iozzo, Italy, M. Roden, Germany

151 Hepatic fat content decreases with 3 weeks of intermittent fasting in obese patients with and without type 2 diabetes

A. Ingersen, H. Helset, S. Skaaby, M. Calov, E. Chabanova, J.W. Helge, F. Dela, Denmark

152 Chronic intranasal insulin does not affect hepatic lipid content in healthy male subjects: a randomised, double-blind, placebo-controlled trial

T. Scherer, P. Wolf, S. Smajis, M. Gaggini, A. Gastaldelli, M. Krššák, M. Krebs, Austria, Italy

153 The interplay of fatty liver with fatty pancreas accenuates local islet inflammation in humans

D.I. Siegel-Axel, F. Gerst, M. Panse, R. Wagner, J. Machann, N. Stefan, B. Sipos, F. Fend, S. Nadalin, A. Königsrainer, H.-U. Häring, S. Ullrich, Germany

154 Exposure to hypoxia markedly ameliorates hyperglycaemia and hepatic steatosis without concomitant insulin sensitisation in obese mice

C. Fürnsinn, S. Abu Eid, M.T. Hackl, M.-P. Winter, A. Luger, T. Scherer, Austria

155 Involvement of PRDX6 in the pathogenesis of obesity and nonalcoholic fatty liver disease

R. Arriga, F. Pacifici, B. Capuani, A. Coppola, M. Scioli, D. Pastore, M. Tesaro, N. Di Daniele, P. Sbraccia, A. Orlandi, G. Sconocchia, G. Donadel, D. Della-Morte, D. Lauro, Italy

156 Adipose tissue macrophages induce hepatic macrophage accumulation during the development of non-alcoholic steatohepatitis

M. Bijnen, I. Cuijpers, M.J. Gijbels, T. Josefs, J. Van de Gaar, M. Vroomen, E. Wijnands, E.A. Biessen, A.M. Duijvestijn, C.D. Stehouwer, C.G. Schalkwijk, K.A. Wouters, Netherlands

10:15 - 11:45

Meyerhof Hall

OP 27 New insights into peripheral neuropathy

Chair: S. Tesfaye, UK, D. Ziegler, Germany

157 Enhanced dermal nerve regeneration despite pronounced nerve fibre loss in painful and painless diabetic polyneuropathy

G. Bönhof, A. Strom, S. Püttgen, B. Ringel, J. Brüggemann, K. Bódis, K. Müssig, J. Szendrödi, M. Roden, D. Ziegler, PROPANE, GDS, Germany

158 Painful polyneuropathy is common but largely undiagnosed in subjects with and without diabetes participating in a nationwide educational initiative (PROTECT Study)

D. Ziegler, A. Strom, R. Landgraf, R. Lobmann, K. Reiners, K. Rett, O. Schnell, Germany

159 The relationship between vitamin D and thalamic neurochemistry in painful diabetic neuropathy

I. Wilkinson, D. Selvarajah, R. Gandhi, M. Greig, S. Tesfaye, P. Shillo, UK

160 External muscle stimulation differentiates circulating haematopoietic stem cells in diabetes patients

I. Spanidis, A. Hidmark, T.H. Fleming, N. Volk, V. Eckstein, J.B. Gröner, S. Kopf, P.P. Nawroth, D. Oikonomou, Germany

161 Disruption of white matter integrity in sensory and motor pathways in diabetic peripheral neuropathy: evidence from diffusion tensor imaging

D. Selvarajah, J. Harding, S. Pallai, I. Wilkinson, S. Tesfaye, UK

162 Neuropathy in patients with type 2 diabetes does not contribute to the development of microvascular dysfunction

A.L. Emanuel, M.D. Nieuwenhoff, G. Groeneveld, M.H. Kramer, E.C. Eringa, E.H. Serné, Netherlands

OP 28 Novel mechanisms determining beta cell dysfunction

Chair: P. Froguel, France, G.A. Rutter, UK

163 E2F1 controls pancreatic beta cell function and identity

X. Gromada, N. Rabhi, P. Froguel, J.-S. Annicotte, France

164 The elevated expression of the ER-stress induced miR-29a in individuals with type 1 diabetes mellitus

S. Bacon, B. Engelbrecht, J.H. Prehn, A. Resler, M.M. Byrne, Ireland, Germany

165 Hyperlipidaemia-induced microRNA-155 expression in pancreatic islet cells maintains glucose homeostasis by targeting MafB

M. Zhu, Y. Wei, K. Heyll, A. Schober, Germany

166 Metabolic characterisation of beta cell specific IDE knock-out mice

C. Fernández-Díaz, S. Fernández-Luis, C. Dominguez-Lobatón, A. Moreno, G. Perdomo, I. Cózar-Castellano, Spain

167 Deletion of beta cell specific K_{ATP} channels causes severe glucose intolerance with impaired insulin secretion and enhanced incretin secretion

O.S. Oduori, K. Minami, N. Yokoi, Y. Maejima, H. Takahashi, P.L. Herrera, K. Shimomura, S. Seino, Japan, Switzerland

168 Long-term study of mice with beta cell specific insulin resistance

S. Skovsø, D.A. Dionne, L. Elghazi, H. Li, D. Hutchinson, X. Hu, F. Taghizadeh, E. Bernal-Mizrachi, J.D. Johnson, Canada, USA

10:15 - 11:45

Naunyn Hall

OP 29 At last! From GWAs to function

Chair: A. Bonnefond, France, M. Claussnitzer, USA

169 Coding variation and type 2 diabetes risk in 435,386 individuals

A. Mahajan, on behalf of the ExT2D Exome Chip Consortium, for PROMIS, CHARGE and T2D-GENES/GoT2D, UK

170 Prioritising causal genes at type 2 diabetes risk loci through high-throughput screening for human beta cell dysfunction

S.K. Thomsen, A. Ceroni, M. Van de Bunt, C. Burrows, A. Barrett, R. Scharfmann, D. Ebner, M.I. McCarthy, A.L. Gloyn, UK, France

171 Deep functional profiling of 40 MTNR1B mutants reveals the involvement of Gai1 and Gaz proteins in the association between melatonin signalling and type 2 diabetes

A. Bonnefond, A. Karamitri, B. Plouffe, M. Chen, A. Hegron, M. Boissel, J.-L. Guillaume, M. Bouvier, P. Froguel, R. Jockers, France, Canada

172 Coding variants in G6PC and G6PC2 identified from large-scale exome array meta-analysis impact on fasting glucose homeostasis through effects on different tissues

N.H. Ng, X. Sim, J.K. Rundle, A. Raimondo, T2D-GENES Consortium, MAGIC Investigators, A. Mahajan, A.L. Gloyn, UK, Singapore

173 Deletion of the type 2 diabetes-associated gene product StarD10 in mice impairs insulin secretion and action

G.R. Carrat, M.-S. Nguyen-Tu, M. Hu, P. Chabosseu, A. Siddiq, M. Falchi, P. Froguel, A. Schulte, M. Ibberson, B. Thorens, P. Marchetti, M. Solimena, M. Cane, G.A. Rutter, UK, Germany, Switzerland, Italy

174 A new PPAR γ truncated isoform induced by a regulatory feedback: Is alternative splicing crucial in adipocyte differentiation and defective neoadipogenesis?

M. Aprile, M.R. Ambrosio, S. Cataldi, V. D'Esposito, D. Terracciano, P. Formisano, A. Ciccodicola, V. Costa, Italy

OP 30 Exercise effects: from molecules to humans

Chair: H. Al-Hasani, Germany, N. Stefan, Germany

175 Multimodal live-imaging analysis of GLUT4 behaviour and exercise effects in mouse skeletal muscle

H. Hatakeyama, S. Sekiai, M. Hosoya, M. Kanzaki, Japan

176 Impaired exercise performance in Tbc1d1/Tbc1d4-deficient mice is rescued by high-intensity interval training

C.A. Springer, N. Hamker, C. De Wendt, S. Karpinski, A. Chadt, H. Al-Hasani, Germany

177 A surge of appetite regulating hormone, ghrelin, and its relevance to motivation for the initiation of voluntary exercise in mice

Y. Tajiri, K. Hara, Y. Sakai, K. Yamada, R. Mitsuzono, M. Kojima, H. Mifune, Japan

178 Dual specificity phosphatase 5 and 6 are oppositely regulated in human skeletal muscle by acute exercise

K. Eckardt, S. Porteymour, M. Hjorth, S. Lee, T.M. Langleite, T. Holen, J. Jensen, K.I. Birkeland, C.A. Drevon, Norway

179 High-intensity interval training changes insulin stimulated cerebral glucose uptake of in subjects with impaired glucose tolerance

S.M. Honkala, J. Johansson, K.K. Motiani, J.-J. Eskelinen, K.A. Virtanen, E. Löyttyniemi, P. Nuutila, J. Knuuti, K.K. Kalliokoski, J.C. Hannukainen, Finland

180 High intensity interval training causes sustained improvement of maximal mitochondrial respiration in patients with type 2 diabetes and healthy controls

M. Apostolopoulou, M. Roehling, S. Gancheva, T. Jelenik, K. Kaul, K. Muessig, J. Szendroedi, M. Roden, Germany

12:00 - 13:00 Poster Event E	Page
PS 005 Get up and go: exercise in diabetes	128
PS 011 Metabolic pillow talk between tissues	134
PS 017 Feeling good, feeling bad: a pendulum for the beta cell	141
PS 023 Beta cells need help to survive	147
PS 029 Determinants of whole body insulin sensitivity 2	153
PS 035 The gastro-entero-islet axis	159
PS 041 Novel treatment concepts in metabolic disease	165
PS 047 Macrophages and other blood cells in inflammation	171
PS 053 Cholesterol and dyslipidaemia	177
PS 059 Other hormones	183
PS 065 SGLT-2 inhibitors: pathophysiology	189
PS 071 DPP-4 inhibitors	196
PS 077 Hypoglycaemia: clinical impact	203
PS 083 Insulin usage	210
PS 089 Basal insulin studies	217
PS 095 Autonomic neuropathy: assessment and treatment	224
PS 101 Novel insights into diabetic retinopathy	230
PS 107 Mechanistic aspects of diabetic nephropathy	236
PS 113 Novel vascular risk markers	242
PS 119 The heart of the matter: clinical	249

13:15 - 14:15 Poster Event F	Page
PS 006 Diabetes prevalence and prevention around the world	129
PS 012 Exploring novel associations	135
PS 018 Tinkering with islet transplantation: Can we do better?	142
PS 024 From functional to dysfunctional beta cells	148
PS 030 Exercise physiology in humans and animal models	154
PS 036 New insights into beta cell function	160
PS 042 Cancer in diabetes	165
PS 048 Novel and updated biomarkers associated with obesity	172
PS 054 Ectopic lipids	178
PS 060 GLP-1 RA and obesity	183
PS 066 Metformin and other oral agents	191
PS 072 GLP-1 RA: experimental studies	197
PS 078 Psychological aspects: influences on life	204
PS 084 Devices: continuous glucose monitoring	211
PS 090 Features of pregnancy in type 1 diabetes	218
PS 096 Autonomic function tests and risk	225
PS 102 Diabetic retinopathy: the experimental approach	231
PS 108 Hypertension revisited	237
PS 114 Diabetic complications: the unusual suspects	243
PS 120 My sweet heart	250

14:30 - 16:00

Minkowski Hall

OP 31 SGLT-2 inhibitor trials

Chair: K. Strojek, Poland, J.P.H. Wilding, UK

181 Efficacy and safety of ertugliflozin in subjects with type 2 diabetes mellitus inadequately controlled on the dual combination of metformin and sitagliptin: the VERTIS SITA2 trial

B. Lauring, R. Eldor, J. Liu, S. Dagogo-Jack, G. Amarin, J. Johnson, D. Hille, S. Huyck, G. Golm, S. Terra, J. Mancuso, S.S. Engel, USA, Argentina

182 Empagliflozin (EMPA) as add-on to linagliptin (LINA) and metformin in patients with type 2 diabetes (T2DM): a 24-week randomised, double-blind, parallel-group trial

M. Maldonado-Lutomirsky, E. Søfteland, J.J. Meier, B. Vangen, R. Toorawa, H.-J. Woerle, U.C. Broedl, Germany, Norway, UK

183 DPP4-i/SGLT-2i combination as add-on to metformin for type 2 diabetes mellitus: comparison to OADs, GLP-1RAs or basal insulin

L. Qin, M.E. Orme, N. Varol, A. Kalkan, M. Erdmann, K. Bell, J. Mukherjee, USA, UK, Sweden, Canada

184 Canagliflozin improves risk factors of metabolic syndrome versus sitagliptin in patients with type 2 diabetes and metabolic syndrome on background metformin + sulphonylurea

M.J. Davies, K. Merton, U. Vijapurkar, D. Balis, M. Desai, USA

185 Canagliflozin and dapagliflozin, but not liraglutide, reduce Alanine Aminotransferase (ALT) levels in type 2 diabetes: a difference not explained by HbA_{1c} or weight change

H.S. Bajaj, R. Brown, K. Venn, N.S. Sohi, S. Kalra, R. Aronson, Canada, Ireland

186 Effects of dapagliflozin on insulin-requirement, glucose excretion and beta-hydroxybutyrate levels is not related to baseline A_{1c} in youth with type 1 diabetes

T. Biester, M. Fath, B. Aschemeier, M. Frey, M.F. Scheerer, O. Kordonouri, T. Danne, Germany

OP 32 “Devices and desires” (Thomas Cranmer, 1548)

Chair: R. Hovorka, UK, T.R. Pieber, Austria

187 Accuracy and longevity of an implantable continuous glucose sensor in the precise study: a 180 day, prospective multi-centre pivotal trial

J. Kropff, P. Choudhary, S. Neupane, S. Bain, C. Kapitza, T. Forst, M. Link, A. DeHennis, J. DeVries, Netherlands, UK, Germany, USA

188 Hybrid closed-loop (HCL) pivotal trial in type 1 diabetes

R.M. Bergenstal, S.A. Weinzimer, R. Brazg, T.S. Bailey, B. Buckingham, S. Garg, B. Bode, S.M. Anderson, R.H. Slover, J. Ilany, S. Huang, J.B. Welsh, S.W. Lee, USA, Israel

189 Home use of a bihormonal bionic pancreas vs conventional insulin pump therapy in adults with type 1 diabetes: a multicenter randomised clinical trial

S.J. Russell, F.H. El-Khatib, B. Buckingham, J. Buse, D. Harlan, T. Ly, S. Kirkman, S. Malkani, M. Thompson, L. Ekhlaspour, E.R. Damiano, USA

190 Telemedicine and continuous glucose monitoring in paediatric type 1 diabetes care

M.V. Vlaiculescu, C. Niculescu, M.I. Truica, Romania

191 Real-time continuous glucose monitoring improves time spent in euglycaemia and prevents severe hypoglycaemia in type 1 diabetes mellitus patients with impaired awareness of hypoglycaemia

C.A. Van Beers, P.H. Geelhoed-Duijvestijn, M. Diamant †, M.H. Kramer, J.H. DeVries, F.J. Snoek, E.H. Serné, Netherlands

192 Faster-acting insulin aspart: faster offset of exposure and action in addition to faster onset in subjects with type 1 diabetes using continuous subcutaneous insulin infusion

E. Zijlstra, T. Heise, L. Nosek, T. Rikte, H. Haahr, Germany, Denmark

14:30 - 16:00

Meyerhof Hall

OP 33 Vascular disease: mechanisms and management

Chair: O. Schnell, Germany, C.D.A. Stehouwer, Netherlands

193 The reduction in small dense low-density lipoproteins by liraglutide is independently associated with reduced carotid atherosclerosis in patients with type 2 diabetes

D. Nikolic, R.V. Giglio, A.M. Patti, G. Castellino, G. Li Volti, G. Montalto, M. Rizzo, Italy

194 The dynamics of endothelial progenitor cells and vascular endothelial growth factor in patients with type 2 diabetes after endovascular interventions

M.S. Michurova, V.Y. Kalashnikov, O.M. Smirnova, S.A. Terekhin, O.N. Ivanova, S.M. Stepanova, A.V. Ilyin, M.V. Shestakova, I.I. Dedov, Russian Federation

195 Levels of Anti-TPO correlate significantly with carotid Intima-Media Thickness (IMT) in type 2 diabetic patients with subclinical hypothyroidism

L. Petrosyan, M. Mkhitarian, Armenia

196 Impaired autophagic flux involves in advanced glycation end products-induced apoptosis of vascular endothelial cells

H. Zhang, T. Xu, H. Shi, J. Zhao, X. Zhao, H. Fan, D. Cui, C. Liu, S. Ge, X. Wu, China

197 Preclinical carotid atherosclerosis in asymptomatic individuals with latent autoimmune diabetes in adults (LADA)

C. López Cano, D. Mauricio, E. Ortega, J. Valls, E. Rubinat, A. Mollo, A. Betriu, M.D. Santos, F. Rius, L.P. Gutierrez, M. Sánchez, A. Lecube, E. Fernández, M. Hernández, Spain

198 Glucose metabolism status is associated with impaired microvascular function: the Maastricht study

B.M. Sörensen, A.J. Houben, T. Berendschot, J. Schouten, A.A. Kroon, C.J. Van der Kallen, R.M. Henry, A. Koster, P.C. Dagnelie, N.C. Schaper, M.T. Schram, C.D. Stehouwer, Netherlands

OP 34 On the fate of the beta cell: from beginning to end

Chair: F. Dotta, Italy, P. Pozzilli, Italy

199 Increase in insulin and proinsulin positive area and preservation of beta cell mass during the pre-diabetic phase in type 1 diabetes

T. Rodriguez-Calvo, J. Zapardiel-Gonzalo, N. Amirian, E. Castillo, Y. Lajevardi, M. Von Herrath, USA

200 Expression of the transcriptional activator, CIITA, correlates with aberrant expression of MHC class II in the beta cells of individuals with type 1 diabetes

M.A. Russell, L. Krogvold, K. Dahl-Jørgensen, A.K. Foulis, S.J. Richardson, N.G. Morgan, UK, Norway

201 Significance of microRNAs for the differentiation of human embryonic stem cells into definitive endoderm and mesoderm

U. Diekmann, D. Ishikawa, J. Fiedler, S. Lenzen, O. Naujok, Germany

202 A microRNA atlas of human insulin-producing cells

W. Wong, M.V. Joglekar, A.S. Januszewski, R.J. Farr, D. Luiwantara, T. Kay, P. O'Connell, G. Guillemain, D. Martin, W.J. Hawthorne, A.A. Hardikar, on behalf of the Islet miRNA study group, Australia

203 Betatrophin: A new potential biomarker of beta cell function and autoimmunity in diabetes?

R. Lupi, S. Del Guerra, I. Crisci, M. Aragona, R. Giannarelli, S. Del Prato, Italy

204 Molecular markers of beta cell mortality

R.J. Farr, M.V. Joglekar, A.S. Januszewski, A. Akil, C.J. Taylor, V. Cotta, M. Craig, A. Jenkins, A.A. Hardikar, Australia

14:30 - 16:00

Naunyn Hall

OP 35 Novel genetics discoveries and phenotypic characterisation

Chair: S. Ellard, UK, M.T. Malecki, Poland

205 Loss-of-function mutations in DNAJC3 cause young-onset diabetes due to oxidative stress and mitochondrial beta cell apoptosis

B. Abdulkarim, V. Senée, A. Philippi, P. Singh, M. Daures, M. Igoillo-Esteve, A. Chaussenot, M. Nicolino, D.L. Eizirik, C. Julier, M. Cnop, Belgium, France

206 Activating STAT3 mutation leads to pancreatic hypoplasia through premature differentiation

J. Saarimäki-Vire, D. Balboa, M. Russell, N. Morgan, S. Eurola, H. Grym, J. Ustinov, C. Valensisi, C. Andrus, J. Saarikettu, O. Silvennoinen, D. Hawkins, M. Varjosalo, T. Otonkoski, Finland, UK, USA

207 Hepatic and biliary findings using MR and MRCP imaging in patients with HNF1B mutations

J.L. Kettunen, H. Parviainen, P.J. Miettinen, M. Färkkilä, E. Lantto, T. Tuomi, Finland

208 Strategies for improving statistical power for detailed physiological characterisation of individuals with type 2 diabetes-associated variants

M.M. Umapathysivam, T. McDonald, S. Humphreys, M. Neville, A.L. Gloyn, M.I. McCarthy, A.T. Hattersley, F. Karpe, T.M. Frayling, UK

209 Physical activity energy expenditure attenuates the effect of the TBC1D4 p.Arg684Ter loss-of-function variant on 2-hour plasma glucose among Greenland Inuit

M.E. Jørgensen, T.M. Schnurr, E. Jørsboe, I. Dahl-Petersen, B. Carstensen, P. Bjerregaard, N. Grarup, A. Albrechtsen, T. Hansen, Denmark

210 Clinical utility of a 1-hour oral glucose tolerance test for prediction of type 2 diabetes

M. Pareek, P. Almgren, R. Jagannathan, M.L. Nielsen, L. Groop, P.M. Nilsson, M. Bergman, M.H. Olsen, Denmark, Sweden, USA

OP 36 Biomarkers and predictors of diabetic nephropathy

Chair: S.M. Marshall, UK, N.M. Panduru, Romania

211 High levels of plasma T cell immunoglobulin and mucin-containing molecule 1 (TIM-1) predict deterioration of kidney function and incidence of chronic kidney disease

C.-A. Schulz, G. Engström, J. Nilsson, P.M. Nilsson, O. Melander, M. Orho-Melander, Sweden

212 MicroRNA-145 and micro/macrovacular complications of type 1 diabetes in the EURODIAB Prospective Complications study

F. Barutta, G. Bruno, S. Grimaldi, N. Chaturvedi, J.H. Fuller, G. Gruden, Italy

213 Urinary tubular biomarkers and the slope of renal function decline in macroalbuminuric patients with type 1 diabetes mellitus

N.M. Panduru, E. Valo, C. Forsblom, N. Sandholm, V. Harjutsalo, M. Saraheimo, P.M. Humpert, P.-H. Groop, Romania, Finland, Germany

214 Implication of low muscle mass on albuminuria and chronic kidney disease in patients with type 2 diabetes: the Korean Sarcopenic Obesity Study (KSOS)

H. Chung, H. Lee, H. Yoo, J.-A. Seo, S. Kim, N. Kim, S. Baik, D. Choi, K. Choi, Korea, Republic of

215 Performance of different estimated glomerular filtration rate equations in predicting all-cause mortality in Chinese subjects with type 2 diabetes

A.Z. Shih, C.H. Lee, Y.C. Woo, C.H. Fong, W.S. Chow, K.S. Lam, China

216 Pleiotropic effects of GLP-1 treatment on renal risk factors in type 2 diabetes

E.H. Petersen, B.J. Von Scholten, M. Lindhardt, F. Persson, T.W. Hansen, P. Rossing, Denmark

MINKOWSKI PRIZE

The prize will be given in relation to research which has been carried out by a person normally residing in Europe.

It is awarded for distinction, manifested by publications which contribute to the advancement of knowledge in the field of diabetes mellitus.

The prize commemorates Oskar Minkowski (1858-1931) who successfully performed the extirpation of the pancreas in dogs in 1889 and noticed that they developed diabetes.



O. Minkowski

MINKOWSKI LECTURERS

1966	Aarhus	P.J. PELTONEN-PALOTIE, UK	1991	Dublin	C. BOITARD, FR
1967	Stockholm	E.R. FROESCH, CH	1992	Prague	E. VAN SCHAFTINGEN, BE
1968	Louvain	L.A. CARLSON, SE	1993	Istanbul	H. YKI-JÄRVINEN, FI
1969	Montpellier	B. HELLMAN, SE	1994	Düsseldorf	T. MANDRUP POULSEN, DK
1970	Warsaw	B. JEANRENAUD, CH	1995	Stockholm	J. TODD, UK
1971	Southampton	C.N. HALES, UK	1996	Vienna	P. RORSMAN, DK
1972	Madrid	W.J. MALAISSE, BE	1997	Helsinki	P. FROGUEL, FR
1973	Brussels	L. ORCI, CH	1998	Barcelona	J.H. AUWERX, FR
1974	Jerusalem	E. CERASI, SE	1999	Brussels	R. SCHARFMANN, FR
1975	Munich	P. FREYCHET, FR	2000	Jerusalem	H. EDLUND, SE
1976	Helsinki	K.D. HEPP, DE	2001	Glasgow	J.R. ZIERATH, SE
1977	Geneva	J. WAHREN, SE	2002	Budapest	B.O. ROEP, NL
1978	Zagreb	J. NERUP, DK	2003	Paris	M. STUMVOLL, DE
1979	Vienna	S.J.H. ASHCROFT, UK	2004	Munich	G.A. RUTTER, UK
1980	Athens	I.-B. TALJEDAL, SE	2005	Athens	P. ROSSING, DK
1981	Amsterdam	P. DE MEYTS, BE	2006	Copenhagen	M. RODEN, AT
1982	Budapest	G.F. BOTTAZZO, UK	2007	Amsterdam	M. STOFFEL, CH
1983	Oslo	S.L. HOWELL, UK	2008	Rome	J.C. BRÜNING, DE
1984	London	A. LERNMARK, DK	2009	Vienna	G. PERSEGHIN, IT
1985	Madrid	E. VAN OBBERGHEN, FR	2010	Stockholm	F. GRIBBLE, UK
1986	Rome	D. PIPELEERS, BE	2011	Lisbon	N. SATTAR, UK
1987	Leipzig	J.-L. CARPENTIER, CH	2012	Berlin	T.M. FRAYLING, UK
1988	Paris	J.C. HUTTON, UK	2013	Barcelona	M. CNOP, BE
1989	Lisbon	H.U. HÄRING, DE	2014	Vienna	A.L. GLOYN, UK
1990	Copenhagen	P. A. HALBAN, CH	2015	Stockholm	M. BLÜHER, DE

16:15 **INDUCTION OF HONORARY MEMBERS** **Minkowski Hall**
J.R. Zierath, President EASD and EFSD
followed by

51ST MINKOWSKI LECTURE

Chair: **J.R. Zierath, President EASD and EFSD**

Speaker: **P. Schrauwen, Netherlands**

Title: **Let's energise: mitochondria and energy turnover to
 comBAT type 2 diabetes**

Patrick Schrauwen is a professor of metabolic aspects of type 2 diabetes mellitus at the NUTRIM School of Nutrition and Translational Research in Metabolism of the Maastricht University Medical Center (MUMC). His main fields of interest concern insulin resistance, lipotoxicity and mitochondrial dysfunction with special emphasis on type 2 diabetes.



In 1998, Schrauwen received his PhD at the Maastricht University for his thesis 'Determinants of energy and substrate metabolism'. Part of his thesis was performed at the National Institutes of Health (NIH) in Phoenix (USA) where he studied molecular and genetic aspects of obesity and type 2 diabetes mellitus.

In 2001, he was appointed a prestigious Academy-fellowship from the Royal Dutch Academy of Arts and Sciences and in 2008, a VICI-fellowship from the Netherlands Organisation for Scientific Research.

For his work Schrauwen was awarded the Young Investigators Award from the European Association for the Study of Obesity in 2001, the 'Silver Medal Award' from the Nutrition Society in 2006, the 'Rising Star Award' from the European Association for the Study of Diabetes (EASD) in 2008 and the Corona-Gallina Award in 2013.

Schrauwen is editorial board member of 'Scientific Reports', 'Nutrition and Diabetes' and 'Diabetologia'. He has published over 200 papers in international scientific journals, including publications in prestigious journal as Cell, Cell Metabolism, JCI, NEJM, Nature Medicine, Diabetes and Progress in Lipid Research.

17:15

Minkowski Hall

**Liraglutide Effect and Action in Diabetes:
Evaluation of Cardiovascular Outcome Results –
a long term evaluation (LEADER)**

Chair: R.R. Holman, UK

**J.B. Buse, USA:
Introduction**

**S.P. Marso, USA:
LEADER cardiovascular outcomes**

**M.A. Nauck, Germany:
Pancreatic findings**

**J.F.E. Mann, Germany:
Microvascular outcomes**

Langerhans Hall

Update on diabetes technology

Chair: L. Heinemann, Germany

**E.M. Renard, France:
Artificial pancreas: Is it safe and efficient in daily life?**

**R.J. Slingerland, Netherlands:
Performance of medical devices after market approval**

17:15

Meyerhof Hall

Diabetes in the developing world: A ticking time bomb?

Chair: E.A.M. Gale, UK

J. Davies, UK:

Drivers of the diabetes epidemic in Africa

D.H. Beran, Switzerland:

Tackling diabetes when resources are limited

Thannhauser Hall

Where have all the beta cells gone in type 2 diabetes?

Chair: L. Groop, Sweden

S.E. Kahn, USA:

Evidence for cell death

D. Accili, USA:

Evidence for dedifferentiation

Thursday, 15 September

17:15

Naunyn Hall

Interpreting the human genome

Chair: A.L. Gloyn, UK

S. Ellard, UK:

Experiences from the UK 100,000 genomes project

R. Trembath, UK:

The human knockout project

Kussmaul Hall

Lipids and kidney disease

Chair: C.M. Forsblom, Finland

K. Susztak, USA:

Free fatty acids and progression of kidney disease

A. Fornoni, USA:

ABCA1 dependent cholesterol efflux in glomerular diseases

08:30

Minkowski Hall

**EASD/ADA Symposium:
Changing paradigms: the role of SGLT2 inhibitors**

Chair: D.R. Matthews, UK, S.E. Inzucchi, USA

**S.E. Inzucchi, USA:
SGLT2 inhibition and cardiovascular outcomes**

**D.Z. Cherney, Canada:
SGLT2 inhibitors and renal outcomes**

Langerhans Hall

Dogmata debate: Time to stop measuring diastolic blood pressure?

Chair: P.-H. Groop, Finland

**P. Sever, UK:
Yes**

**S.E. Kjeldsen, Norway:
No**

Friday, 16 September

08:30

Meyerhof Hall

SUSTAIN 6

Chair: M.J. Davies, UK

L.A. Leiter, Canada:
Trial design, baseline characteristics

S.P. Marso, USA:
Cardiovascular outcomes

T. Vilsbøll, Denmark:
Clinical and metabolic outcomes

S.C. Bain, UK:
Safety outcomes

L. Rydén, Sweden:
Discussant

Thannhauser Hall

The brain - fat connection

Chair: H.-U. Häring, Germany

O.M. Farr, USA:
CNS centers regulating obesity and metabolism:
from basic science to translational research

C.S. Mantzoros, USA:
Cross-talk between adipocytes, the gut and the CNS:
clinical implications

08:30

Naunyn Hall

Is the well dry? Beta cell function in early type 1 diabetes

Chair: M. Knip, Finland

K. Dahl-Jørgensen, Norway:

The pathogenesis of type 1 diabetes: virus involved? Lessons from the DiViD study

N. Morgan, UK:

Inflammation as a mediator of islet dysfunction

Kussmaul Hall

Genetics and metabolism: a decade later

Chair: T.M. Frayling, UK

M. Claussnitzer, USA:

FTO locus: the caloric switch

S.F.A. Grant, USA:

TCF7L2 locus: lots of smoke but how much fire?

Friday, 16 September

09:45 - 10:45

Minkowski Hall

OP 37 Novel approaches to study insulin action: omics and beyond

Chair: A. Gastaldelli, Italy, C. Miele, Italy

217 Multigenerational metabolic reprogramming in the offspring of a non-dietary model of insulin resistance revealed by transcriptomics

D.F. De Jesus, R.N. Kulkarni, USA

218 A proteomic signature that reflects pancreatic beta cell function

A. Curran, J. Kaput, M.F. Ryan, E. Drummond, E.R. Gibney, M.J. Gibney, H.M. Roche, L. Brennan, Ireland, Switzerland

219 Pathway-based approach to reveal the gene-brain interactions for the cognitive impairments of patients with type 2 diabetes

F. Su, China

220 Life long moderate insulin reduction extends mammalian lifespan, and demonstrates a causal role for hyperinsulinaemia in insulin resistance

J.D. Johnson, N.M. Templeman, Canada

OP 38 Novel mechanisms of complications

Chair: F. Barutta, Italy, L. Gnudi, UK

221 Slow breathing-induced improvement in subclinical hypoxia, autonomic and vascular function is associated with acute reduction in reactive oxygen species in type 2 diabetes

L. Bianchi, M. Bordino, F. Banchemo, M. Lehto, A. Boi, E. DiMarco, P.H. Groop, R. Ghelardi, L. Bernardi, Italy, Finland, Australia

222 Microglial activation prevents vasoregression in degenerative retinopathy

M. Kolibabka, S. Riemann, N. Gretz, S. Hoffmann, S. Busch, H.-P. Hammes, Germany

223 Compound 21, an angiotensin II type 2 receptor agonist, is protective in experimental diabetes-associated atherosclerosis

T. Allen, C. Koulis, U. Steckelings, T. Unger, K. Jandeleit-Dahm, M. Cooper, B.S. Chow, Australia, Denmark, Netherlands

224 Intestinal inflammation is evident already before diabetic nephropathy in type 1 diabetes

M.I. Lassenius, C.L. Fogarty, M. Blaut, K. Haimila, J. Kirveskari, A.J. Ahola, A. Kumar, D. Gordin, S. Hörkkö, P. Pussinen, C. Forsblom, M. Jauhiainen, M.-R. Taskinen, P.-H. Groop, M. Lehto, Finland, Germany

09:45 - 10:45

Meyerhof Hall

OP 39 Sweet and low

Chair: R.I.G. Holt, UK, W. Rathmann, Germany

225 Depressive symptoms in people with diabetes: results from the International Diabetes Management Practices Survey

P. Aschner, J. Gagliardino, H. Ilkova, F. Lavalley, A. Ramachandran, G. Kaddaha, J. Mbanya, M. Shestakova, Y. Bourhis, J. Chantelot, J.C. Chan, Colombia, Argentina, Turkey, Mexico, India, United Arab Emirates, Cameroon, Russian Federation, France, China

226 Validation of a psychometric tool to assess diabetes acceptance: the Diabetes Acceptance Scale (DAS)

A. Schmitt, A. Reimer, B. Kulzer, A. Icks, R. Paust, K.-M. Roelver, S. Matthaei, M. Kaltheuner, D. Ehrmann, M. Krichbaum, N. Hermanns, Germany

227 Generic and disease-specific quality of life in adolescents with type 1 diabetes: comparison to age-matched healthy peers

A. Lukács, A. Török, L. Barkai, Hungary

228 Increased depression symptom score in newly diagnosed type 2 diabetes patients

M. Hahn, S. Busch, M. Scheerer, W. Rathmann, Germany

OP 40 Picturing the brain

Chair: G.-J. Biessels, Netherlands, M. Heni, Germany

229 Discordance between central (brain) and pancreatic action of exenatide in lean and obese subjects

G. Daniele, R. Eldor, C. Huerta, M. Alatrach, R. De Fronzo, T. Duong, J. Lancaster, M. Zirie, A. Jayyousi, M. Abdul-Ghani, USA, Italy, Israel, Qatar

230 Hypothalamic glucose transport kinetics in experimentally induced Hypoglycaemia-Associated Autonomic Failure (HAAF) in humans

E.R. Seaquist, A. Moheet, J. Joers, P.-G. Henry, A. Kumar, K. Kubisiak, L. Eberly, G. Oz, USA

231 Glycogen metabolism measured in the brain of insulin-resistant Goto-Kakizaki rats by ^{13}C magnetic resonance spectroscopy in vivo

J.M. Duarte, S.S. Nussbaum, R. Gruetter, A.F. Soares, Switzerland

232 The ameliorating effect of suvorexant, a dual orexin receptor antagonist, on glucose metabolism in type 2 diabetic db/db mice

H. Tsuneki, K. Kon, T. Wada, T. Sasaoka, Japan

09:45 - 10:45

Naunyn Hall

OP 41 Improving clinical beta cell transplantation

Chair: P. Marchetti, Italy, C. Ricordi, USA

233 Long-term (10 yr) results of pancreas transplant alone (PTA) in 60 consecutive type 1 diabetic subjects

M. Occhipinti, F. Vistoli, G. Amorese, S. Del Ghianda, U. Boggi, P. Marchetti, Italy

234 Mathematic analysis of meal tests to evaluate beta cell mass in islet-transplanted patients

J.-F.R. Brun, O. Villard, T. Berney, P.-Y. Benhamou, A. Wojtusciszyn, France, Switzerland

235 Donor-specific alloimmune humoral response after islet grafting: description and impact on graft function

L. Kessler, P. Baltzinger, E. Pouliquen, A. LemIE, V. Dubois, O. Thaunat, Gragil, France

236 Is IVGTT a useful predictor of pancreas graft dysfunction?

T. Havrdova, F. Saudek, T. Jedinakova, L. Voska, K. Lipar, V. Lanska, Czech Republic

OP 42 From islet omics to beta cell function

Chair: M. Cnop, Belgium, H. Mulder, Sweden

237 Human genomic and functional studies of common type 2 diabetes genes demonstrate their role in pancreatic beta cell function

F.K. Ndiaye, A. Ortalli, M. Huyvaert, C. Salazar-Cardozo, M. Canouil, J. Kerr-Conte, F. Pattou, L. Marselli, P. Marchetti, R. Scharfmann, P. Froguel, A. Bonnefond, France, Italy, UK

238 Single-cell transcriptome profiling of human pancreatic islets from normal and type 2 diabetes mellitus donors

P. Eliasson, Å. Segerstolpe, A. Palasantza, E.-M. Andersson, A.-C. Andréasson, S. Picelli, A. Sabirsh, M. Bjursell, D. Smith, C. Ämmälä, R. Sandberg, Sweden, UK

239 Epigenome-wide RNAi screen identifies an alpha to beta cell transdifferentiation factor

T. Casteels, J. Li, S. Kubicek, Austria

240 Perturbed mitochondrial metabolism in islets from type 2 diabetic donors revealed by integrated analysis of the human islet metabolome and transcriptome

P. Spégel, J. Sun, R. Jain, L.E. Andersson, P. Storm, H. Mulder, Sweden

11:00 - 12:00

Minkowski Hall

OP 43 Diabetes and pregnancy

Chair: A. Kautzky-Willer, Austria, A.G. Tabák, Hungary

241 Maternal neck circumference is associated with glucose tolerance before the 20th week of pregnancy

L.C. Mendoza, J. Harreiter, D. Simmons, G. Desoye, R. Devlieger, D. Hill, P. Damm, D. Jensen, F. Dunne, E. Wender-Ozegowska, A. Lapolla, M. Van Poppel, A. Kautzky-Willer, R. Corcoy, DALI Core Investigator group, Spain, Austria, UK, Belgium, Switzerland, Denmark, Ireland, Poland, Italy, Netherlands

242 Role of first trimester HbA_{1c} as a predictor of adverse obstetric outcomes in a multi-ethnic cohort

L. Mañé, D. Benaiges, J. Chillarón, G. Llauredó, M. Rodríguez, I. Marcelo, J. Pedro-Botet, R. Carreras, J. Flores-le Roux, A. Payà, Spain

243 Elevated levels of circulating FABP4 predict preeclampsia in women with type 1 diabetes

C.B. Kelly, M.B. Hookham, J.Y. Yu, A.J. Jenkins, K.F. Hanssen, T. Henriksen, S.K. Garg, C.E. Aston, T.J. Lyons, UK, Australia, Norway, USA

244 Association of maternal diabetes and diabetes medication treatment during pregnancy with attention-deficit/hyperactivity disorder in offspring

A.H. Xiang, M.P. Martinez, X. Wang, J.C. Walthall, K.A. Page, T.A. Buchanan, E.S. Curry, USA

OP 44 Metformin: old drug, new tricks

Chair: K. Nair, USA, M. Stumvoll, Germany

245 Metformin treatment may impair orthostatic blood pressure recovery

C.S. Hansen, L. Lundby-Christensen, B. Carstensen, L. Tarnow, T. Almdal, M.E. Jørgensen, Denmark

246 No correlation between hepatic volume of distribution for metformin and gene expression of neither organic cation transporter 1 nor multidrug and toxin extrusion 1

E.I. Sundelin, L.C. Gormsen, S. Heebøll, M. Vendelbo, S. Jakobsen, M.M. Christensen, K. Brøsen, J. Frøkiær, H. Grønbæk, N. Jessen, Denmark

247 Targeted metabolomics to predict the primary success of metformin monotherapy in type 2 diabetes

M. Rottenkolber, C. Muschet, M. Breier, M. Fugmann, V. Sacco, M. Weise, C. Prehn, H. Grallert, M. Bidlingmaier, M. Hrabě de Angelis, J. Seissler, M. Reincke, J. Adamski, U. Ferrari, A. Lechner, Germany

248 Metformin increases small intestine glucose uptake in rodents

J.P. Koffert, K. Mikkola, O. Eriksson, J. Virta, M. Gomez, P. Nuutila, Finland, Sweden

11:00 - 12:00

Meyerhof Hall

OP 45 “Education, education, education” (Tony Blair, 1996)

Chair: J. Elliot, UK, V. Jörgens, Germany

249 Structured type 1 diabetes education (DAFNE) reduces basal insulin and improves weight and glycaemia: 3-year follow-up study

A.Y. Liu, A.L. Dean, J.W. Nuttall, J.D. Wilkinson, M.P. Khanolkar, P.L. Drury, New Zealand

250 Evaluating the relationship between diabetes distress and biomedical parameters in type 1 diabetes using a novel assessment tool

P.J. Todd, F. Edwards, J.A. Sturt, N.H. Patel, P. Choudhary, UK

251 Adherence to different aspects of diabetes self-management and glycaemic control after two variants of patients’ education in type 2 diabetes mellitus patients starting insulin

A.V. Petrov, L.G. Strongin, S.Y. Panova, Russian Federation

252 Impact of Ramadan focused education programme on hypoglycaemic risk and metabolic control for patients with type 2 diabetes

A.M. Tourkmani, T.J. Alharbi, A. Mishriki, Saudi Arabia

OP 46 Diabetes and the brain

Chair: A. Fritsche, Germany, B. Mankovsky, Ukraine

253 Both long-term and short-term glycaemic control are associated with micro- and macrovascular events - a DPV study on 152,121 patients with type 2 diabetes

J.M. Hermann, D. Crowther, A. Melmer, H.-P. Hammes, A. Voll, R.W. Holl, DPV initiative, Germany, Austria

254 Brain MRI abnormalities in patients with type 2 diabetes mellitus

B. Mankovsky, N. Zherdova, J. De Bresser, G.-J. Biessels, Ukraine, Netherlands

255 Association between structural brain abnormalities and cognitive functioning in patients with type 2 diabetes mellitus

N. Zherdova, B. Mankovsky, J. De Bresser, E. Van der Berg, G.-J. Biessels, Ukraine, Netherlands

256 Effects of insulin degrading enzyme genetic variation on cognition and brain structure in patients with type 2 diabetes

J. Huang, China

11:00 - 12:00

Naunyn Hall

OP 47 Multihormonal control of islet cell function

Chair: P.R. Flatt, UK, C.B. Wollheim, Switzerland

257 Impaired beta cell adaptation to reduced insulin sensitivity and increased insulin clearance explain glucose intolerance in mice with deletion of GLP-1 and GIP receptors

A. Tura, R. Bizzotto, Y. Yamada, Y. Seino, B.A. Omar, G. Pacini, B. Ahrén, Italy, Japan, Sweden

258 Islet derived peptide YY (PYY) is a key player in regulation of beta cell function and preservation of beta cell mass

P.R. Flatt, D. Khan, S. Vasu, R.C. Moffett, N. Irwin, UK

259 Functional and molecular adaptation of intestinal L cells in mice under high fat diet is associated to the preservation of alpha and beta cell function and to normoglycaemia

R. Dusaulcy, S. Handgraaf, S. Skarupelova, F. Visentin, C. Vesin, M. Heddad-Masson, J. Philippe, Y. Gosmain, Switzerland

260 The myokine irisin is released in response to saturated fatty acids and enhances pancreatic beta cell survival and insulin secretion

N. Marrano, A. Natalicchio, G. Biondi, R. Spagnuolo, R. Labarbuta, A. Cignarelli, P. Marchetti, S. Perrini, L. Laviola, F. Giorgino, Italy

OP 48 Type 1 diabetes: from epidemiology to clinical conclusions

Chair: L. Barkai, Hungary, K.R. Owen, UK

261 Diabetic ketoacidosis among type 1 patients on insulin pump therapy: number of patients in the diabetes clinic modifies the association

S. Hoshina, G.S. Andersen, M.E. Jørgensen, M. Ridderstråle, D. Vistisen, H.U. Andersen, Japan, Denmark

262 Psychiatric medication use before and after the onset of type 1 diabetes in children and adolescents: a population-based cohort study

S. Fazeli Farsani, H. Abdullah-Koolmees, P.C. Souverein, A. De Boer, A.K. Mantel-Teeuwisse, Netherlands

263 Falling all-cause mortality from the Yorkshire Register of type 1 diabetes in children and young adults

T.C. Evans-Cheung, H.J. Bodansky, R.G. Feltbower, R.C. Parslow, UK

264 Classifying diabetes by type 1 genetic risk shows autoimmune diabetes cases are evenly distributed above and below 30 years of age

N.J. Thomas, S. Jones, M. Weedon, A. Hattersley, R. Oram, UK

12:15

Minkowski Hall

Diabetes prevention: What has the ADDITION trial added?

Chair: N.J. Wareham, UK

A. Sandbæk, Denmark:
Rationale and aims

S.J. Griffin, UK:
Results at 10 years

W.H. Herman, USA:
Modelling the cost effectiveness of the interventions

Langerhans Hall

EASD/ESC Symposium: Blood pressure in diabetes: How low to go?

Chair: P. Rossing, Denmark, P.M. Nilsson, Sweden

P.K. Whelton, USA:
Benefits of intensive antihypertensive therapy: results from SPRINT

P.M. Nilsson, Sweden:
Implications of SPRINT for our patients with diabetes

12:15

Meyerhof Hall

Reducing residual risk: optimising CV outcomes in diabetes

Chair: M.-R. Taskinen, Finland

A. Tybjaerg-Hansen, Denmark:
Should remnant cholesterol be a target?

A.L. Catapano, Italy:
Beyond statins: PCSK9 inhibition

J. Chapman, France:
The role of HDL cholesterol: impact of insulinoreistance

Friday, 16 September

12:15

RISING STAR SYMPOSIUM

Thannhauser Hall

Chair: P.-H. Groop, Finland

The Rising Star Symposium aims to identify promising and innovative keen researchers who are developing their research activities in Europe. Selected candidates will have the opportunity to present an overview of their past and ongoing research activities during a multidisciplinary research symposium at the EASD Annual Meeting. Four candidates have been selected.

Rising Star Awardees

2005	Athens	P.-O. CARLSSON, SE A.L. GLOYN, UK M. CNOP, BE N. MARX, DE	2013	Barcelona	A. ROSENGREN, SE J.A. POSPISILIK, DE D.J. PREISS, UK G. SUMARA, FR
2006	Copenhagen	G. DA SILVA XAVIER, UK M. FLODSTRÖM-TULLBERG, SE M. FEDERICI, IT J.J. MEIER, DE	2014	Vienna	G.H. GOOSSENS, NL H.J. HEERSPINK, NL L. PASQUALI, ES R. STIENSTRA, NL
2007	Amsterdam	T. FRAYLING, UK A. TENGHOLM, SE E.R. PEARSON, UK N. STEFAN, DE	2015	Stockholm	M. HENI, DE D. HODSON, UK R. NOGUEIRAS, ES R.A. SCOTT, UK
2008	Rome	R. MALLONE, FR P. SCHRAUWEN, NL M. BLÜHER, DE E. ZEGGINI, UK			
2009	Vienna	V. GAULT, UK G.P. FADINI, IT C. HERDER, DE V. LYSSENKO, SE			
2010	Stockholm	P. FRANKS, SE F. KNOP, DK C. LINDGREN, UK K. BOUZAKRI, CH			
2011	Lisbon	I. PROKOPENKO, UK M. RAVIER, FR A.N.E. AKO, UK A.L. BIRKENFELD, DE			
2012	Berlin	A. BONNEFOND, FR J. BEULENS, NL L. HERRERO, ES H. SELL, DE			

Speaker: S. Kooijman, Netherlands
Title: Time to heat up: targeting brown adipose tissue



Speaker: F. D'Addio, Italy
Title: B lymphocytes in type 1 diabetes: destruction and regulation



Speaker: N.K.A. Sandholm, Finland
Title: Genetic background of diabetic nephropathy in subjects with type 1 diabetes



Speaker: A.G. Jones, UK
Title: Clinical insights from C-peptide measurement



12:15

Naunyn Hall

EASD/JDRF Symposium: The intestinal microbiome in type 1 diabetes

Chair: A.G. Ziegler, Germany, M. Knip, Finland

M. Knip, Finland:

Relationship between the maternal gut microbiome and the developing gut microbiome in the offspring

R.J. Xavier, USA:

Metagenomics to hygiene hypothesis

J.F. Petrosino, USA:

Role of the intestinal microbiome in the development of beta cell autoimmunity and type 1 diabetes in young children: the TEDDY study

Kussmaul Hall

EMPA-REG OUTCOME: one year later

Chair: M. Walker, UK

B. Zinman, Canada:

Introduction and context

D. Fitchett, Canada:

Macrovascular and heart failure outcomes: an update

C. Wanner, Germany:

Microvascular and renal outcomes: an update

H.C. Gerstein, Canada:

Implications for the management of patients with type 2 diabetes and high CV risk: the diabetologist's perspective

13:30

Kussmaul Hall

Combination treatment with SGLT2i/GLP-1 RA

Chair: B. Zinman, Canada

E. Ferrannini, Italy:

Pathophysiological basis of SGLT2i/GLP-1 RA combination

C. Guja, Romania:

DURATION-8 study: dapagliflozin and exenatide once a week combination

14:00

Foyer of ICM

Farewell Reception

All participants are invited to join the Farewell Reception.



Friday, 16 September

Poster Event A, Tuesday, 12:00 - 13:00**PS 001 Mortality rate in diabetes around the world**

Chair: N. Sattar, UK

265 Premature deaths from ischaemic heart disease in childhood and young adult onset type 1 diabetes

H.J. Bodansky, T.C. Evans-Cheung, R.C. Parslow, R.G. Feltbower, UK

266 Diabetes-related mortality in Cameroonian children

G. Lemdjo, M. Dehayem, S. Ngo Um, M. Etoa, A. Mbanya, E. Sobngwi, J. Mbanya, Cameroon

267 Mortality rates, causes of death and risk factors in a large cohort of childhood onset of type 1 diabetes

D.R. Wasag, J.W. Gregory, C.M. Dayan, J.N. Harvey, UK

268 Mortality 15 years after diagnosis of type 1 and type 2 diabetes in adults, with diabetes type defined by autoimmunity and C-peptide

M. Thunander, M. Landin-Olsson, H. Ekström, S. Holmberg, Sweden

269 Rates and causes of death in adult patients with diabetes

S. Ioacara, C. Guja, D. Stegaru, F. Cojocaru, A. Gutan, A. Reghina, O. Georgescu, S. Martin, A. Sirbu, S. Fica, Romania

270 Mortality rates in elderly patients with diabetes

C. Guja, D. Stegaru, O. Bradescu, C. Ionescu-Tirgoviste, S. Fica, S. Ioacara, Romania

271 Mortality trends over time in patients with incident type 2 diabetes and controls

T. Andersson, P. Hjerpe, A.C. Carlsson, P. Wändell, K. Manhem, K. Bengtsson Boström, Sweden

272 The combined effect of adiponectin and resistin on all-cause mortality in patients with type 2 diabetes: evidence of synergism with abdominal adiposity

L. Ortega Moreno, O. Lamacchia, A. Fontana, M. Copetti, L. Salvemini, C. De Bonis, M. Cignarelli, V. Trischitta, C. Menzaghi, Italy

273 Impact of type 2 diabetes on life expectancy and cause-specific mortality in white, South Asian and black patients

M.K. Rutter, A.K. Wright, E. Kontopantelis, N. Sattar, D.M. Ashcroft, UK

Poster Event B, Tuesday, 13:15 - 14:15

PS 002 Does body shape and size matter?

Chair: I. Kowalska, Poland

274 Muscle mass decline as a significant risk factor for type 2 diabetes development in middle-age subjects during the prospective 1000PLUS cohort study

K. Maliszewska, J. Goscik, L. Szczerbinski, A. Citko, M. Paczkowska, M. Niemira, E. Adamska, M. Ciborowski, A. Kretowski, M. Gorska, Poland

275 Indicators of visceral adiposity as predictors of metabolic syndrome in population of Vojvodina Province in Serbia

B. Vukovic, D.S. Popovic, E. Stokic, M. Mitrovic, D. Tomic-Naglic, D. Benc, T. Icin, B. Ilincic, B. Kovacev-Zavistic, Serbia

276 Prevalences of different body composition phenotypes with aging and its changes after 4 years follow-up in Koreans

H.-K. Kim, C.-H. Kim, S. Bae, E. Kim, Korea, Republic of

277 Aging trajectories of obesity and body composition in south Asians and whites: a longitudinal analysis from the Whitehall II study

A.G. Tabák, A. Hulmán, E.J. Brunner, D.R. Witte, T.N. Akbaraly, M. Kivimaki, Hungary, UK, Denmark, France

278 An inducer of glyoxalase 1 improves insulin resistance and glycaemic control in overweight and obese non-diabetic subjects

P.J. Thornalley, M. Xue, M.O. Weickert, S. Qureshi, N.-B. Kandala, A. Anwar, M. Waldron, A. Shafie, N. Rabbani, UK

279 Discovering carbohydrate metabolism alterations in normoglycaemic obese patients (the DICAMANO study)

B. Pérez-Pevida, J. Escalada, S. Romero, M. Llaverro-Valero, J. Gargallo-Vaamonde, G. Gutierrez-Buey, J. Gómez-Ambrosi, C. Victoria, C. Silva, A. Rodriguez, J. Salvador, J. Núñez-Córdoba, G. Frühbeck, Spain

280 A metabolite ratio associates with measures of insulin secretion and altered risk of type 2 diabetes: a DIRECT study

L.M. 't Hart, S. Molnos, E. Eekhoff, A. Flögel, H. Grallert, S. Wahl, M.I. McCarthy, R. Gupta, E.R. Pearson, D. Much, S. Hummel, M. Beekman, J. Adamski, Netherlands, Germany, UK, Denmark

281 Treatment patterns and glycaemic control of type 2 diabetes affected by body mass index

W. Weng, Y. Tian, E. Kimball, S. Kong, J. Bouchard, J. Huang, T. Hobbs, B. Sakurada, USA

Poster Event C, Wednesday, 12:00 - 13:00

PS 003 Environment matters: diet and lifestyle updates

Chair: A.F.H. Pfeiffer, Germany

282 Metabolic outcomes after an 8-weeks low-calorie-diet in overweight, pre-diabetic individuals: the role of gender in the PREVIEW study

P. Christensen, M. Fogelholm, J. Brand-Miller, M. Drummen, I. Macdonald, J.A. Martinez, T. Handjieva-Darlenska, S. Poppitt, W. Schlicht, A. Astrup, T.M. Larsen, A. Raben, Denmark, Finland, Australia, Netherlands, UK, Spain, Bulgaria, New Zealand, Germany

283 Determinants of lifestyle behaviour change to prevent type 2 diabetes in high-risk subjects

N.R. Den Braver, E.W. De Vet, G. Duijzer, J. Ter Beek, S.C. Jansen, G.J. Hiddink, E.J. Feskens, A. Haveman-Nies, Netherlands

284 Understanding how access to fast food outlets is associated with obesity. The SPOTLIGHT project

J.D. Mackenbach, J. Lakerveld, J. Brug, G. Nijpels, the SPOTLIGHT consortium, Netherlands

285 Dietary pattern analysis of maternal pregnancy diet reveals combinations of nutrients associated with islet autoimmunity in the offspring

R.K. Johnson, J. Seifert, K. Waugh, F. Dong, B. Frohnert, M. Rewers, J.M. Norris, USA

286 Fatty acid consumption and incident type 2 diabetes: evidence from the E3N cohort study

C. Dow, M. Mangin, B. Balkau, A. Affret, M.-C. Boutron-Ruault, F. Clavel-Chapelon, F. Bonnet, G. Fagherazzi, France

287 Effect of a lifestyle intervention program in women at risk for type 2 diabetes with a history of GDM

G. Meregalli, V. De Mori, A. Balini, D. Berzi, R. Carpinteri, F. Forloni, R. Manenti, E. Menegola, A.C. Bossi, Italy

288 Coffee but not green tea consumption is inversely associated with metabolic syndrome: an epidemiological study of Korean adults

E. Kim, Y. Jeon, M. Lee, S. Kim, J. Kim, B. Kim, I. Kim, M. Shin, Y. Yi, C. Lee, Y. Kim, Korea, Republic of

289 Adherence to a mediterranean diet and autofluorescence of skin advanced glycation end products in older persons: the Three-City study

K.A. Rajaobelina, C. Féart, C. Helmer, A. Cougnard-Gregoire, B.M. Merle, C. Delcourt, V. Rigalleau, France

290 Exposure to endocrine disruptors in the general Dutch population: a pilot study in the LifeLines cohort

J.V. Van Vliet-Ostaptchouk, M. Faassen, T.P. Van der Meer, H. Frederiksen, A.-M. Andersson, I.P. Kema, B.H. Wolffenbuttel, Netherlands, Denmark

Poster Event D, Wednesday, 13:15 - 14:15

PS 004 Focusing on the liver

Chair: L. Czupryniak, Poland

291 Nonalcoholic fatty liver disease is associated with incident type 2 diabetes in combined hyperlipidaemic pedigrees: a 10-years follow-up study

M.C. Brouwers, N. Simons, N.C. Schaper, C.D. Stehouwer, M.M. Van Greevenbroek, Netherlands

292 NAFLD deteriorated fasting insulin, urinary albumin excretion, cystatin C and high-sensitivity C-reactive protein independent of glycaemic markers

S. Katoh, M. Zeniya, M. Kaji, Y. Sakamoto, K. Utsunomiya, Japan

293 Non-alcoholic fatty liver disease strongly predicts incident diabetes in patients with coronary artery disease

A. Mader, D. Zanolin, A. Vonbank, A. Leiherer, P. Rein, P. Schwerzler, H. Drexel, C.H. Saely, Austria, Liechtenstein

294 Impact of liver transplantation on glucose homeostasis in cirrhotic patients

V. Grancini, M. Lunati, E. Palmieri, V. Resi, G. Pugliese, E. Orsi, Italy

295 The effect of new anti-HCV infection combination therapy of ombitasvir, paritaprevir and dasabuvir on glucose metabolism: preliminary study

L. Czupryniak, M. Jabłkowski, E. Szymańska-Garbacz, J. Białkowska, A. Borkowska, J. Loba, Poland

296 Expression of hepatic DPP-4 is regulated by DNA methylation and participates in glucose metabolism

C. Baumeier, S. Saussenthaler, A. Kammel, A. Schürmann, R.W. Schwenk, Germany

Poster Event E, Thursday, 12:00 - 13:00

PS 005 Get up and go: exercise in diabetes

Chair: P.W. Franks, Sweden

297 The long-term effect of exercise intervention on improving fatty liver and cardiovascular risk factors in obese adults: a one-year follow-up study

H. Zhang, L.-L. Pan, Z.-M. Ma, Z. Chen, Y. Lu, X.-Y. Li, China, USA

298 Bicycling to work and primordial prevention of cardiovascular and type 2 diabetes risk: a cohort study from Northern Sweden

R.W. Koivula, A. Grøntved, I. Johansson, P. Wennberg, L. Østergaard, G. Hallmans, F. Renström, P.W. Franks, Sweden, Denmark, USA

299 Does a new diabetes diagnosis influence lifestyle behaviors within the household? The INfluence of Families On Modification of Diabetes Risk (INFORMED) study

J.A. Schmittdiel, S.R. Adams, S.A. Cunningham, M.K. Ali, USA

300 Dimensions of physical activity and sedentary time in identification of risk groups for future type 2 diabetes: a decision tree analysis within the addition-pro cohort

H. Amadid, N. Johansen, A.-L. Hansen, K. Færch, D. Vistisen, S. Brage, D. Witte, A. Sandbæk, M. Jørgensen, Denmark, UK

301 Physical activity, dietary intake and eating behaviour in genetic risk of obesity

S. Doornweerd, R.G. IJzerman, N.P. Van der Eijk, H.P. Van der Ploeg, E.J. De Geus, Netherlands

302 Newly diagnosed and prevalent type 2 diabetes patients are socially isolated: the Maastricht study

S. Brinkhues, N.H. Dukers-Muijters, C.J. Hoebe, C.J. Van der Kallen, P.C. Dagnelie, A. Koster, N.C. Schaper, C.D. Stehouwer, P.H. Savelkoul, M.T. Schram, Netherlands

303 Reversion from prediabetes to normal metabolism is positively correlated with a loss of body weight in a nationwide observational population study

R.T. Ribeiro, J.F. Raposo, J.M. Boavida, M.P. Macedo, I. Correia, R. Andrade, A. Silva, R. Duarte, J.L. Medina, L. Gardete-Correia, Portugal

304 The association of resting heart rate with the presence of diabetes in the Korean adults: the 2010-2013 Korea national health and nutrition examination survey

D.-J. Kim, J. Hong, J. Noh, Korea, Republic of

Poster Event F, Thursday, 13:15 - 14:15

PS 006 Diabetes prevalence and prevention around the world

Chair: E. Ferrannini, Italy

305 Prevalence of diabetes and pre-diabetes in a cohort of adults with William-Syndrome: a 5 year follow-up

M.E. Lunati, V. Grancini, V. Resi, M. Bedeschi, F. Lalatta, E. Orsi, Italy

306 No increased incidence of type 1 diabetes under 40 years 2009-2014 in Norwegians and immigrants

P.L. Ruiz, H.L. Gulseth, I.J. Bakken, H. Strøm, K.I. Birkeland, S.E. Håberg, L.C. Stene, Norway

307 Decreasing incidence of type 2 diabetes in Norway 2009-2014

H.L. Gulseth, P.L. Ruiz, I.J. Bakken, H. Strøm, K.I. Birkeland, S.E. Håberg, L.C. Stene, Norway

308 Prevalence and trends of obesity and overweight in Chinese adults, 2004-2013

J. Shen, T. Guo, X. Ma, Q. Pan, S. Fan, X. Wang, X. Bi, China, USA

309 Dynamics in prevalence of diabetes, diabetic complications and quality of diabetes care in Russian Federation in 2014-15 by data of national diabetes register

M.V. Shestakova, O.K. Vikulova, I.I. Dedov, Russian Federation

310 Screening strategies for early diagnosis of undiagnosed diabetes and other disorders of glucose metabolism. The DSP (Diabetes Screening Palermo) study

T. Iraci, V. Di Carlo, L. Galvano, F. Magliozzo, SIMG PALERMO, Italy

311 Statin use and the risk of type 2 diabetes in subjects with impaired fasting glucose: results from the prospective study IT-DIAB

S. Smati, M. Hanf, M. Pichelin, A. Richard, B. Bressolette, V. Jacquin, M. You, C. Authier, G. Breton, B. Cariou, France

312 Determinants of glucagon secretion in prediabetes and recently diagnosed type 2 diabetes: an IMI-DIRECT study

A.Y. Dawed, A.G. Jones, T.J. McDonald, M. Walker, A. Mari, P.W. Franks, E.R. Pearson, for the IMI-DIRECT project, UK, Italy, Sweden

Poster Event A, Tuesday, 12:00 - 13:00

PS 007 It's all about HbA_{1c}

Chair: D.R. Witte, Denmark

313 Survival as a function of HbA_{1c} in people with type 2 diabetes using differing glucose-lowering regimens

C.J. Currie, S.E. Holden, B. Voss, S. Rajpathak, B. Alemayehu, D. Williams, E. Berni, S. Jenkins-Jones, S.S. Engel, UK, Germany, USA

314 HbA_{1c} and second line glucose lowering drug initiation in Denmark, Norway and Sweden: an observational study comparing type 2 diabetes management in primary care

F. Persson, J. Bodegard, K.I. Birkeland, K. Furuseth, M. Thuresson, A. Lindh, P.M. Nilsson, M.E. Jørgensen, H.L. Gulseth, J. Søndergaard, S.T. Knudsen, M. Alvarsson, Denmark, Norway, Sweden

315 Effect of diabetes and of therapy with statins on the hospitalisation risk for infections: a population study

G. Seghieri, L. Policardo, R. Anichini, F. Profili, M. Seghieri, P. Francesconi, Italy

316 Hypoglycaemia and glycaemic variability are associated with survival rate after admission in hospitalised terminal cancer patients with diabetes

S. Takeishi, A. Mori, M. Kawai, Y. Yoshida, T. Yumura, S. Ito, T. Shibuya, N. Fushimi, N. Ohashi, H. Kawai, Japan

317 Rates of hospital admission for hypoglycaemia by glucose-lowering regimen and by glycated haemoglobin status in people with type 2 diabetes

S.E. Holden, S. Jenkins-Jones, C.J. Currie, UK

318 Effect of beta thalassaemia trait on haemoglobin A_{1c} levels in individuals without diabetes

K. Makrilakis, D. Tsilingiris, E. Voskaridou, S. Pagkrati, S. Liatis, Greece

319 Is the association between glycaemia and incident cardiovascular disease modified by haemoglobin levels?

D.R. Witte, R.K. Simmons, A. Hulman, Denmark

320 Longitudinal changes of insulin resistance and beta cell function in relation to glucose regulation status in Koreans with prediabetes

C.-H. Kim, H.-K. Kim, E.-H. Kim, S.-J. Bae, J.-Y. Park, Korea, Republic of

Poster Event B, Tuesday, 13:15 - 14:15

PS 008 Biomarkers: from blood to P value

Chair: P. Froguel, France

321 Novel biomarkers predicting a microvascular composite outcome in people with dysglycaemia in the ORIGIN trial

S. Hess, G. Pare, M. McQueen, S. Lee, H. Haenel, H.C. Gerstein, Germany, Canada

322 Profiling of circulating microRNAs in children with recent onset of type 1 diabetes

S. Erener, A. Marwaha, R. Tan, T.J. Kieffer, Canada, Qatar

323 Elevated glutamate and branched chain amino acid levels in overweight/obese individuals: links to insulin resistance and visceral adiposity

C. Hawlitschek, U. Ferrari, F. Banning, I. Freiboth, V. Sacco, C. Wichmann, S. Reif, A. Potzel, C. Prehn, N.N. Sommer, H. Hetterich, J. Adamski, J. Seissler, A. Lechner, Germany

324 Remnant cholesterol predicts the development of type 2 diabetes in patients with established coronary artery disease

H. Drexel, P. Rein, A. Leiherer, A. Vonbank, D. Zanolin, A. Mader, P. Schwerzler, C.H. Saely, Austria, Liechtenstein

325 Serum uromodulin is associated with impaired glucose metabolism

A. Muendlein, A. Leiherer, P. Rein, D. Zanolin, A. Vonbank, A. Mader, P. Schwerzler, C.H. Saely, H. Drexel, Austria, Liechtenstein

326 Circulating microvesicles correlate with body composition, plasma lipids and markers for ectopic fat in testosterone deficient type 2 diabetic men

J. Botha, L.V. Magnussen, M.H. Nielsen, T.B. Nielsen, K. Højlund, M.S. Andersen, A. Handberg, Denmark

327 Betatrophin concentration in first degree relatives of patients with autoimmune diabetes

M. Szelachowska, K. Siewko, R. Maciulewski, A. Zielinska, B. Telejko, A. Poplawska-Kita, D. Lipinska, R. Milewski, M. Gorska, Poland

328 Fibroblast Growth Factor-21 (FGF-21) predicts development of diabetes and pioglitazone attenuates the increase in FGF-21 in subjects with IGT: results from the ACTNOW study

D. Tripathy, R.P. Alonzo, A. Chavez-Velazquez, R. Martinez, N. Musi, R. DeFronzo, USA

Poster Event C, Wednesday, 12:00 - 13:00

PS 009 New insights from monogenic diabetes

Chair: K.R. Owen, UK

329 Assessing the likely function of HNF1A missense variants using CRP and allele frequency data

A. Juszczak, T.J. James, T.J. McDonald, M. Vaxillaire, I. Klimes, M.T. Malecki, T. Hansen, P.R. Njolstad, T. Tuomi, A.L. Gloyn, M.I. McCarthy, K.R. Owen, UK, France, Slovakia, Poland, Denmark, Norway, Finland

330 Quality of life assessment in patients with genetic diagnosis of HNF1A-MODY and GCK-MODY

M. Szopa, B. Matejko, D. Ucieklak, A. Uchman, B. Zapala, T. Platek, J. Hohendorff, S. Mrozinska, M. Malecki, Poland

331 Differential diagnostics of inherited lipodystrophies in patients with diabetes, prediabetes or insulin resistance in Russia

E. Sorkina, A. Mayorov, M. Shestakova, A. Tiulpakov, I. Dedov, Russian Federation

332 To diet or not to diet in neonatal diabetes responding to sulphonylurea treatment

S. Fica, I. Herescu, O. Herescu, M. Purcaru, L. Mintici, S. Ioacara, Romania

333 In vitro analysis of suspected GCK-MODY causative mutations reveals high share of those causing only mild kinase activity inhibition

P. Heneberg, D. Šimčíková, B. Rypáčková, L. Kocková, M. Anděl, Czech Republic

334 Nuclear localisation of glucokinase in pancreatic beta cells is mediated by a nuclear localisation signal and is regulated by SUMOylation

I. Aukrust, B. Johansson, K. Fjeld, M.H. Solheim, M. Keindl, A. Døskeland, T. Flatmark, P.R. Njølstad, L. Bjørkhaug, Norway

335 Identification of molecular dysfunction induced by GDH S445L mutation associated with hyperinsulinism/hyperammonaemia syndrome

M. Grimaldi, M. Karaca, L. Latini, D. Bosco, P. Maechler, Switzerland

336 Deficiency in the tRNA methyltransferase TRMT10A activates the intrinsic pathway of apoptosis in pancreatic beta cells

C. Cosentino, T. Oltean, M. Atta, J.-L. Ravanat, D.L. Eizirik, M. Cnop, M. Igoillo-Esteve, Belgium, France

Poster Event D, Wednesday, 13:15 - 14:15

PS 010 Drilling down on genetic mechanisms

Chair: G.A. Rutter, UK

337 Identification and functional characterisation of diabetes genes in mice

O. Kluth, E. Mühlbauer, D. Matzke, A. Kamitz, M. Jähnert, H. Staiger, H.U. Häring, H.G. Joost, A. Schürmann, Germany

338 FTO silencing inhibits insulin secretion in GRINCH cells: a new pancreatic beta cell line tool for beta cell function

J. Taneera, L. Haataja, C. Wollheim, L. Groop, United Arab Emirates, USA, Sweden

339 Pax6 is required for the functional identity of the adult pancreatic beta cell

G.A. Rutter, R.K. Mitchell, D.J. Hodson, UK

340 System biology of the IMIDIA biobank from organ donors and pancreatectomised patients defines the transcriptomic signature of type 2 diabetes islets

M. Solimena, A.M. Schulte, on behalf of IMIDIA, Germany

341 Role of the type 2 diabetes GWAS gene TCF7L2 in LKB1-mediated regulation of insulin secretion in the murine beta cell

M.-S. Nguyen-Tu, I. Leclerc, G. Da Silva-Xavier, G.A. Rutter, UK

342 CAR isoform expression in the human pancreas

S.J. Richardson, E. Ifie, M.A. Russell, N.G. Morgan, UK

343 Grandpaternal high-fat diet transgenerationally impacts the skeletal muscle unfolded protein response in F2-female offspring

P.S. Alm, T. De Castro Barbosa, R. Barrès, A. Krook, J.R. Zierath, Sweden, Denmark

344 Detection of beta cell virus infection in type 1 diabetes by short fluorescently labelled oligonucleotide probes

N. Busse, F. Paroni, S.J. Richardson, G. Frisk, J.E. Laiho, M. Oikarinen, H. Hyöty, N.G. Morgan, K. Maedler, Germany, UK, Sweden, Finland

Poster Event E, Thursday, 12:00 - 13:00

PS 011 Metabolic pillow talk between tissues

Chair: T. Tuomi, Finland

345 Liver fat content and insulin secretion failure are associated with the long-term success of a lifestyle intervention to prevent type 2 diabetes: results of the TULIP study

V. Schmid, C. Sailer, L. Fritsche, M. Heni, R. Wagner, N. Stefan, H.-U. Häring, A. Fritsche, Germany

346 Decorin: a new positive component of skeletal muscle to beta cell communication which prevent TNF-alpha and insulin resistance condition medium effect on beta cells

K. Bouzakri, M. Pinget, France

347 The interaction of insulin resistance and genetically-determined pancreatic response shapes the time trajectories of insulin secretion and glucose tolerance

L.A. Luca, R.A. Scott, S.J. Sharp, F.R. Day, J. Luan, N.J. Wareham, C. Langenberg, UK

348 Faecal microbiota transfer from donors post bariatric surgery does not improve insulin sensitivity in metabolic syndrome subjects

P.F. De Groot, M.T. Kahn, F. Bäckhed, M. Nieuwdorp, Netherlands, Sweden

349 Mitochondrial stress and altered mitophagy in type 2 diabetes

S. Bhansali, A. Bhansali, V. Dhawan, India

350 Renal hyperfiltration is associated with the risk of sarcopenia independent of obesity or metabolic syndrome

Y.-H. Lee, E. Han, G. Kim, S. Kim, J.-Y. Lee, B.-W. Lee, E. Kang, C. Ahn, D. Kim, B.-S. Cha, H. Lee, Korea, Republic of

Poster Event F, Thursday, 13:15 - 14:15

PS 012 Exploring novel associations

Chair: V. Trischitta, Italy

351 UMOD locus and glomerular filtration rate in individuals with type 2 diabetes: evidence of heterogeneity across two different European populations

S. Prudente, R. Di Paola, M. Copetti, D. Lucchesi, O. Lamacchia, S. Pezzilli, L. Mercuri, F. Alberico, L. Giusti, M. Garofolo, G. Penno, M. Cignarelli, S. De Cosmo, V. Trischitta, Italy

352 GHRL gene polymorphisms are related to type 2 diabetes and interact with olive oil intake in a Spanish population

A.M. Lago-Sampedro, F. Rodriguez-Pacheco, J.M. Gomez-Zumaquero, S. Valdes, E. Martin-Rubio, G. Oliveira, F. Soriguer, G. Rojo-Martinez, Spain

353 Clinical and metabolomic study of carriers of NOS1AP variant rs12742393 in type 2 diabetes patients

Y. Zhang, H. Lu, C. Wang, W. Jia, China

354 Investigating the lipodystrophy genetic score associations with insulin sensitivity, ectopic and visceral fat in people at risk or with diabetes: a DIRECT study

F. Frau, A. Mari, E.L. Thomas, W. Alenaini, H. Ruetten, L.'t Hart, P.W. Franks, K.V. Allebrandt, J.D. Bell, E. Pearson, for the DIRECT Consortium, Germany, Italy, UK, Netherlands, Sweden

355 Circulating levels of eight miRNAs had a disease-related effect on diabetes duration 1, 3, 6, 12 and 60 months after diagnosis in children with type 1 diabetes

N. Samandari, A.H. Mirza, L.B. Nielsen, S. Kaur, P. Hougaard, S. Pörksen, M.-L.M. Andersen, S. Fredheim, J. Johannesen, J. Svensson, L. Hansen, H.B. Mortensen, F. Pociot, Denmark

356 Is HLA the cause of the high incidence of type 1 diabetes in the Canary Islands? Results from the Type 1 Diabetes Genetics Consortium (T1DGC)

A.M. Wägner, N. Medina-Rodriguez, M. Hernández-García, J. Novoa, A. Santana del Pino, Spanish Network of the Genetics of Type 1 Diabetes, Type 1 Diabetes Genetics Consortium, Spain

357 Genome wide meta-analysis identifies novel regulators of circulating serum progranulin

J. Krüger, M. Scholz, C. Marzi, H. Grallert, C. Ladenvall, B. Thorand, L. Groop, J. Thiery, A. Fischer-Rosinsky, A. Pfeiffer, J. Spranger, C. Gieger, M. Stumvoll, P. Kovacs, A. Tönjes, Germany, Sweden

358 A genome-wide association study identifies common genetic loci associated with lipid levels in Chinese patients with type 2 diabetes

C.H. Tam, M. Hu, G. Jiang, A.O. Luk, H. Lee, C.K. Lim, S.K. Tsui, Y. Huang, H. Lan, C. Szeto, W. So, B. Tomlinson, J.C. Chan, R.C. Ma, on behalf of the TRANSCEND Consortium, Hong Kong

Poster Event A, Tuesday, 12:00 - 13:00**PS 013 Complications: patterns, treatments and detection**

Chair: H. Beck-Nielsen, Denmark

359 Clustering of microvascular complications in patients with type 1 diabetes

L. Bjerg, A. Hulman, M. Charles, M.E. Joergensen, D.R. Witte, Denmark

360 Can interleukin-2 receptor antagonists reduce the incidence of new-onset diabetes after renal transplantation?

M. Yu, M. Xue, C. Lv, M. Chen, M. Xu, J. Liang, C. Zhao, R. Rong, J. Gao, T. Zhu, X. Gao, China

361 The inter-relationship among the proteinuria, eGFR and duration of disease on type 2 diabetes in usual physician care-based on DCMP2001, Taiwan

M.M. Fuh, P.-C. Chen, C.-I. Li, Taiwan

362 Diabetes predicting albuminuria incidence in Australian indigenous adults from rural and remote communities: 7 year follow up study

M. Li, R. McDermott, Australia

363 Diabetes complications and alcohol are important causes of death in individuals diagnosed with type 1 diabetes in late adolescence and young adulthood: long-term follow-up

V. Gagnum, L.C. Stene, G. Joner, T. Skrivarhaug, Norway

364 Cardiovascular risk in persons with prediabetes

T.G. Dzebisashvili, Russian Federation

365 High burden of cardiovascular risk factors and poor glycaemic control in type 2 diabetes patients diagnosed before the age of 45 years in Denmark: results from the DD2 study

A. Bo, R.W. Thomsen, J.S. Nielsen, S.K. Nicolaisen, H. Beck-Nielsen, J. Rungby, H.T. Sørensen, T.K. Hansen, J. Søndergaard, T. Lauritzen, H.T. Maindal, Denmark

366 Early detection of type 2 diabetes and intensive treatment may reduce social inequalities in cardiovascular morbidity and mortality, ADDITION-Denmark

E.-M. Dalsgaard, T. Lauritzen, K. Borch-Johnsen, A. Sandbaek, Denmark

Poster Event B, Tuesday, 13:15 - 14:15**PS 014 Understanding differences and similarities in diabetes around the world**

Chair: B.J. Balkau, France

367 Type 1 diabetes phenotype is similar in UK white and south Asian people with young-onset diabetes: results from the MY DIABETES study

S. Misra, K. Colclough, K. Halleron, J. Graudenz, R. Agha-Jaffar, D. Johnston, A. Hattersley, N. Oliver, UK

368 Age-related differences in ketoacidosis prevalence at type 1 diabetes diagnosis in children from Wielkopolska Province, Poland

E. Niechcial, A. Gertig-Kolasa, B. Skowrońska, I. Krzyśko-Pieczko, W. Stankiewicz, M. Michalak, P. Fichna, Poland

369 Relationship between ancestry and self-reported ethnicity in patients with type 1 diabetes: a nationwide survey in Brazil

M.B. Gomes, A.B. Gabrielli, C.A. Negrato, D.A. Silva, L.C. Pôrto, BRAZDIAB1SG, Brazil

370 Addressing the diabetes mellitus (DM) and tuberculosis (TB) co-epidemic among TB patients in Luanda, Angola

G. Segafredo, U. Fedeli, A. Gnoni, F. Ferretti, L. Corbuccio, D. Cussinduca Satureira, J. Nsuka, M. Dall'Oro, G. Quaglio, A. Atzori, G. Putoto, Italy, Angola

371 Danish women see more progress than men in years of life lost to diabetes

B. Carstensen, M.E. Jørgensen, Denmark

372 Type 2 diabetes: a family history associated with incident diabetes but only in women. The D.E.S.I.R. cohort

B.J. Balkau, G. Fagherazzi, J. Tichet, R. Roussel, P. Froguel, F. Bonnet, France

373 The association between social jetlag, the metabolic syndrome and type 2 diabetes in a 40+year old population: the New Hoorn study

F. Rutters, A.D. Koopman, S.P. Rauh, E. Van T Riet, L. Groeneveld, A. Van der Linden, J.W. Beulens, P.J. Elders, J.M. Dekker, G. Nijpels, Netherlands

374 Type 2 diabetes and mortality in hypogonadal men improve upon long-term treatment with injectable Testosterone Undecanoate (TU): a controlled registry study

F. Saad, A. Haider, K.S. Haider, G. Doros, A. Traish, Germany, USA

Poster Event C, Wednesday, 12:00 - 13:00

PS 015 The search for novel biomarkers

Chair: J. Ferrer, Spain

375 Microarray analysis in insulin receptor knockout mice identified novel biomarkers to prevent type 2 diabetes

B. Capuani, D. Della Morte, F. Pacifici, D. Pastore, G. Donadel, A. Coppola, R. Arriga, A. Bellia, S. Rea, V. Caricato, F. Piermarini, G. Sconocchia, P. Sbraccia, M. Tesauero, D. Lauro, Italy

376 Identification of circulating metabolic biomarkers for early beta cell death in pre-diabetic mice

L. Li, P. Krznar, A. Agazzi, V. Deo, J. Martin-Levilain, S. Supale, N. Zamboni, P. Maechler, Switzerland, USA

377 Predictive utility of European derived genetic variants associated with type 2 diabetes in a black South African population

T. Chikowore, T. Van Zyl, K.R. Conradie, South Africa

378 Imbalance of bacteriome profiles in children with islet autoimmunity: mass sequencing of 16S DNA and viromes in stool samples from Finnish DIPP study

O. Cinek, L. Kramna, J. Lin, S. Oikarinen, K. Kolarova, J. Illonen, O. Simell, R. Veijola, M. Knip, R. Autio, H. Hyöty, Czech Republic, Finland

379 Electrical patterns on the surface of the skin as a predictor for diabetes onset

C. Ionescu-Tirgoviste, P.A. Gagniuc, E. Gubceac, Romania

380 Influence of soluble leptin receptor on risk of gestational diabetes in a multi-ethnic population

C. Sommer, H.L. Gulseth, A.K. Jenum, L. Sletner, P.M. Thorsby, K.I. Birkeland, Norway

381 Lactation is associated with altered metabolomic signatures in women with gestational diabetes

D. Much, A. Beyerlein, A. Kindt, J. Krumsik, M. Rossbauer, A. Hofelich, S. Hivner, M. Herbst, W. Römisch-Margl, C. Prehn, J. Adamski, G. Kastenmüller, F. Theis, A.-G. Ziegler, S. Hummel, Germany

382 Are women with a history of gestational diabetes, without any current weight or glucose metabolism disorders, at a higher risk of cardiovascular disease?

P. Molęda, A. Fronczyk, K. Safranow, L. Majkowska, Poland

Poster Event D, Wednesday, 13:15 - 14:15

PS 016 The complexity of beta cell signal transduction

Chair: M. Solimena, Germany

383 Dll1- and Dll4-mediated Notch signalling in adult pancreatic beta cells is essential for the structural integrity of islets and maintenance of glucose homeostasis

M. Fuetterer, N.F. Chhabra, M. Irmler, J. Beckers, G.K. Przemeck, M. Hrabě de Angelis, Germany

384 Selective development of pancreatic beta cell insulin resistance upon different diets

M. Paschen, T. Moede, B. Leibiger, I.B. Leibiger, P.-O. Berggren, Sweden

385 Oxidative stress-induced EGF and GLP-1 receptors cooperate towards pancreatic beta cell survival in response to inflammatory cytokines and glucolipotoxicity

N. Kanda, T. Buenaventura, I.R. Corrêa Jr, D. Bosco, G.A. Rutter, A. Tomas, UK, USA, Switzerland

386 Plasma membrane PI(4,5)P₂ controls Ca²⁺-influx in clonal beta cells

P.M. Nguyen, B. Xie, O. Idevall-Hagren, Sweden

387 Nutrient stimulation of rat pancreatic beta cells acutely improves their cytosolic and mitochondrial defenses against H₂O₂

J.-P. Deglasse, V. El-Hawat, J.-C. Jonas, Belgium

388 JNK3 is required for islet beta cell adaptation to obesity triggered by the GLP-1 mimetics

M. Tenenbaum, H. Ezanno, J. Kerr-conte, G. Waeber, F. Pattou, P. Froguel, A. Abderrahmani, France, Switzerland, UK

389 Lipid-induced hormesis in beta cells: triglyceride biosynthesis and storage in newly formed lipid droplets protect against free fatty acid toxicity

S. Sasson, O. Cohen, B. Daniel, C. Ferreri, G. Maulucci, Israel, Italy

390 The inhibitor of connexin 36 hemichannels, mefloquine, affects K_{ATP} channels and L-type Ca^{2+} channels in pancreatic beta cells

N. Seemann, A. Welling, I. Rustenbeck, Germany

Poster Event E, Thursday, 12:00 - 13:00

PS 017 Feeling good, feeling bad: a pendulum for the beta cell

Chair: M. Cnop, Belgium

391 The importance of newly discovered ER-resident glutathione peroxide isoforms for glucose-induced insulin secretion and insulin biosynthesis in INS-1E cells

I. Mehmeti, S. Lortz, A. Jörns, S. Lenzen, Germany

392 Properties of voltage-gated sodium channels in pancreatic beta cells

M. Godazgar, M.V. Chibalina, Q. Zhang, P. Rorsman, UK

393 Coixol from *scoparia dulcis* Linn stimulates insulin secretion through PKA and MEK kinase $ERK\frac{1}{2}$ signalling pathway

A. Hameed, R.M. Hafizur, S.A. Raza, A. Adhikari, K.R. Sharma, M.I. Choudhary, S.K. Kalauni, Pakistan, Nepal

394 FLIM-based pH measurements reveal incretin-induced rejuvenation of aged insulin secretory granules

M. Neukam, A. Müller, A. Sönmez, M. Solimena, Germany

395 The diabetes-link factor HMG20A maintains islet beta cell metabolic maturity

J.M. Mellado-Gil, E. Fuente-Martin, P.I. Lorenzo, F.J. Bermudez-Silva, G. Rojo-Martinez, S.Y. Romero-Zerbo, A. Campos-Caro, M. Aguilar-Diosdado, B.R. Gauthier, Spain

396 Ultrastructural analysis of insulin secretory granule ageing by super resolution and transmission electron microscopy

A. Mueller, A. Ivanova-Cederström, C. Münster, T. Kurth, J.-M. Verbavatz, M. Solimena, Germany, France

397 A novel long non-coding RNA involved in mouse beta cell proliferation

B. Tyrberg, A. Zhou, R. Kastenmayer, E.-M. Andersson, M. Althage, G. Sisino, Sweden

Poster Event F, Thursday, 13:15 - 14:15

PS 018 Tinkering with islet transplantation: Can we do better?

Chair: R. Robertson, USA

398 Intra-omental graft with a plasma hydrogel carrier: a novel alternative for islet transplantation

A. Schaschkow, C. Mura, C. Peronet, C. Bruant-Rodier, N. Jeandidier, M. Pinget, S. Sigrist, E. Maillard, France

399 Effects of human pancreatic ductal cells co-transplanted with islets in graft outcome

S. Marín, E. Estil·les, C. García, N. Tellez, M. Nacher, E. Montanya, Spain

400 Human adipose tissue-derived stem cells enhance survival and function of grafted islets in co-transplanted diabetic mice

B.-J. Kim, K. Kwak, P. Yeon ho, Y. Eom, K. Kim, Korea, Republic of

401 Induction of immune tolerance site under the skin by agarose rods with cyclic peptide and islets transplantation into the sites

R. Kuwabara, H. Iwata, Japan

402 Dipeptidyl peptidase-4 inhibitor LAF-237 improves glucose tolerance and expands graft beta cell mass in diabetic mice transplanted with a sufficient number of islets

J.-H. Juang, C.-H. Kuo, C.-Y. Chen, C.-W. Kao, C.-T. Chen, Taiwan

403 Continuous blood glucose monitoring in a rat model of islet transplantation

A.J. King, A.L. Austin, M. Nandi, J.E. Bowe, UK

404 Intrapancreatic injection of human mesenchymal stem/stromal cells ameliorated hyperglycaemia in diabetes mice via regulating macrophages polarisation

N. Murai, H. Ohtaki, M. Izumizaki, K. Honda, F. Otsuka, S. Nagasaka, Japan

405 GRP44 inhibition improves islet function and survival in human islet xenografted mice

M. Sörhede Winzell, E.-M. Andersson, C. Priest, S. Abadpour, S.W. Schive, T. Rydén-Bergsten, D.M. Smith, S. Skrtic, B. Tyrberg, H. Scholz, Sweden, UK, Norway

406 Effect of glycaemic control on exendin-based beta cell mass quantification

M. Buitinga, W.A. Eter, C. Frielink, L. Claessens-Joosten, D. Bos, M. Brom, M. Gotthardt, Netherlands

Poster Event A, Tuesday, 12:00 - 13:00

PS 019 Islet development

Chair: R. Gasa, Spain

407 Manipulating Kras signalling alters endocrine differentiation by changing cell cycle length during mouse embryonic pancreas development

N.A. Krentz, A. Branch, F.C. Lynn, Canada

408 Dpy30 is essential for pancreas and endocrine progenitor cell specification

S.A. Campbell, B.G. Hoffman, Canada

409 Neural crest cells are required for autonomic innervation of the endocrine pancreas

Y.H. Yang, D.Y. Stainier, Germany

410 Defining the role played by GPR56 in regulating islet mass and beta cell proliferation

O.E. Olaniru, S. Giera, X. Piao, P.M. Jones, S.J. Persaud, UK, USA

411 The E3 SUMO ligase PIASy regulates the transcriptional factor activity and stability of hepatocyte nuclear factor 1- alpha

A. Kaci, H.E. Rusaas, P.R. Njølstad, L. Bjørkhaug, I. Aukrust, Norway

412 Transgenic pigs with green fluorescent protein-labeled pancreatic beta cells

E. Kemter, M. Schäfer, C. Cohrs, Y. Ivashchenko, K. Steinmeyer, M. Schuster, A. Wünsch, M. Kurome, B. Kessler, V. Zakhartchenko, M. Löhn, J. Seissler, S. Speier, A.M. Schulte, E. Wolf, Germany

413 Beta-arrestin2 expression levels control insulin induced-nuclear exclusion of FOXO1 in mouse pancreatic beta cells

M.A. Ravier, S. Costes, N. Linck, A. Varrault, M. Leduc, S. Dalle, G. Bertrand, France

414 The hypervascularisation of islets in type 2 diabetes is not mediated by angiopoetin-2

K. Maedler, P. Shah, N. Lueschen, A. Ardestani, J. Olerud, P.-O. Carlsson, Germany, Sweden

Poster Event B, Tuesday, 13:15 - 14:15

PS 020 What can we learn from human islets?

Chair: H. Mulder, Sweden

415 The lincRNA GAS5 is highly-enriched in human pancreatic islets and is involved in glucocorticoid-mediated inhibition of insulin secretion

J.K. Ofori, J. Fadista, L. Groop, L. Eliasson, J.L. Esguerra, Sweden, Denmark

416 Thrombospondin 1 protects beta cells from proinflammatory cytokines through MANF induction

D.A. Cunha, M. Bugliani, P. Marchetti, D.L. Eizirik, M. Cnop, Belgium, Italy

417 Dynamic profiling of insulin secretion and ATP generation in isolated human and mouse islets reveals differential glucose sensitivity

A. Pingitore, G. Huang, P. Choudhary, S. Persaud, UK

418 Reversibility of human beta cell functional damage induced by gluco-lipotoxic conditions

M. Suleiman, L. Marselli, M. Bugliani, B. Rady, S. Lee, L. Norquay, I. Bakaj, D. Campani, U. Boggi, F. Filipponi, A. Pocai, P. Marchetti, Italy, USA

419 Biphasic electric coupling of islets determines secretion profile

M. Raoux, E. Bertin, A. Pirog, R. Perrier, D. Bosco, B. Catargi, D. Cattaert, S. Renaud, J. Lang, France, Switzerland

420 Relationship between intra-pancreatic fat content and beta and alpha cell mass in humans with and without diabetes

R. Murakami, Y. Saisho, K. Kou, S. Sato, Y. Watanabe, M. Kitago, Y. Kitagawa, T. Yamada, H. Itoh, Japan

421 Glucotoxicity activates autophagosome formation but hampers autophagy flux in human islets and INS-1(832/13) cells

A. Medina, P. Spéigel, M. Fex, Sweden

422 Inhibition of microRNA-33 promotes beta cell proliferation and reduces beta cell apoptosis

B. Liu, I. Ruz Maldonado, C. Fernandez-Hernando, N. Price, M. Zariwala, G. Huang, M. Zhao, P.M. Jones, S.J. Persaud, UK, USA

Poster Event C, Wednesday, 12:00 - 13:00**PS 021 Beta cells under stress**

Chair: R. Laybutt, Australia

423 The haem-regulated eIF2 α kinase HRI promotes pancreatic beta cell survival through modulation of the Akt/BAD and JNK pathways

M. Cito, D.A. Cunha, R.C. Bonadonna, D.L. Eizirik, M. Cnop, Belgium, Italy

424 Phlda3 is a novel stress-responsive gene in beta cells that regulates cytokine and oxidative stress-induced apoptosis

M. Bensellam, R. Laybutt, Australia, Belgium

425 Heterogeneity of autophagy status in pancreatic beta cells under metabolic stress

M. Kamitani, T. Miyatsuka, K. Azuma, M. Miura, M. Himuro, L. Suzuki, Y. Fujitani, H. Watada, Japan

426 HSPB1 mediates PRL action on cell death inhibition, restoration of mitochondrial function and modulation of ER stress on beta cells

L.F. Terra, R.A. Wailemann, V.M. Gomes, M.F. Forni, T.C. Oliveira, A.F. Dos Santos, G. Palmisano, L. Labriola, Brazil

427 Palmitoylation of L-type calcium channel $\beta 2$ subunit induces apoptosis in beta cells

A.S. Kazim, E. Zhang, E. Renström, Sweden

428 MicroRNA-708 links endoplasmic reticulum stress and beta cell dysfunction

J. Rodríguez-Comas, A. Moreno-Asso, C. Castaño, J. Montané, M. Martín, M. Parrizas, A. Novials, J.-M. Servitja, Spain

429 Mig6 suppresses endogenous repair mechanisms in pancreatic beta cells

P.T. Fueger, K.M. Fong, USA

Poster Event D, Wednesday, 13:15 - 14:15

PS 022 Beta cells need protection

Chair: A. Giaccari, Italy

430 Combined transcriptome and proteome profiling of the beta cell response to palmitate to unveil novel mediators of lipotoxicity

M. Lytrivi, K. Ghaddar, M. Lopes, M. Igoillo-Esteve, D. Cunha, P. Marchetti, H. Ortsäter, D. Eizirik, M. Cnop, Belgium, Italy, Sweden

431 Periredoxin6 deletion impairs mitochondria function and decreases insulin secretion in pancreatic beta cells

F. Pacifici, B. Capuani, D. Pastore, R. Arriga, A. Coppola, F. Piermarini, S. Rea, V. Caricato, G. Donadel, A. Bellia, P. Sbraccia, D. Della Morte, D. Lauro, Italy

432 A comparative study on lipotoxicity in insulin-producing rodent RINm5F cells and in the new human beta cell line EndoC- β H1

T. Plötz, A. Laporte, I. Mehmeti, M. Elsner, S.J. Persaud, A. Pingitore, S. Lenzen, Germany, UK

433 Crucial role of the histone acetyl transferase p300 in pancreatic beta cell survival

L. Ruiz, J. Mathieu, T. Gurlo, P.C. Butler, M.A. Ravier, G. Bertrand, S. Dalle, S. Costes, France, USA

434 Oleate protects beta cells from the toxic effect of palmitate by restoring pro-survival pathways of the ER stress response

E. Sargsyan, K. Artemenko, L. Manukyan, J. Bergquist, P. Bergsten, Sweden

435 Role of the (macro)autophagy in the postnatal regeneration of endocrine pancreas and its relationship with IGF-2

E. Fernández-Millán, D. Álvarez-Cilleros, J. De Toro-Martin, E. Lizárraga-Mollinedo, F. Escrivá, C. Álvarez, Spain, Canada, Belgium

436 Inhibition of the MAP3 kinase Tpl2 protects beta cells from apoptosis and prevents chronic hyperglycaemia in db/db mice

D. Muller, E. Varin, Y.-H. Chiang, G. Bertrand, M.A. Ravier, S. Dalle, France

Poster Event E, Thursday, 12:00 - 13:00

PS 023 Beta cells need help to survive

Chair: S. Ullrich, Germany

437 Alkalinization by phosphate uptake via PIT-1/2 participates in high phosphate-induced oxidative stress and defective insulin secretion

K.-S. Park, T.T. Nguyen, X. Quan, S. Xu, R. Das, S.-K. Cha, I. Kong, M. Shong, C.B. Wollheim, Korea, Republic of, Switzerland

438 Lipocalin 2 induces pancreatic beta cell dysfunction

P.W. Caton, S. Sayers, M. Holland, J. Kieswich, M.M. Yaqoob, P. Marchetti, M. Bugliani, UK, Italy

439 ZBED6 negatively regulates insulin content, glucose-stimulated insulin secretion, neuronal differentiation and cell aggregation in MIN6 cells

X. Wang, L. Jiang, O. Wallerman, Q. Yu, A. Klaesson, A. Tengholm, L. Andersson, N. Welsh, Sweden, China

440 DNA damage in pancreatic beta cells is connected with loss of cell mass and function in an ERCC1-deficient mouse model

A.P. Huerta Guevara, S.J. McGowan, N.L. Mulder, T. Sano, A. Jurdzinski, B.J. Eggen, E. Bodekke, J.H. Hoeijmakers, A.K. Groen, J.W. Jonker, L.J. Niedernhofer, J.K. Kruit, Netherlands, USA

441 Carbamazepine protects pancreatic beta cells and reduces type 1 diabetes incidence in non-obese diabetic mice

J.T. Lee, I. Shanina, M.S. Horwitz, J.D. Johnson, Canada

442 Imatinib inhibit streptozotocin induced Rac1-nadph oxidase mediated pancreatic beta cell death via activation of phosphatidylinositol 3-kinase signalling

U. Karunakaran, S. Udayakumar, J. Moon, J. Yoon, K. Won, Korea, Republic of

443 The role of MCPIP1 in insulin-producing cells

K. Tyka, S. Lenzen, E. Gurgul-Convey, Germany

Poster Event F, Thursday, 13:15 - 14:15

PS 024 From functional to dysfunctional beta cells

Chair: P. Marchetti, Italy

444 In type 2 diabetes, microRNA miR-184 is reduced in human pancreatic islets and targets CRTC1, a molecule that counteracts palmitate-induced apoptosis and functional damage

G. Sebastiani, G.E. Grieco, F. Mancarella, G. Ventriglia, L. Nigi, L. Marselli, P. Marchetti, F. Dotta, Italy

445 Crosstalk of fatty liver with fatty pancreas impairs islet function in humans

F. Gerst, R. Wagner, D. Siegel-Axel, K. Gabriele, M. Panse, T. Sartorius, H.-G. Rammensee, N. Stefan, B. Sipos, F. Fend, S. Nadalin, A. Königsrainer, H.-U. Häring, S. Ullrich, Germany

446 Osteocalcin: a novel therapy to reverse the decline in functional beta cell mass in type 2 diabetes

O.M. Sabek, A.O. Gaber, D. Fraga, S. Nishimoto, USA

447 Eukaryotic translation initiation factor 2A (eIF2A) saves pancreatic beta cells "lost in translation" during ER stress-induced apoptosis

E. Panzhinskiy, F. Taghizadeh, K.-Y. Chu, Y. Yang, E. Jan, J.D. Johnson, Canada, Australia, Germany

448 Comparative analysis of cytoprotective enzyme equipment in human pancreatic beta cells and non beta cells

A. Jörns, I. Mehmeti, S. Lenzen, Germany

449 Metabolic stress induces aberrant activation and mislocalisation of Ras-related C3 botulinum toxin substrate 1 (Rac1) in rodent and human beta cells

A. Kowluru, A.K. Chekuri, USA

450 Plasma membrane PI(4,5)P₂ is required for normal glucose-stimulated insulin secretion

B. Xie, P.M. Nguyen, A. Thonig, O. Idevall-Hagren, Sweden

451 LDL receptor expression and function in human pancreatic beta cells

G. Lambert, A. Thedrez, P. Parnet, R. Scharfmann, E. Nobécourt, Réunion, France

Poster Event A, Tuesday, 12:00 - 13:00

PS 025 How do beta cells work?

Chair: F. Bosch, Spain

452 Increased SGLT2 expression with PPAR γ agonist in pancreatic alpha cells reversed glucagon increase at hyperglycaemia

M.-K. Kim, H. Jung, H. Shin, E. Lee, T. Kim, T. Kim, M. Kwon, S. Lee, B. Rhee, J. Park, Korea, Republic of

453 Fluoxetine treatment impairs E-cadherin-mediated cell adhesion and altered calcium homeostasis in pancreatic beta cells

Y.-W. Chen, Taiwan

454 Nanoscale topography promotes the survival and proliferation of human beta cells in vitro

C. Perego, E.S. Di Cairano, S. Moretti, F. Bertuzzi, G. Tedeschi, E. Sogne, C. Piazzoni, P. Milani, C. Lenardi, Italy

455 Brain derived neurotrophic factor induced acute and transient RhoA activation probably through truncated TrkB receptor (TrkB-t1) on MIN6 cells

Z. Huang, M.A. Kalwat, M.H. Cobb, China, USA

456 Comparison of alpha cell and beta cell in the response to hyperglycaemia

E. Lee, M.-K. Kim, H. Jung, H. Shin, T. Kim, T. Kim, M. Kwon, S. Lee, B. Rhee, J. Park, Korea, Republic of

457 Mechanisms of the induction of incretin/cAMP responsiveness in insulin secretion: study by pseudoislets

M. Hashim, N. Yokoi, G. Gheni, R. Hoshikawa, H. Takahashi, S. Seino, Japan

458 The RabGAP TBC1D1 regulates glucose-stimulated insulin secretion in isolated mouse islets by modulating K⁺-ATP channel function

T. Stermann, F. Menzel, C. Weidlich, K. Jeruschke, J. Weiß, A. Pujol, F. Bosch, I. Rustenbeck, A. Chadt, H. Al-Hasani, Germany, Spain

459 Conditional deletion of the (pro)renin receptor causes disturbed pancreatic beta cell homeostasis and the onset of diabetes

K.J. Binger, S. Tattikota, F. Qadri, D. Puchkov, D. Willmes, S. Geisberger, S. Wurmsee, G. Nguyen, M. Poy, A. Birkenfeld, D.N. Mueller, Australia, Germany, France

Poster Event B, Tuesday, 13:15 - 14:15

PS 026 Type 1 diabetes in animal models

Chair: M. Tiedge, Germany

460 Altered gut morphology and microbiome composition characterise Non-Obese Diabetic (NOD) mice with accelerated diabetes progression

M.-C. Simon, A. Reinbeck, J. Heindirk, T. Jelenik, G. Séquaris, K. Kaul, A. Strom, J. Kotzka, B. Knebel, J. Weiß, P. Nowotny, F. Bäckhed, V. Burkart, M. Roden, Germany, Sweden, Denmark

461 MiR-409-3p, an IFN- γ targeting miRNA, is reduced in plasma of new-onset diabetic NOD mice and mirrors its in situ pancreatic islet expression

G. Ventriglia, F. Mancarella, G. Sebastiani, G.E. Grieco, L. Nigi, D.P. Cook, C. Gysemans, C. Mathieu, F. Dotta, Italy, Belgium

462 Exosomal microRNAs from human islet-derived progenitor cells regulate immune cell proliferation

M.V. Joglekar, A.S. Akil, E. Lim, G. Guilleman, H. Thomas, A.A. Hardikar, Australia

463 CD4 immunomodulation by monoclonal RIB5/2 antibody in LEW.1AR1-iddm rats: long-term protection against islet infiltration and beta cell destruction

T. Schoeppe, H. Weiss, R. Pagel, M. Tiedge, Germany

464 Experimental gene therapy of type 1 diabetes

O. Kovzun, M. Tronko, L. Kalynska, V. Kordium, I. Paster, Ukraine

465 Engineering of a novel beta cell specific single chain variable fragment (ScFv) for imaging

W. Schechinger, C.-R. Shen, S.-T. Wu, J.-H. Juang, Taiwan

466 The impact of extracellular and cell-autonomous regulation of beta cell replication differs with ageing

N. Tellez, Y. Martí, A. Giménez, E. Montanya, Spain

467 Porcine neonatal pancreatic cell clusters maintain their pluripotency in culture and after transplantation

W.-C. Li, C.-Y. Chen, W.-J. Chang, C.-Y. Chen, P.-C. Huang, T.-Y. Kuo, J.-H. Juang, Taiwan

Poster Event C, Wednesday, 12:00 - 13:00

PS 027 The control of insulin sensitivity by the endocrine system

Chair: E. Bonora, Italy

468 Circulating levels of cartilage intermediate layer protein 2(CILP-2) are elevated and associated with insulin resistance in patients with type 2 diabetes

S. Wu, L. Li, G. Yang, China

469 Metabolic impact of normal thyroid hormone levels: a prospective study

E. Ferrannini, G. Iervasi, D. Colligiani, R. Ndreu, M. Nannipieri, Italy

470 Stimulatory effects of the long-acting kisspeptin analogue TAK-448 on serum testosterone in men with type 2 diabetes and hypogonadotropic hypogonadism

J.T. George, J.E. Milton, A.E. Cooper, S. Greentree, R.A. Anderson, R.R. Holman, UK

471 The power of thyroid stimulating hormone to predict cardiovascular mortality in non-obese patients is significantly modulated by type 2 diabetes

A. Vonbank, D. Zanolin, A. Leiherer, P. Rein, A. Mader, P. Schwerzler, C.H. Saely, H. Drexel, Austria, Liechtenstein

472 The combined effect of PTH and vitamin D on glucose homeostasis in elderly prediabetics: it takes two to shine

K. Kotsa, S. Karras, X. Tsekmekidou, M. Grammatiki, E. Rapti, M. Daniilidis, Greece

473 Neuregulin-1 decreases hepatic glucose production in db/db mice
Y.F. Otero, A. Teixeira, M. Etienne, G. Delcros, L. Lantier, O.P. McGuinness, P. Sirvent, France, USA

474 Chronic leptin treatment in insulin-deficient mice does not induce resistance but leptin is inefficacious in obese insulin-deficient mice
M.M. Kwon, R.K. Baker, T.J. Kieffer, Canada

475 Androgens potentiate the adverse metabolic effects of glucocorticoids

S.J. Gasparini, L.J. Thai, M.-C. Weber, S. Kim, H. Henneicke, H. Zhou, M.J. Seibel, Australia

Poster Event D, Wednesday, 13:15 - 14:15

PS 028 Determinants of whole body insulin sensitivity 1

Chair: R.C. Bonadonna, Italy

476 Identifying whole body and tissue-specific insulin sensitivity using serum metabolomic profiling

M.-J. Honka, R.M. Badeau, J.C. Hannukainen, K.K. Kalliokoski, K.A. Virtanen, R. Lautamäki, A.P. Viljanen, M.M. Lindroos, P. Nuutila, Finland

477 The impact of adrenal hyperandrogenism on insulin resistance and lipid profile in women with polycystic ovary syndrome

S.A. Paschou, D. Ioannidis, M. Mizamtsidi, A. Panagiotakou, S. Grammatikou, G. Karageorgos, A. Vryonidou, Greece

478 HOMA-IR: the two faces of the same value

D.S. Popovic, C. Bianchi, R. Miccoli, S. Del Prato, on behalf of the GENFIEV Study Group, Serbia, Italy

479 PGC-1 α ameliorates insulin resistance through regulation of STARS expression in high-fat diet rat

H.J. Ma, G.Y. Song, S.M. Niu, H.Y. Xing, China

480 Characteristics of disturbances in glucose metabolism during treatment of acromegaly

I.V. Trigoslova, A.V. Dreval, B.H. Wolffenbuttel, Russian Federation, Netherlands

481 Fetuin-B levels in relation to metabolic/hormonal profile and carotid intima media thickness (cIMT) in women with polycystic ovary syndrome (PCOS)

P. Yesil Senses, Y.M. Senses, G. Unal Kocabas, O. Gursoy Calan, C. Imamoglu, O. Bilgir, A. Yuksel, G. Bozkaya, M. Calan, Turkey

482 History of anabolic androgenic misuse is associated with impaired insulin sensitivity and increased abdominal fat among younger men

J.B. Rasmussen, M. Schou, C. Selmer, J. Faber, F. Gustafsson, C. Kistorp, Denmark

483 Transforming growth factor beta-like stimulated clone 22 D4 promotes diabetic hyperglycaemia and insulin resistance

B. Ekim Ustunel, K. Friedrich, M. Berriel Diaz, W. Stremmel, M. Blüher, S. Herzig, Germany

Poster Event E, Thursday, 12:00 - 13:00

PS 029 Determinants of whole body insulin sensitivity 2

Chair: S. Del Prato, Italy

484 In vivo high throughput screening to identify insulin-independent modulators of metabolism

S. Mullapudi, C.S. Helker, H. Matsuda, Y.H. Yang, D.Y. Stainier, Germany

485 Gut hormones, rather than glucose or insulin, are the main drivers of diminished bone resorption in the postabsorptive state

A. Lund, J.I. Bagger, M. Christensen, M. Frost, N.R. Jørgensen, J.H. Storkholm, C.P. Hansen, J.J. Holst, T. Vilsbøll, F.K. Knop, Denmark

486 Association of metabolic flexibility under glucose clamp and postprandial conditions with glucose control

J.E. Galgani, Chile

487 Discrimination between advanced glycation endproducts of endogenous and dietary origin in overweight and obese non-diabetic subjects

N. Rabbani, A. Anwar, M. Xue, M.O. Weickert, S. Qureshi, N.-B. Kandala, M. Waldron, A. Shafie, P.J. Thornalley, UK

488 IgG N-glycan patterns are associated with type 2 diabetes in independent European populations

R.F. Lemmers, D. Urda, F. Agakov, A.G. Lieveise, E.J. Sijbrands, G. Lauc, M. Van Hoek, Netherlands, UK, Croatia

489 The relationship between branched-chain amino acids, metabolic syndrome and cardiovascular risk profile in a Chinese population: a cross-sectional study

Z. Hongwen, W. Hu, L. Sun, Y. Gong, Y. Zhou, P. Yang, Z. Ye, J. Fu, A. Huang, Z. Fu, W. Yu, Y. Zhao, T. Yang, China

490 Dysregulated iron homeostasis in type 2 diabetes

S. Altamura, S. Kopf, P. Nawroth, M. Muckenthaler, Germany

491 Carotid sinus nerve transection restores glucose and lipid homeostasis in prediabetes animal models

J.F. Sacramento, B.F. Melo, T. Rodrigues, J.C. Coelho, E. Olea, M.J. Ribeiro, M.P. Guarino, A. Obeso, R.M. Seça, P. Matafome, S.V. Conde, Portugal, Spain

Poster Event F, Thursday, 13:15 - 14:15

PS 030 Exercise physiology in humans and animal models

Chair: A. Chadt, Germany

492 Chronic exercise alleviates diet-induced metabolic dysfunction via enhancing FGF21 sensitivity in adipose tissues

L. Geng, Q. Liang, A. Xu, China

493 Exercise training diminishes the effect of acute exercise on insulin sensitivity in man

D.E. Steenberg, N.B. Jørgensen, B. Kiens, E.A. Richter, K.A. Sjøberg, J.F. Wojtaszewski, Denmark

494 Circulating skeletal muscle-derived microvesicles expressing fatty acid transporters are increased by acute exercise in type 2 diabetes

M.H. Nielsen, A. Pedersen, K. Højlund, A. Handberg, Denmark

495 HOMA-AD and inflammatory profile: the role of different types of physical exercise in obese adolescents

A.R. Dâmaso, S.E. Vicente, D.C. Masquio, F.C. Corgosinho, L. Tock, R.M. Campos, Brazil

496 Effect of 12-week combined exercise programme on metabolic health and skeletal muscle phenotype in elderly individuals

Z. Janakova, M. Vajda, P. Krumpolec, L. Slobodova, V. Tirpakova, S. Vallova, M. Sedliak, P. Valkovic, B. Ukropcova, J. Ukropec, Slovakia

497 The higher insulin resistance the lower cardiac output in adults with type 1 diabetes during maximal exercise test

P. Niedzwiecki, D. Naskret, S. Pilacinski, M. Pempera, A. Uruska, A. Gawrecki, A. Adamska, D. Zozulinska-Ziolkiewicz, Poland

498 The effect of mechanical squat exercise on muscle function and body composition in sarcopenic and non-sarcopenic women

M. Shin, Y. Jeon, C. Lee, E. Kim, Y. Yi, C. Kim, J.-H. Park, B. Lee, D. Chae, C. Lee, Korea, Republic of

499 Reported high physical activity predicts long partial remission in adults with new onset type 1 diabetes

S. Pilacinski, P. Niedzwiecki, B. Wierusz-Wysocka, D. Zozulinska-Ziolkiewicz, Poland

Poster Event A, Tuesday, 12:00 - 13:00

PS 031 Action of insulin and other agents on target tissues: new insights

Chair: M.I. Trenell, UK

500 Characterisation of the cardiac function of human insulin, the long-acting insulin analogues M1-glargine and degludec in adult rat ventricular cardiomyocytes

P. Wohlfart, T. Hartmann, N. Wronkowitz, J. Eckel, N. Tennagels, Germany

501 Novel insulin analogues with improved therapeutic benefits: dicarba insulin analogues exhibit reduced mitogenic potential

S.C. Ong, A. Belgi, B. Van Lierop, J. Menting, M. Lawrence, S. Andrikopoulos, C. Delaine, A. Robinson, B. Forbes, Australia, Canada

502 Efficacy differences of long acting insulin analogues on glucose oxidation and cardiac efficiency in healthy and diabetic mouse hearts

N. Fillmore, C.S. Wagg, K.L. Milner, N. Tennagels, P. Wohlfart, G. Lopaschuk, Canada, Germany

503 Achieving near euglycaemia using long-term insulin pump therapy differentially improves C-peptide level or disposition index in type 2 diabetes

S. Choi, E. Hong, S. Sung, Y.-H. Noh, Korea, Republic of

504 Role of intracellular DPP-4 in hepatic insulin signalling

K.H. Rufinatscha, E. Profanter, C.A. Ress, J. Dobner, S. Folie, K. Salzmann, G. Staudacher, H. Tilg, S. Kaser, Austria

505 Metformin ameliorates peripheral insulin resistance by inhibiting the activity of SHIP2

S. Lehtonen, Z. Polianskyte-Prause, T.A. Tolvanen, S. Lindfors, M. Latvala, H. Wang, S.N. Dash, M. Berg, V. Dumont, P.-H. Groop, K. Wähälä, J. Tienari, Finland

506 Metabolic effects of combined glucose-fructose supplementation versus glucose alone in exercising individuals with type 1 diabetes

T. Züger, L. Bally, C. Speck, P. Kempf, N. Pasi, R. Rosset, K. Feller, M. Fiedler, A. Leichtle, L. Tappy, M. Wilhelm, M. Laimer, C. Stettler, Switzerland

Poster Event B, Tuesday, 13:15 - 14:15

PS 032 Determinants of insulin sensitivity in adipose and skeletal muscle tissues

Chair: G.A. Raciti, Italy

507 Plasmalogens regulate macrophage polarisation and protect against adipose tissue inflammation in high fat diet-fed mice

K.-U. Lee, S. Lee, J. Jang, Y. Kang, I.-K. Lee, E. Koh, Korea, Republic of

508 Role of cannabinoid receptor type 1 in glucocorticoid-induced insulin resistance (IR) and lipolysis regulation in human adipose tissue (AT)

C.O. Sidibeh, M.J. Pereira, J.L. Börjesson, P.G. Kamble, S. Skrtic, P. Katsogiannos, M. Sundbom, M.K. Svensson, J.W. Eriksson, Sweden

509 The central effect of galanin receptor 1 agonist M617 on insulin sensitivity in adipocytes of diabetic rats

Z. Zhenwen, F. Penghua, S. Mingyi, B. Ping, Z. Yan, China

510 Independent role of circulating glucose, NEFA and insulin on glucose and lipid metabolism in skeletal muscle and adipose tissue

M.A. Guzzardi, L. Hodson, L. Guiducci, F. La Rosa, S. Burchielli, P.A. Salvadori, P. Iozzo, Italy, UK

511 Identifying microRNAs involved in the regulation of skeletal muscle mitochondrial function

D. Dahlmans, A. Houzelle, P. Andreux, X. Wang, N. Moullan, S. Daemen, P. Schrauwen, J. Hoeks, Netherlands, Switzerland

512 New targets to control skeletal muscle inflammation: microRNAs regulated by adiponectin

R. Boursereau, M. Abou-Samra, S. Lecompte, L. Noël, S.M. Brichard, Belgium

Poster Event C, Wednesday, 12:00 - 13:00

PS 033 Determinants of insulin sensitivity in skeletal muscle

Chair: V. D'Esposito, Italy

513 Decreased TCF7L2 expression enhances insulin action in primary human skeletal muscle cell cultures

A.E. Brown, P.D. Lindsey, M. Walker, UK

514 Regulation of fatty acid oxidation and glucose metabolism by miR-29 in human and mouse skeletal muscle

J. Massart, Sweden

515 WISP1 associates with insulin resistance and impairs insulin action in skeletal muscle cells but not in hepatocytes

T. Hörbelt, M. Bekaert, F. Van de Velde, Y. Van Nieuwenhove, B. Lapauw, W. Jonas, A.F. Pfeiffer, A. Schürmann, N. Rudovich, D.M. Ouwens, Germany, Belgium

516 Ketoacidosis and insulin resistance in muscle in subjects with type 1 diabetes: a human, randomised, controlled, cross over study

M. Svart, T. Voss, N. Rittig, N. Moeller, N. Jessen, Denmark

517 Sarcopenia is associated with insulin resistance and the early phase of type 2 diabetes in Korea

S. Kim, J. Son, C. Kim, J. Mok, K. Lee, Korea, Republic of

518 The effect of high intensity training on insulin sensitivity in overweight, inactive elderly subjects

D. Sogaard, M.T. Lund, C.M. Scheuer, M.S. Dehlbæk, S.G. Ditlevsen, C.V. Abildskov, K.K. Christensen, F. Dela, J.W. Helge, Denmark

Poster Event D, Wednesday, 13:15 - 14:15

PS 034 Insulin action: focus on liver

Chair: M. Roden, Germany

519 Regulation of hypothalamic JAZF1 in hepatic glucose production and insulin signalling by triggering a brain-liver neuronal circuit in high-fat fed rats

L. He, L. Li, G. Yang, China

520 Increased coagulation factor activities and expression in 'Metabolic NAFLD' and 'PNPLA3 NAFLD'

S. Lallukka, P.K. Luukkonen, Y. Zhou, A. Juuti, A. Hakkarainen, M. Orho-Melander, N. Lundbom, V.M. Olkkonen, R. Lassila, H. Yki-Järvinen, Finland, Sweden

521 Involvement of GRK2/CRTC2 in hepatic gluconeogenesis regulation by follicle-stimulating hormone in ovariectomised mice

Q. Xiaoyi, G. Yanjing, S. Yongfeng, Y. Chunxiao, G. Ling, Z. Jiajun, China

522 Beneficial effects of TM-25659 on insulin-resistance and hepatic steatosis induced by a high-fat diet in C57BL/6J mice

K.-W. Lee, J. Jung, S.-A. Lee, J. Jeon, S.-E. Choi, Y. Kang, M. Bae, J. Ahn, H. Jeong, E. Hwang, T. Kim, S. Han, H. Kim, D. Kim, Korea, Republic of

523 Elevated plasma branched-chain amino acids are associated with insulin resistance, hepatic fat content and mitochondrial function

E. Phielix, V. Schrauwen, M. De Ligt, S. Timmers, J. Hoeks, M. Hesselink, P. Schrauwen, Netherlands

524 Mitochondrial ND2 gene mutation in complex I of the respiratory chain - ROS generation, liver steatosis and induction of mitoprotective effects in the course of aging

M. Wietzke, E. Meyer, J. Niemann, S. Baltrusch, M. Tiedge, Germany

525 Substrate-specific impairment of liver gluconeogenesis and altered feeding behavior in liver glutamate dehydrogenase knockout mice

M. Karaca, M. Grimaldi, J. Martin-Levilain, P. Maechler, Switzerland

526 Diets high in glucose and fructose alter intestinal short-chain fatty acid in mice: implications for fatty liver and type 2 diabetes development

J.C. Silva, M. Mota, C. Nogueira, F.O. Martins, T. Gonçalves, A. Gil, J. Jones, Portugal

Poster Event E, Thursday, 12:00 - 13:00

PS 035 The gastro-entero-islet axis

Chair: F.K. Knop, Denmark

527 A chemically modified GIP-Xenin hybrid peptide restores GIP sensitivity, enhances beta cell function and improves glucose homeostasis in high fat fed mice

V.A. Gault, A. Hasib, T. Ng, V. Parthsarathy, P.R. Flatt, N. Irwin, UK

528 Duodenal GLP-1 signalling regulates hepatic glucose production through PKC- δ -dependent neurocircuitry

Y. Lai, L. Li, G. Yang, China

529 A novel exendin-xenin fusion peptide substantially improves weight loss and metabolic control in high fat fed mice

N. Irwin, M.T. Ng, A. Hasib, P.R. Flatt, V.A. Gault, UK

530 Exaggerated postprandial GLP-1 secretion after Roux-en-Y gastric bypass is highest after glucose compared with fat and protein ingestion

C.Z. Jensen, K.N. Bojsen-Møller, M.S. Svane, L.M. Holst, K. Hermansen, J.J. Holst, S. Madsbad, Denmark

531 Estrogens protect against type 2 diabetes by increasing glucagon-like peptide-1 secretion from L cells and alpha cells

S. Handgraaf, R. Dusaulcy, F. Visentin, Y. Gosmain, J. Philippe, Switzerland

532 Up-regulation of *selenoprotein P* and *HIP/PAP* mRNAs in hepatocytes by intermittent hypoxia via down-regulation of miR-203

T. Uchiyama, H. Ota, A. Itaya-Hironaka, R. Shobatake, A. Yamauchi, S. Sakuramoto-Tsuchida, M. Makino, H. Kimura, M. Takeda, C. Ohbayashi, S. Takasawa, Japan

533 Bile acids stimulate secretion of GLP-1 and PYY through activation of basolateral L-cell GPBAR1 receptors but have no direct effect on glucagon or insulin secretion

R.E. Kuhre, N.J. Wewer Albrechtsen, O. Larsen, S.L. Jepsen, A. Adriaenssens, F. Reimann, F.M. Gribble, R. Albrechtsen, M.M. Rosenkilde, J.J. Holst, Denmark, UK

534 Beta cell deficient mouse models reveal that glucose and K_{ATP} channel blockers control glucagon secretion independently of beta cell derived paracrine factor

H. Chae, B.K. Lai, A. Gómez-Ruiz, N. Antoine, P.L. Herrera, P. Gilon, Belgium, Switzerland

Poster Event F, Thursday, 13:15 - 14:15

PS 036 New insights into beta cell function

Chair: C. Nigro, Italy

535 Free fatty acids amplify basal secretion of both glucagon and insulin from isolated human islets at normoglycaemia via metabolic and FFAR1 dependent mechanism

H. Kristinsson, E. Sargsyan, P. Bergsten, Sweden

536 Endoplasmatic reticulum stress and beta cells functionality: the role of ERO1LB

D. Amadio, C. Ämmälä, F. Chimienti, Sweden

537 Pancreatic stellate cells express insulin receptor (IR) and IGF-1 receptor (IGF-1R) on the cell surface: implication for pancreatic fibrogenesis in type 2 diabetes

X. Zhu, C. Wu, R. Waldron, A. Lugea, S. Pandol, L. Li, China, USA

538 Role of micu2 in metabolite induced stimulus secretion coupling in pancreatic beta cells

N. Vishnu, D. Nicholls, H. Mulder, Sweden

539 GPR43 receptor expression, insulin sensitivity and beta cell function in patients with newly diagnosed type 2 diabetes

G. Pacini, K. Bódis, J. Szendrödi, G. Chemello, A. Tura, M. Roden, Italy, Germany

540 Mid51 is not only important for mitochondrial morphology but also for glucose-stimulated insulin secretion in pancreatic beta cells

J. Schultz, J. Wakus, R. Waterstradt, S. Baltrusch, Germany

541 Systemic metabolic effects exerted by a point mutation in the RED subdomain of PAX6

N.F. Chhabra, M. Wu, M. Fütterer, M. Irmeler, J. Beckers, M. Götz, J. Rozman, G.K. Przemeck, M. Hrabé de Angelis, Germany

Poster Event A, Tuesday, 12:00 - 13:00

PS 037 Dissecting islet biology in vivo and in vitro

Chair: S.E. Baltrusch, Germany

542 Whole organism chemical screening to identify modulators of beta cell function

H. Matsuda, S. Mullapudi, C. Yang, D. Hesselson, D. Stainier, Germany, Australia

543 ERK7: a novel regulator of insulin secretion and lipid metabolism in *Drosophila*

K. Hasygar, R. Hynynen, V. Hietakangas, Finland

544 The role of GRP94 chaperone in proinsulin processing

M.T. Marzec, S. Pedersen, O. Cheta, M.J. Perone, S.M. Ghiasi, T. Mandrup-Poulsen, Denmark, Argentina

545 Consideration of incretin response acquisition organisation by formation of pseudoislets

A. Arman, Japan

546 Partial inhibition of PERK enhanced glucose-stimulated insulin secretion through BiP-dependent modulation of cytosolic calcium transit

H. Jung, M. Kim, S. Min, J. Jang, S.-W. Kim, H. Lee, S. Chung, K. Park, Korea, Republic of

547 A mathematical modelling of the beta cell explaining in vitro and in vivo findings with consistent mechanisms

E. Grespan, T. Giorgino, A. Natali, E. Ferrannini, A. Mari, Italy

Poster Event B, Tuesday, 13:15 - 14:15**PS 038 Determinants of beta cell function in humans and in non-human primates**

Chair: A. Natali, Italy

548 Mechanisms of glucose intolerance in circadian disruption caused by shift work

A. Sharma, C. Dalla Man, R.T. Varghese, C. Cobelli, R. Rizza,
A. Matveyenko, A. Vella, USA, Italy

549 Role of GLP-1 variability in modulating insulin secretion across glucose tolerance: a DIRECT study

A. Mari, A. Tura, A. Dawed, P.W. Franks, E.R. Pearson,
for the DIRECT project, Italy, UK, Sweden

550 Physiologic determinants of islet of Langerhans beta, alpha, and δ -cell mass in normoglycaemic non-human primates

F. Folli, F. Casiraghi, L.M. Jimenez-Ceja, M. De Lourdes Reyes-Escogido,
E.J. Dick, G. Daniele, A.M. Davalli, T.V. Fiorentino, R. Guardado Mendoza,
USA, Brazil, Mexico, Italy

551 Increments of C-peptide in glucagon stimulation test in patients with new-onset diabetes and healthy control group

R. Maciulewski, A. Zielińska, K. Siewko, D. Lipińska, G. Kozłowska,
M. Górka, M. Szelachowska, Poland

552 Association of haemoglobin and serum iron levels with beta cell function in non-diabetic subjects

M. Shimodaira, T. Niwa, K. Nakajima, M. Kobayashi, Japan

553 Morphology of the pancreas in type 2 diabetes: effect of return of normal insulin secretion over 6 months

A. Al-Mrabeh, K.G. Hollingsworth, S. Steven, R. Taylor, UK

Poster Event C, Wednesday, 12:00 - 13:00

PS 039 The alpha cell and glucagon

Chair: P. Gilon, Belgium

554 Glucose potently inhibits glucagon secretion in mice with alpha cell-specific deletion of K_{ATP} channels

B.K. Lai, H. Chae, A. Gómez-Ruiz, N. Antoine, P.L. Herrera, S. Seino, P. Gilon, Belgium, Switzerland, Japan

555 Regulation of glucagon secretion and alpha cell proliferation by a neutral amino acid transporter Slc38a5

W.-H. Li, Y. Xu, S. Chen, Z. Huang, Q. Liu, USA

556 Glucagon receptor gene deletion modestly reduces blood glucose and ketones but does not promote survival in insulin knockout mice

U.H. Neumann, J.S. Ho, M. Mojibian, S.D. Covey, M.J. Charron, T.J. Kieffer, Canada, USA

557 Glucose lowers cAMP to inhibit glucagon secretion by a direct effect on alpha cells

Q. Yu, H. Shuai, P. Ahooghalandari, E. Gylfe, A. Tengholm, Sweden

558 RAMP2 influences glucagon receptor pharmacology via trafficking and signalling

J. Cegla, B.J. Jones, J.V. Gardiner, D.J. Hodson, T. Marjot, T.M. Tan, S.R. Bloom, UK

559 Hyperglucagonaemia is associated with elevated plasma triglycerides and increased visceral fat in children and adolescents

H. Manell, H. Kristinsson, J. Kullberg, K. Paulmichl, J. Cadamuro, F. Zsoldos, J. Staaf, E. Sargsyan, H. Ahlström, D. Weghuber, A. Forslund, P. Bergsten, Sweden, Austria

560 Novel tracer approach to estimate postprandial complex carbohydrate metabolism

M. Schiavon, M. Persson, C. Dalla Man, L. Hinshaw, M. Slama, Y.C. Kudva, R.E. Carter, C. Cobelli, R. Basu, A. Basu, Italy, USA

Poster Event D, Wednesday, 13:15 - 14:15

PS 040 Changes of insulin action in response to weight loss and nutritional intervention

Chair: J.-F. Tanti, France

561 Association between changes in body weight and glycaemic control following insulin initiation in people with type 2 diabetes: a UK primary care study

I. Idris, U.C. Anyanwagu, J.B. Mamza, R. Mehta, R. Donnelly, UK

562 Metabolic effects of short-term caloric restriction in wildtype mice and mice with reduced insulin gene dosage

M.B. Dommerholt, D.A. Dionne, D. Hutchinson, J.K. Kruit, J.D. Johnson, Canada, Netherlands

563 Surrogate indices of insulin sensitivity after Roux-en-Y gastric bypass: a comparison with results from the hyperinsulinaemic clamp

K.N. Bojsen-Møller, C. Dirksen, M.S. Svane, N.B. Jørgensen, V.B. Kristiansen, J.J. Holst, E.A. Richter, S. Madsbad, Denmark

564 Vitamin D improves insulin sensitivity and myosteatosis in a model of diet-induced insulin resistance

E. Benetti, R. Mastrocola, F. Chiazza, D. Nigro, G. Vitarelli, J. Cutrin, M. Collino, M.A. Minetto, Italy

565 Effect of Momordica charantia administration on insulin secretion and insulin sensitivity in type 2 diabetes

E. Martínez-Abundis, M. Cortez-Navarrete, K.G. Pérez-Rubio, M. González-Ortiz, Mexico

566 Differences in lipid content in standard diets lead to disbalance in energy homeostasis during aging

C. Rubio, E. Lizarraga, F. Escrivá, J.M. Carrascosa, Spain

Poster Event E, Thursday, 12:00 - 13:00**PS 041 Novel treatment concepts in metabolic disease**

Chair: H. Al-Hasani, Germany

567 Liraglutide upregulates adipose tissue angiogenic pathways and sprout formation, contributing to a better metabolic outcome

P. Matafome, C. Carrêlo, T. Rodrigues, B. Martins, D. Marques,
C. Fontes-Ribeiro, R. Seiça, S. Santos, Portugal

568 Teneligliptin decreases the uric acids levels by xanthine dehydrogenase expression in white adipose tissue of the male Wistar rats

C. Tsukagoshi Moriya, H. Satoh, Japan

569 One year efficacy, safety and tolerability of duodenal exclusion using Endobarrier as an adjunct to glucagon-like-peptide-1 (GLP-1) therapy: a randomised controlled trial

P. Sen Gupta, R.S. Drummond, B.M. McGowan, S.A. Amiel, R.E. Ryder, UK

570 Comprehensive metabolomic analysis in plasma, skeletal muscle, adipose tissue and urine in men with metabolic syndrome; with focus on the effects of resveratrol

A. Korsholm, M.J. Ornstrup, T.N. Kjaer, S.B. Pedersen, Denmark

571 Leptolide improves insulin resistance in diet-induced obese mice

P. Villa-Perez, M. Cueto, I. Cozar-Castellano, G. Perdomo, Spain

Poster Event F, Thursday, 13:15 - 14:15**PS 042 Cancer in diabetes**

Chair: J. Škrha, Czech Republic

572 New-onset diabetes as a target for pancreatic cancer screening

P. Škrha, A. Hořínek, M. Anděl, P. Frič, J. Škrha, Czech Republic

573 Increased dietary AGEs and diabetes: possible inducers of colon cancer

A.I. Serban, L. Stanca, O.I. Geicu, A. Dinischiotu, Romania

574 Mitogenic activity of the metabolically relevant hepatokine FGF21 in human carcinoma cells

L. Berti, B. Rädle, H.U. Häring, M. Hrabě de Angelis, H. Staiger, Germany

575 The classical nuclear estrogen receptors ER α and ER β , and the G-protein-coupled receptor-30 are differently expressed in prostate cancer depending on diabetes status

S.Z. Lutz, J. Hennenlotter, M. Scharpf, T. Todenhöfer, M. Heni, A. Guirguis, A. Peter, H. Staiger, A. Fritsche, A. Stenzl, H.U. Häring, Germany

576 The risk of epithelial ovarian cancer in obesity before and after marked weight loss obtained by bariatric surgery

F. Coccia, D. Capoccia, G. Guarisco, M. Testa, F. Abbatini, A. Guida, M. Rizzello, G. Silecchia, E. Anastasi, F. Leonetti, Italy

577 The impact of diabetes and antidiabetic treatment on the survival of patients with multiple myeloma

E. Sipter, G. Varga, A. Hóbor, L. Barkai, G. Mikala, T. Masszi, N. Hosszúfalusi, Hungary

578 Increased lipotoxicity and insulin resistance in non diabetic patients with hepatocellular carcinoma

M. Gaggini, M. Cabiati, S. Del Ry, G. Basta, P. De Simone, V. Dellla Latta, F. Filipponi, A. Gastaldelli, Italy

Poster Event A, Tuesday, 12:00 - 13:00

PS 043 Inflammation in type 2 diabetes

Chair: M. Ouwens, Germany

579 Anti-inflammatory protection of pancreatic islets during prolonged High Fat Diet (HFD) by NUPR1 through enhanced local secretion of IL-1RA

G. Páth, A.E. Mehana, J. Straetener, J. Baumann, K. Laubner, N. Perakakis, J. Seufert, Germany

580 Skeletal muscle expression profile of selected pro-inflammatory myokines in obesity and type 2 diabetes

D. Maderova, T. Kurdiova, M. Balaz, M. Vician, V. Belan, J. Ukropec, B. Ukropcova, Slovakia, Switzerland

581 Targeted disruption of inducible nitric oxide synthase in adipocytes improves insulin sensitivity and dyslipidaemia in diet-induced obese mice

K. Bellmann, V. Rodrigues Vilela, R. Nachbar, C. Centano-Baez, G. Lachance, A. Marette, Canada

582 Activation of heat shock response provided by mild electrical stimulation with heat shock improves metabolic abnormalities in obese subjects with type 2 diabetes

T. Kondo, R. Goto, K. Ono, S. Kitano, M. Igata, J. Kawashima, H. Motoshima, T. Matsumura, H. Kai, E. Araki, Japan

583 Toll like receptor 4 mediates the anti-inflammatory effect of metformin in human peripheral blood mononuclear cells

A. Coppola, D. Della Morte, S. Tartaglione, M. Caputo, B. Capuani, F. Pacifici, R. Arriga, D. Pastore, S. Caratelli, V. Ferrazzoli, A. Bellia, M. Federici, P. Sbraccia, G. Sconocchia, D. Lauro, Italy

584 IL-1 β signalling in macrophages is required for normal glucose homeostasis in the obese state

P.T. Whitworth, T.J. Biden, Australia

585 Clinical implication of CD163 on flow mediated dilatation in type 2 diabetes

R. Kawarabayashi, K. Motoyama, M. Nakamura, M. Asada, Y. Kakutani, Y. Yamazaki, T. Morioka, K. Mori, S. Fukumoto, T. Shoji, M. Emoto, M. Inaba, Japan

586 Hepatic insulin clearance governs primary hyperinsulinaemia in pre-diabetes progression: a perverse paradox mediated by nitric oxide

M.-P. Macedo, N. Duarte, R. Patarrão, R. Ribeiro, A.B. Fernandes, M. Martins, J.F. Raposo, J.M. Boavida, L. Gardete-Correia, R. Duarte, J.L. Medina, C. Penha-Gonçalves, Portugal

Poster Event B, Tuesday, 13:15 - 14:15**PS 044 Experimental treatments of type 2 diabetes**

Chair: A. Novials, Spain

587 Treatment with chemical chaperone 4-phenylbutyrate restores glucose metabolism in mice overexpressing human islet amyloid polypeptide

S. De Pablo, J. Montané, C. Castaño, J. Rodríguez-Comas, G. Alcarraz-Vizán, M. Sánchez-Martínez, A. Nonell-Canals, J.-M. Servitja, A. Novials, Spain

588 The protective effect of luseogliflozin on pancreatic beta cell mass

K. Takahashi, A. Nakamura, N. Kitao, K. Yong Cho, H. Miyoshi, Y. Terauchi, T. Atsumi, Japan

589 Mechanism for anti-diabetic action of eicosapentaenoic acid in the high-fat diet-sensitive diabetes mouse model

E. Lee, M. Morimoto, T. Miki, Japan

590 Experiment study of renal denervation in treatment of canine with type 2 diabetes mellitus

T. Pan, L. Ling, J.-H. Guo, G.-J. Teng, China

591 Salsalate improves metabolic disorders associated with metabolic syndrome in hereditary hypertriglyceridaemic rats

M. Hüttl, H. Malinska, I. Markova, J. Trnovska, V. Skop, L. Kazdova, Czech Republic

592 Antidiabetic action of esculentin-2CHa-GA30 and its synthetic analogues [D-Arg7, D-Lys15, D-Lys23] - and [Lys15-Octanoate]-esculentin-2CHa-GA30 in high fat fed mice

Y.H. Abdel-Wahab, S. Vasu, O.O. Ojo, C.R. Moffett, J.M. Conlon, P.R. Flatt, UK

593 The dipeptidyl peptidase-4 inhibitor linagliptin exerts neurotrophic effects in the olfactory cortex of type 2 diabetic rats

G. Lietzau, C.-G. Östenson, T. Nyström, T. Klein, V. Darsalia, C. Patrone, Sweden, Poland, Germany

594 Linagliptin partially reverses striatal neuropathology in type 2 diabetic mice

V. Darsalia, E. Candeias, T. Nyström, T. Klein, G. Lietzau, C. Patrone, Sweden, Germany, Poland

Poster Event C, Wednesday, 12:00 - 13:00**PS 045 Prediction of outcome after bariatric surgery**

Chair: S.A. Amiel, UK

595 Genetic and circulating predictors of weight loss after bariatric surgery in severely obese individuals

E. Vitolo, E. Santini, L. Giannini, C. Rossi, A. Solini, Italy

596 Prebariatric screening for diabetes and cardiovascular risk in an interdisciplinary obesity center discloses unexpected gender differences

K. Rett, L. Schmidt, A. Buckenmayer, E. Fischer, K. Rövenich, E. Weitz, P. Staikov, K. Stein, Germany

597 Comparable weight loss and improvement in insulin sensitivity early after Roux-en-Y gastric bypass or sleeve gastrectomy for morbid obesity

A. Kokkinos, C. Liaskos, S. Liatis, N. Tentolouris, K. Alexiadou, G. Argyrakopoulou, D. Perrea, T. Diamantis, N. Katsilambros, Greece

598 Type 2 diabetes and laparoscopic sleeve gastrectomy: long-term follow up, review of the criteria for diabetes remission and relationship with weight “regain”

D. Capoccia, F. Coccia, G. Guarisco, M. Testa, F. Abbatini, A. Guida, M. Rizzello, G. Silecchia, F. Leonetti, Italy

599 Prediction of diabetes remission after gastric bypass, a direct study

H. Gassenhuber, F. Frau, V. Raverdi, G. Baud, J.S. Ried, F. Pattou, Germany, France

600 Changes in skeletal muscle oxidative capacity after bariatric surgery are driven by changes in free fatty acids, baseline BMI and type 2 diabetes status

S. Gancheva, C. Koliaki, J. Szendroedi, K. Kaul, T. Jelenik, K. Strassburger, O. Kuss, D. Markgraf, M. Schlensak, M. Roden, Germany, Greece

601 Corneal confocal microscopy detects an improvement in small fibre neuropathy after bariatric surgery in obese subjects with type 2 diabetes

S. Azmi, M. Ferdousi, G. Ponirakis, I. Petropoulos, T. Mansur, J. Schofield, A. Marshall, H. Soran, R.A. Malik, UK, Qatar

602 Correlation between food-evoked signal change in the dorsolateral frontal cortex and ad libitum food consumption:

a human neuroimaging study

K.F. Hunt, J.T. Dunn, C.W. Le Roux, L.J. Reed, P.K. Marsden, A.G. Patel, S.A. Amiel, UK, Ireland

Poster Event D, Wednesday, 13:15 - 14:15

PS 046 Adipose growing and hypoxia

Chair: P. Seale, USA

603 Small Proliferative Adipocytes (SPA): a newly identified adipocyte progenitor expressing adipocyte specific proteins

K. Kajita, Y. Kitada, K. Taguchi, M. Yamauchi, T. Ikeda, T. Ishizuka, H. Morita, Japan

604 Introduction of NFIA into myoblasts drives brown adipocyte differentiation via controls of brown fat gene programme by co-localising with PPAR γ at cell type-specific enhancers

T. Yamauchi, Y. Hiraike, H. Waki, T. Kadowaki, Japan

605 The effect of miR-21 on beige adipose tissue increase and its relationship with obesity

S. Lhamyani, A.M. Gentile, S.Y. Romero Zerbo, V. Espinosa Jimenez, L. Coín Aragüez, W. Oliva Olivera, F.J. Tinahones, F.J. Bermudez Silva, R. El Bekay, Spain

606 Irisin improves perivascular adipose tissue dysfunction via regulation of the heme oxygenase-1/adiponectin axis in diet-induced obese mice

X. Sun, F. Han, N. Hou, China

607 Impaired adipose histone deacetylases 5 and 6 expression in obesity mimics the adverse effect of hypoxia on adipocytes

J. Bricambert, D. Favre, S. Brajkovic, A. Bonnefond, F. Pattou, G. Waeber, P. Froguel, A. Abderrahmani, France, Switzerland, UK

608 Energy expenditure of human cervico-thoracic muscles during mild cold stress: a positron emission tomography study

M. U Din, J. Raiko, N. Kudomi, V. Oikonen, P. Nuutila, K.A. Virtanen, Finland, Japan

609 Oxygen uptake in subcutaneous adipose tissue in type 2 diabetes: relation to perfusion and insulin-mediated glucose uptake and response to exercise

M. Bucci, K.A. Virtanen, A. Viljanen, M.J. Honka, L. Landini, V. Oikonen, E. Ferrannini, P. Nuutila, P. Iozzo, Finland, Italy

610 Effect of vitamin D on human mesenchymal stem cells adipogenesis and cytokine secretion in hypoxia

S.J. Mutt, S. Lehtonen, P. Lehenkari, J. Leppäluoto, M.-R. Järvelin, K.-H. Herzig, Finland, UK

Poster Event E, Thursday, 12:00 - 13:00

PS 047 Macrophages and other blood cells in inflammation

Chair: C.S. Mantzoros, USA

611 Depletion of macrophages in mice fed a high-fat diet leads to a systemic inflammatory state and improved beta cell function

L. O'Reilly, D. Suan, T. Chtanova, T.J. Biden, Australia

612 Involvement of membrane remodelling induced by fatty acids in the regulation of the NLRP3 inflammasome activity in human macrophages

M.A. Gianfrancesco, J. Dehairs, K. Bloch, L. L'homme, J. Piette, J. Swinnen, N. Paquot, N. Esser, S. Legrand-Poels, Belgium, France

613 Glucocorticoid-induced insulin resistance is related to macrophage visceral adipose tissue infiltration

T.T. Do, M. Garcia, G. Dorothée, M. Moldes, B. Fève, M. Buyse, France

614 Autophagy deficiency in myeloid cells increases susceptibility to diabetes by enhancing inflammasome activation

M.-S. Lee, H.-Y. Lee, J. Kim, W. Quan, J.-C. Lee, K.Y. Hur, Korea, Republic of

615 Neutrophil elastase and myeloperoxidase genes are overexpressed in overweight and obese subjects and are associated with body mass index and atherogenic index of plasma

S.K. Biswas, M. Ali, S. Jasmin, S.M. Alam, M. Fariduddin, M.I. Arslan, Bangladesh

Poster Event F, Thursday, 13:15 - 14:15**PS 048 Novel and updated biomarkers associated with obesity**

Chair: C.D.A. Stehouwer, Netherlands

616 The decline in serum DPP-4 activity after weight loss is associated with the decrease in cholesterol levels but not with improved insulin resistance or inflammation

C.T. Herz, J.M. Brix, C. Höbaus, B. Ludvik, R. Koppensteiner,
G. Schernthaner, G.H. Schernthaner, Austria

617 The effect of bariatric surgery on fatty acid uptake and associated gene expression in abdominal subcutaneous adipose tissue of morbidly obese women

P. Dadson, L. Landini, M. Vaittinen, M.-J. Honka, R.M. Badeau,
J.C. Hannukainen, P. Iozzo, J. Pihlajamäki, P. Nuutila, Finland, Italy

618 The alternative pathway of complement activation is longitudinally associated with obesity: the CODAM study

Y. Xin, E. Hertle, C. Van der Kallen, C. Schalkwijk, C. Stehouwer,
M. Van Greevenbroek, Netherlands

619 Acute neuro-endocrine effects of deep Transcranial Magnetic Stimulation (TMS) in obesity

A. Ferrulli, M. Adamo, S. Paini, L. Luzi, Italy

620 Up-regulation of proopiomelanocortin (POMC) and cocaine- and amphetamine-regulated transcript (CART) mRNAs by intermittent hypoxia in human neuronal cells

R. Shobatake, K. Takasawa, H. Ota, A. Itaya-Hironaka, A. Yamauchi,
S. Sakuramoto-Tsuchida, T. Uchiyama, M. Makino, K. Sugie, S. Ueno,
S. Takasawa, Japan

621 Evaluation of hsCRP levels as a marker of cardiovascular risk in metabolically healthy obese individuals

B.M. Makkar, M. Arora, M. Furqan, India

622 Clinical and anthropometric characteristics of sarcopenia in patients with type 2 diabetes and relevant risk factors

H. Nakayama, M. Tsuruta, T. Oshige, S. Kakino, S. Kawano, S. Iwata,
M. Kawahara, Y. Nakamura, Y. Goto, S. Otabe, Y. Tajiri, K. Yamada, Japan

623 Real-world weight change among patients treated with GLP-1, SU, or DPP-4 therapy for type 2 diabetes and the influence of medication adherence

G.S. Carls, R.-D. Tan, E. Tuttle, J. Yee, W.H. Polonsky, S.V. Edelman, USA

Poster Event A, Tuesday, 12:00 - 13:00

PS 049 Fat distribution in humans

Chair: G. Marchesini, Italy

624 Contribution of a first-degree family history of diabetes to increased serum adipocyte fatty acid binding protein levels independent of body fat content and distribution

Y. Bao, X. Hu, X. Pan, X. Ma, Y. Luo, Y. Xu, Q. Xiong, Y. Xiao, W. Jia, China

625 RSPO3 functions via LGR4 to regulate human body fat distribution by eliciting diverse biological responses in abdominal and gluteal progenitors

N.Y. Loh, K.E. Pinnick, J.E. Minchin, M.J. Neville, J.F. Rawls, F. Karpe, C. Christodoulides, UK, USA

626 Phenotypical heterogeneity linked to adipose tissue dysfunction in patients with type 2 diabetes

I. Barchetta, F. Angelico, M. Del Ben, M. Di Martino, F.A. Cimini, L. Bertocchini, A. Fraioli, S. Morini, M.G. Baroni, M.G. Cavallo, Italy

627 Lipidomic profiling of human fat tissues in subjects with type 2 diabetes and normal glucose tolerance

S. Choi, D.-H. Lee, T. Oh, K. Kim, S. Lim, H. Jang, Korea, Republic of

628 Validation of circulating Wnt1 inducible signalling pathway protein 1 (WISP1) as a novel biomarker of visceral obesity and associated diseases

C. Tacke, K. Aleksandrova, V. Murahovschi, M. Markova, O. Pivovarova, M. Kemper, S. Hornemann, M. Ouwers, M.O. Weickert, H. Boeing, A.F. Pfeiffer, N.N. Rudovich, Germany, UK

629 Impact of IRS1 promoter methylation, mRNA expression and the SNP variant rs2943650 on fat distribution and metabolic traits in human subcutaneous and visceral fat depots

K. Rohde, M. Keller, X. Liu, M. Klös, M. Stumvoll, A. Dietrich, M.R. Schön, D. Gärtner, T. Lohmann, M. Dreßler, M. Blüher, P. Kovacs, Y. Böttcher, Germany

630 Adipose tissue dysfunction and metabolic syndrome among childhood acute leukaemia survivors

S. Béliard, S. Visentin, B. Cousin, B. Gaborit, I. Abdesselam, C. Oudin, M. Nowicki, P. Auquier, R. Valéro, M. Guye, M. Bernard, M.-C. Alessi, G. Michel, France

Poster Event B, Tuesday, 13:15 - 14:15

PS 050 Inflammation in metabolism

Chair: K. Strojek, Poland

631 An inducer of glyoxalase 1 down regulates inflammatory gene expression in overweight and obese non-diabetic subjects

M. Xue, M.O. Weickert, S. Qureshi, N.-B. Kandala, A. Anwar, M. Waldron, A. Shafie, N. Rabbani, P.J. Thornalley, UK

632 Detection of diabetes specific autoimmunity in obese subjects regardless the presence of diabetes

C. Tiberti, D. Capoccia, G. Campagna, S. Zampetti, E. Anastasi, L. Pallotta, F. Panimolle, F. Leonetti, R. Buzzetti, NIRAD Study Group, Italy

633 TLR4 deficiency ameliorates ageing-dependent, diet-induced inflammation, glucose intolerance and pancreatic beta cell failure

W. He, P. Shah, K. Maedler, Germany

634 Identification and characterisation of miRNAs as potential modulators of TNF-induced insulin resistance in obesity

J. Lozano Bartolomé, S. Fernández Veledo, A. Altuna Coy, M. Wabistch, J. Vendrell, M. R. Chacon, Spain, Germany

635 Visceral adipose tissue NK cells contribute to obesity-associated insulin resistance through macrophage polarisation and low-grade inflammation

K. Wouters, Y.H. Kusters, M. Bijnen, K. Gaens, A.J. Houben, P. Joris, R. Mensink, J. Plat, K. Verboven, D. Hansen, J. Jocken, E.E. Blaak, C.D. Stehouwer, C.G. Schalkwijk, Netherlands, Belgium

636 CD93: a novel causal factor in type 2 diabetes

R.J. Strawbridge, A. Hilding, A. Silveira, B. Sennblad, C.-G. Östenson, L. Maegdefessel, A. Hamsten, the IMPROVE study group, A. Backlund, Sweden

637 The increase of klotho after weight loss is most pronounced in insulin sensitive patients and is associated with a decrease in inflammation

J.M. Brix, C.T. Herz, C. Hoebaus, E.C. Krzizek, B. Ludvik, G. Schernthaner, G.H. Schernthaner, Austria

638 SGLT2 inhibition by empagliflozin attenuates obesity-induced insulin resistance and inflammation by enhancing fat utilisation and alternative activation of macrophages

L. Xu, N. Nagata, M. Nagashimada, F. Zhuge, Y. Ni, S. Kaneko, T. Ota, Japan

Poster Event C, Wednesday, 12:00 - 13:00

PS 051 Insulin and IGF-1: signalling and action

Chair: M.C. Mota, Romania

639 Prep1 enhances neuronal activity by increasing insulin-like growth factor 1 pro-survival signalling

S. Ricci, D. Viggiano, S. Cabaro, A. Liotti, I. Cimmino, G. Perruolo, M. Saavedra, M. Ciccarelli, L. Albano, R. Valentino, A. Di Carlo, P. Formisano, F. Oriente, Italy

640 A new player on the insulin receptor internalisation mechanism: circular dorsal ruffles

M. Araújo-Correia, C. Casalou, D.C. Barral, M. Macedo, Portugal

641 Decrement in Rho-kinase 1 and adenylate energy charge contribute to the interactive regulation of insulin and fatty acid on AMPK/SREBP-1c pathway in skeletal muscle cells

S. Tang, W. Tang, W. Wu, Y. Bi, D. Zhu, China

642 Insulin regulates SRBI and ABCG8 in a mTOR dependent pathway in CaCo-2 cells

M. Fuentes, N. Santander, V. Cortes, Chile

643 Central leptin and insulin signalling are required to maintain glucose homeostasis in healthy mice

W. Chen, E. Balland, M. Cowley, Australia

644 Duration of morning hyperinsulinaemia impacts hepatic glucose uptake and storage later in the same day

M.C. Moore, M.S. Smith, B. Farmer, G. Kraft, P. Williams, A.D. Cherrington, USA

Poster Event D, Wednesday, 13:15 - 14:15

PS 052 Liver and lipids

Chair: S. Herzig, Germany

645 Polycomb controls metabolic homeostasis through a novel liver-to-adipose axis

R. Teperino, T. Lu, M. Matz-Soja, M. Kovarova, K. Dalgaard, M. Selvaraj, M. Basilicata, A. Lempradl, M. Ruf, R. Gebhardt, E. Schleicher, J. Pospisilik, Germany

646 T-cadherin gene (CDH13) polymorphisms, adiponectin levels and Fatty Liver Index (FLI) in D.E.S.I.R.

A. Nicolas, R. Aubert, N. Bellili-Muñoz, B. Balkau, F. Bonnet, J. Tichet, G. Velho, M. Marre, R. Roussel, F. Fumeron, France

647 Glycation impairs hepatic lipid metabolism and glucose tolerance in high-fat diet-induced obese rats

C. Neves, J. Sereno, C. Simões, T. Rodrigues, J. Castelhana, J. Gonçalves, G. Bento, S. Gonçalves, R. Fonseca, M. Domingues, R. Seica, M. Castelo-Branco, P. Matafome, Portugal

648 Liver-specific deletion of ROCK1 prevents hepatic steatosis in leptin-deficient ob/ob mice

I.S. Lima, S.-H. Lee, H. Huang, M. Chung, M. Macedo, Y.-B. Kim, Portugal, USA, Korea, Republic of

649 Pyridoxamine prevents diet-induced insulin resistance through the regulation of ceramide/sphingosine/sphingosine-1-phosphate equilibrium in mice liver

R. Mastrocola, D. Nigro, A.S. Cento, G. Schiano, F. Chiazza, F. Dal Bello, F. Romaniello, M. Collino, C. Medana, M. Aragno, Italy

650 Towards a multi-organ-chip combining human liver, pancreatic islets, skeletal muscle and kidney equivalents to study metabolic diseases

S. Bauer, C. Magauer, I. Maschmeyer, A. Lorenz, C. Drewell, R. Lauster, U. Marx, Germany

Poster Event E, Thursday, 12:00 - 13:00

PS 053 Cholesterol and dyslipidaemia

Chair: N.M. Lalic, Serbia

651 Chemokine receptor5 facilitates endothelial progenitor cells recruitment and ameliorates hypercholesterolaemia in ApoE-deficient mice

Z. Zhang, China

652 Endoplasmic reticulum stress might play a pivotal role in lipid metabolic disorders detected in a novel subclinical hypothyroidism mouse model

L. Zhou, S. Ding, Y. Li, L. Wang, W. Chen, T. Bo, K. Wu, C. Li, X. Liu, J. Zhao, C. Xu, L. Gao, China

653 Liraglutide reduces postprandial hyperlipidaemia by increasing apoB48 catabolism and by reducing apoB48 production

B. Vergès, L. Duvallard, B. Bouillet, S. Baillot-Rudoni, P. Buffier, E. Crevisy, J.-M. Petit, France

654 Altered HDL lipidome in pre-diabetic and diabetic individuals with normal HDL-C levels studied by proton Nuclear Magnetic Resonance spectroscopy

V. Tsimihodimos, C. Kostara, M. Elisaf, E. Bairaktari, Greece

655 Dyslipidaemia in 68,482 adults with type 2 diabetes: the impact of age, gender and treatment based on a joint analysis of the German DIVE and DPV registries

P. Bramlage, A. Schwandt, W. Rathmann, A. Gillessen, N. Scheper, S.M. Schmid, M. Kaltheuner, J. Seufert, T. Danne, R.W. Holl, Germany

656 A common gene variant in glucokinase regulatory protein interacts with glucose metabolism on diabetic dyslipidaemia: the combined CODAM and Hoorn studies

N. Simons, J.M. Dekker, M.M. Van Greevenbroek, G. Nijpels, L.M. 't Hart, C.J. Van der Kallen, C.G. Schalkwijk, N.C. Schaper, C.D. Stehouwer, M.C. Brouwers, Netherlands

657 Severe hypertriglyceridaemia in an adolescent with lipoprotein lipase deficiency: responding to triple drug combination

V. Lodha, S. Lodha, K.K. Sharma, M. Kanjani, R. Gupta, India

Poster Event F, Thursday, 13:15 - 14:15

PS 054 Ectopic lipids

Chair: F. Karpe, UK

658 Brain leptin signalling reduces hepatic lipid content by increasing hepatic VLDL secretion and reducing de novo lipogenesis

M.T. Hackl, C.M. Schuh, S. Abu Eid, M. Krssak, C. Fuernsinn, C. Buettner, T. Scherer, Austria, USA

659 Hepatic lipid content and composition in diet-induced metabolic dysregulation and recuperation

A.F. Soares, J.M. Duarte, B. Lizarbe, R. Gruetter, Switzerland

660 Fasting plasma insulin concentrations are associated with changes in hepatic fatty acid synthesis and partitioning prior to changes in liver fat content in healthy adults

L. Hodson, C. Pramfalk, M. Pavlides, C. McNeil, F. Karpe, UK

661 Differential storage pattern of intramyocellular lipid in type 2 diabetes patients and trained athletes

S. Daemen, A. Gemmink, B. Brouwers, G. Schaart, J. Hoeks, P. Schrauwen, M.K. Hesselink, Netherlands

662 Challenging of AS160 alters lipid status in L6 myotubes

A. Mikłosz, B. Łukaszuk, M. Żendzian-Piotrowska, J. Brańska-Januszewska, H. Ostrowska, A. Chabowski, Poland

663 The ratio of deep to whole subcutaneous adipose tissue thickness is higher in type 2 diabetes and relates to insulin resistance and liver fat content

K. Bódis, J. Lundbom, T. Jelenik, D. Markgraf, V. Burkart, K. Müssig, J. Szendrői, M. Roden, Germany

Poster Event A, Tuesday, 12:00 - 13:00**PS 055 Experimental therapies**

Chair: N. Wierup, Sweden

664 Preclinical, toxicological and safety assessments of MOD-6031, a novel long-acting GLP-1/Glucagon agonist, support Phase 1 study in healthy overweight and obese subjects

G. Hart, L. Israeli-Yagev, A. Bar-Ilan, V. Lev, O. HersHKovitz, Israel

665 Chronic treatment with cobalt protoporphyrin or hemin compromises adipogenesis and adiponectin production in a manner independent of heme-oxygenase-1

M. Yang, M. Kimura, C. Ng, S. Keshvari, J. He, J.L. Barclay, J.P. Whitehead, Australia, Japan

666 Gut microbiota regulate pancreatic beta cell function in the host through epigenetic programming of gene expression

A.A. Hardikar, M. Joglekar, G. Soesanto, A. Ahmed-Cox, E. Somerville Glover, S. Satoor, H. Kristensen-Walker, M. Karandikar, A. Januszewski, A. Keech, A. Jenkins, on behalf of Thrifty Jerry Study group, Australia

667 Glucoraphanin-mediated Nrf2 activation reduces obesity and insulin resistance by increasing energy expenditure and limiting endotoxaemia-related chronic inflammation

T. Ota, Y. Ushida, Y. Aoki, L. Xu, F. Zhuge, H. Suganuma, S. Kaneko, N. Nagata, Japan

668 A limonene-derivative from Sudachi peel activates sirt1 and improves lipid and glucose metabolism in high fat diet-fed mice

L. Miyamoto, H. Aihara, W. Xu, M. Jin, Y. Tomida, T. Yamaoka, N. Tanaka, Y. Ikeda, T. Tamaki, Y. Kashiwada, K. Tsuchiya, Japan

669 Beneficial effects of lobeglitazone on white adipose tissue inflammation and brown adipocyte differentiation in db/db mice

B.-S. Cha, E. Han, G. Kim, S. Kim, J.-Y. Lee, Y.-H. Lee, B.-W. Lee, E. Kang, C. Ahn, D. Kim, Korea, Republic of

Poster Event B, Tuesday, 13:15 - 14:15

PS 056 Adipose tissue crosstalk

Chair: U. Smith, Sweden

670 Obesity and type 2 diabetes alters the immune properties of human adipose derived stem cells

C. Serena, N. Keiran, V. Ceperuelo-Mallafré, M. Ejarque, K. Roche, C. Nuñez-Roa, J. Vendrell, S. Fernandez-Veledo, Spain

671 Essential role of fat tissue PIKfyve in systemic glucose homeostasis and insulin sensitivity revealed through PIKfyve disruption by two adipocyte promoters driving Cre

A. Shisheva, D. Sbrissa, K. Delvecchio, O.C. Ikononov, USA

672 Early perivascular adipose tissue dysfunction impairs insulin induced vasodilation via JNK2

F.P. Hoevenaars, R.I. Meijer, V.W. Van Hinsbergh, J.S. Yudkin, E.H. Serné, Y.M. Smulders, E.C. Eringa, Netherlands, UK

673 The novel FAHFA lipids synthesised by human adipose tissue are related to adipose cell GLUT4, lipogenesis and improved adipogenesis

A. Hammarstedt, I. Syed, S. Gogg, B. Eliasson, A. Saghatelian, B.B. Kahn, U. Smith, Sweden, USA

674 Skeletal muscle-specific expression of DGK δ protects against diet-induced obesity through metabolic crosstalk with adipose tissue

M.L. Borg, L.Q. Jiang, L.S. Lundell, J. Massart, T.D. Barbosa, M. Björnholm, A.V. Chibalin, J.R. Zierath, Sweden

675 Changes in the metabolic gene NRIP1 expression in response to weight loss and exercise

Y. De Marinis, J. Sun, A. Untermann, B. Wulff Kampmann, P. Bompada, M. Ridderstrale, Sweden, Denmark

676 ASCs from obese environment are more resistant to apoptosis: a potential role of survivin

V. Ceperuelo-Mallafre, M. Ejarque, C. Serena, N. Keiran, C. Núñez-Roa, K. Roche, J. Vendrell, S. Fernández-Veledo, Spain

677 Stem cells isolated from adipose tissue of obese subjects show different methylation patterns that compromise their biological functions

S. Fernandez-Veledo, M. Ejarque, C. Serena, N. Keiran, C. Nuñez-Roa, K. Roche, J.M. Gimble, J. Vendrell, Spain, USA

Poster Event C, Wednesday, 12:00 - 13:00

PS 057 Fatty acids: long and short chain

Chair: F. Oriente, Italy

678 The free fatty acid receptor GPR84: A new player in glucose tolerance and mitochondrial function?

M.K. Montgomery, A.E. Brandon, L. O'Reilly, B. Osborne, C.E. Fiveash, S.H. Brown, N.J. Smith, T.W. Mitchell, T.J. Biden, G.J. Cooney, N. Turner, Australia

679 The nuclear receptor FXR decreases murine enteroendocrine L cell response to gut microbiota metabolites, the short chain fatty acids

S. Ducastel, V. Touche, M.-S. Trabelsi, B. Staels, S. Lestavel, France

680 Impaired adipose tissue lipid storage, but not altered lipolysis, contributes to elevated levels of free fatty acids in type 2 diabetes

M.J. Pereira, S. Skrtic, P. Katsogiannos, N. Abrahamsson, C.O. Sidibeh, S. Dahgam, M. Månsson, U. Risérus, J. Kullberg, J.W. Eriksson, Sweden

681 Fatty acid trafficking in familial partial lipodystrophy: discovery of a new pathological pathway for the generation of non-esterified fatty acids

F. Karpe, V. Lambadiari, G.D. Tan, S.M. Humphreys, L. Hodson, UK, Greece

682 Targeted metabolomics study on bile acid profiles in db/db mice and their wild type littermates

C. Chen, B. Hu, T. Wu, H. Jiang, China, Australia

Poster Event D, Wednesday, 13:15 - 14:15

PS 058 Circadian rhythm

Chair: P. Schrauwen, Netherlands

683 Insulin directly regulates clock gene expression in the insulin-dependent tissues in vivo and in vitro

N.N. Rudovich, O. Pivovarova, J. Mazuch, S. Wendt, N. Tuvia, M. Kruse, V.J. Nikiforova, V. Murahovschi, A. Erban, A. Mosig, C. Sticht, Ö. Gögebakan, L. Willmitzer, A. Kramer, A.F. Pfeiffer, Germany

684 Demonstration of a day-night rhythm in skeletal muscle oxidative capacity

D. Van Moorsel, J. Hansen, B. Havekes, F.A. Scheer, J.A. Jörgensen, J. Hoeks, H. Duez, P. Lefebvre, N.C. Schaper, M.K. Hesselink, B. Staels, P. Schrauwen, Netherlands, USA, France

685 Fatty acid-induced cross-talk between internal clock genes and insulin sensitivity in skeletal muscle cells

N.J. Pilon, L. Sardón Puig, A. Krook, J.R. Zierath, Sweden

686 Congenital suprachiasmatic nucleus denervation irreversibly disrupts central but not peripheral clocks regulating time-restricted feeding-dependent energy metabolism

A. Fernández-Pérez, A. Del Río, P. De la Villa, M. Vallejo, Spain

687 Effects of ghrelin on the expression of clock genes in gastric tissue: a possible mechanism of altered food: anticipatory activity

K. Hara, Y. Tajiri, Y. Sakai, H. Mifune, M. Kojima, K. Yamada, Japan

Poster Event E, Thursday, 12:00 - 13:00**PS 059 Other hormones**

Chair: F. Fiory, Italy

688 The role of 17-beta-estradiol and estrogen receptors on glucose homeostasis in malnourishment mice

M. García-Arévalo, E. Lorza-Gil, N.C. Leite, J.F. Vettorazzi, J.M. Costa-Júnior, P.C. Borck, A.C. Boschero, E.M. Carneiro, Brazil

689 Amelioration of oral glucose tolerance by neuromedin U is actually due to a blockade of gastric emptying

A.-C. Jarry, F. Cluzeaud, N. Merah, A. Bado, J. Le Beyec, M. Le Gall, France

690 Deficiency in catechol-o-methyltransferase is linked to a disruption of glucose homeostasis in mice

K. Kanasaki, M. Kanasaki, D. Koya, Japan

691 Low carbohydrate diet impairs the glucose restoring effect of glucagon in patients with type 1 diabetes

A. Ranjan, S. Schmidt, I. Steineck, C. Damm-Frydenberg, J.J. Holst, S. Madsbad, K. Nørgaard, Denmark

692 The upregulation of non-selective cation channels in isolated NPY neurons contributes to ghrelin action

H. Hashiguchi, Y. Nishio, J. Bryan, Japan, USA

Poster Event F, Thursday, 13:15 - 14:15**PS 060 GLP-1 RA and obesity**

Chair: S. Madsbad, Denmark

693 Liraglutide 3.0 mg reduces body weight and improves cardiometabolic risk factors: SCALE obesity and prediabetes randomised, double-blind, placebo-controlled 3-year trial

C.W. Le Roux, A. Astrup, F. Greenway, M. Krempf, R. Vettor, L. Shapiro Manning, S.K. Lilleøre, K. Fujioka, Ireland, Denmark, USA, France, Italy

694 Greater weight loss and regression to normoglycaemia, and reduced risk of T2D, at 3 years in early weight loss responders to liraglutide 3.0 mg vs early non-responders

J.P. Wilding, K. Fujioka, F. Greenway, D.C. Lau, P. O'Neil, P.B. Jacobsen, T.V. Skj  th, S. Madsbad, UK, USA, Canada, Denmark

695 The effect of liraglutide 3.0 mg for weight management on HRQoL, as measured by SF-36: 3-year data

J.B. Bj  rner, J.H. Brett, H.H. Meincke, R.L. Kolotkin, Denmark, USA

696 Improvements in 'Impact of Weight on Quality of Life-Lite' score with liraglutide 3.0 mg vs placebo for weight management: 3-year data

R. Kolotkin, L. Shapiro Manning, H.H. Meincke, J.B. Bj  rner, USA, Denmark

697 GLP-1 receptor agonist therapy induces a greater reduction in glycaemic variability compared to gastric bypass in type 2 diabetic patients

J.P. Valderas, C. Carrasco, C. Maiz, F. Crovari, C. Boza, Chile

698 Variations in the states of prediabetes in adolescents after an school programme for nutritional and behavioural intervention

M. Serrano, M. Campos, F. Escobar G  me-Villalba, J. Luna del Castillo, M. Serrano R  os, F. Escobar Jim  nez, Spain

699 Effect of exenatide on post-prandial glucose disposal, beta cell function and incretin hormones in non-diabetic obese subjects

S. Camastra, B. Astiarraga, A. Tura, D. Ciociaro, S. Frascerra, A. Gastaldelli, E. Ferrannini, Italy

700 One year of treatment with dapagliflozin QD + exenatide QW in obese adults without diabetes: results of an open-label extension study

J.W. Eriksson, P. Lundkvist, C. S  jstr  m, P. Katsogiannos, M.J. Pereira, E. Johnsson, Sweden

Poster Event A, Tuesday, 12:00 - 13:00

PS 061 Nutrition and diet

Chair: P. Pozzilli, Italy

701 A survey of UK dietitians on current advice to people with type 1 diabetes using insulin pump therapy

S. Rilstone, N. Oliver, UK

702 Nutritional impact of discrete strategies to reformulate or reduce discretionary food choices in diet of the Australian population

T. Wycherley, J.A. Grieger, B.J. Johnson, M.D. Riley, R.K. Golley, Australia

703 Mediterranean diet increases circulating levels of endothelial progenitor cells in type 2 diabetes

M.I. Maiorino, M. Petrizzo, L. Scappaticcio, G. Bellastella, D. Giugliano, K. Esposito, Italy

704 Treatment of reactive hypoglycaemia with macrobiotic Ma-Pi 2 diet for prevention of type 2 diabetes: the MAHYP randomised crossover trial

Y. Khazrai, A. Soare, L. Fontana, R. Del Toro, M. Lazzaro, C. Di Rosa, A. Buldo, E. Fioriti, E. Maddaloni, S. Angeletti, R. Gesuita, D. Tuccinardi, S. Fallucca, A. Di Mauro, P. Pozzilli, Italy

705 Diet-induced acid load is associated with increased risks of cardiovascular disease independent of diabetes

E. Han, G. Kim, S. Kim, J.-Y. Lee, Y.-H. Lee, B.-W. Lee, E. Kang, C. Ahn, B.-S. Cha, H. Lee, Korea, Republic of

706 Efficacy and mechanism of chronic zinc supplementation in insulin resistant ob/ob mice

C. Gerbeth, P. Wohlfart, T. Licher, N. Tennagels, M. Bielohuby, Germany

707 Chemerin concentrations are heritable and increase in response to a high-fat diet in healthy, lean subjects

N. Küffel, R. Schöler, M.A. Osterhoff, T. Frahnöw, S. Hornemann, A.C. Seltmann, M. Kruse, O. Pivovarov, A.F. Pfeiffer, Germany

708 Distance between dietary intake and self-rated dietary behavior in patients with diabetes: analysis from National Health and Nutrition survey in Japan

C. Horikawa, N. Murayama, M. Tsuruta, Y. Oshikane, R. Hirasawa, Y. Yachi, K. Fujihara, O. Hanyu, H. Sone, Japan

Poster Event B, Tuesday, 13:15 - 14:15

PS 062 SGLT-2 inhibitors: efficacy and safety

Chair: J. Seufert, Germany

709 Efficacy of canagliflozin versus dipeptidyl peptidase-4 inhibitors in patients with type 2 diabetes: results from randomised controlled trials and a real-world study

W. Canovatchel, S. Thayer, W. Chow, R. Qiu, M.J. Davies, USA

710 Use of SGLT-2 inhibitors as replacement or intensification therapy in type 2 diabetes patients who use metformin: a Danish cohort study

J.S. Nielsen, S.K. Nicolaisen, D.H. Christensen, H. Beck-Nielsen, S.G. Friborg, T.K. Hansen, J. Rungby, J. Søndergaard, T. Lauritzen, H.T. Sørensen, R.W. Thomsen, Denmark

711 Changes in HbA_{1c}, body weight, and systolic blood pressure in type 2 diabetes patients initiating dapagliflozin therapy: a German primary care database study

M.F. Scheerer, R. Rist, O. Proske, A. Meng, K. Kostev, Germany

712 Effect of dapagliflozin on HbA_{1c} and weight after its addition to various combinations of other diabetes medications: ABCD nationwide dapagliflozin audit

M. Yadagiri, P. Sen Gupta, T. Pang, L. Balmuri, T. Robinson, S. Bain, I.W. Gallen, K. Adamson, R.E. Ryder, UK

713 Effects of dapagliflozin (DAPA), a sodium glucose cotransporter 2 inhibitor, on 24-hour glycaemic control in patients with type 2 diabetes

T. Mansfield, R.R. Henry, P. Strange, R. Zhou, S.B. Zhuplatov, D. Klein, A. Katz, USA

714 Achievement of glycaemic goals without hypoglycaemia with canagliflozin versus glimepiride in patients with type 2 diabetes

F. Vercruysse, M.J. Davies, K. Merton, U. Vijapurkar, J. Simples, A. Carroll, D. Balis, Belgium, USA

715 The synergistic effect of the combination of liraglutide and dapagliflozin on glycaemic control and cardiometabolic risk factors in type 2 diabetes patients

S. Pappas, A. Koutsovasilis, O. Apostolou, D. Gougourelas, E. Bletsas, M. Pappa, D. Ntionias, V. Kordinas, A. Sotiropoulos, Greece

716 Canagliflozin provides greater improvement in risk factors of metabolic syndrome (MetS) versus glimepiride in patients with type 2 diabetes and MetS on background metformin

M. Desai, K. Merton, M.J. Davies, U. Vijapurkar, D. Balis, USA

Poster Event C, Wednesday, 12:00 - 13:00

PS 063 Novel agents

Chair: P.R. Flatt, UK

717 Imeglimin improves vascular dysfunction in type 2 diabetes animal models

P. Fouqueray, S. Bozec, S. Bolze, H.E. Lebovitz, France, USA

718 Absciscic acid improves glucose tolerance in rodents and in humans by increasing muscle glucose uptake

M. Magnone, T. Vigliarolo, G. Sambuceti, A. Buschiazzo, V. Booz, A. De Flora, E. Zocchi, Italy

719 Esculentin-2CHa-GA30 and its substituted analogues: mechanisms of stimulatory action on pancreatic beta cells and acute anti-hyperglycaemic activity in vivo

C.R. Moffett, S. Vasu, P.R. Flatt, J.M. Conlon, M.K. McGahon, T.M. Curtis, Y.H. Abdel-Wahab, UK

720 Effect of oxymatrine on insulin resistance and lipid metabolism in HepG2 cells exposed to palmitic acid

W.J. Fei, L. Zhang, G.Y. Song, L.P. Ren, L.Y. Duan, China

721 Emodin, a compound with acclaimed antidiabetic potential, deteriorates glucose tolerance in obese mice

S. Abu Eid, M. Adams, T. Scherer, H. Torres-Gómez, M.T. Hackl, R. Riedl, A. Luger, C. Fürnsinn, Austria, Switzerland

722 Apabetalone (RVX-208) acts on epigenetics to lower Major Adverse Cardiovascular Events (MACE) in diabetes patients with atherosclerosis via microbiome activity

N.C. Wong, C. Calosing, L. Tsujikawa, E. Kulikowski, D. Gilham, S. Wasiak, C. Halliday, J. Johansson, M. Sweeney, Canada, USA

723 L-Carnitine attenuates fibrosis and inflammation in C57BL/6 mice with dietary-induced steatohepatitis

I. Terruzzi, G. Mollica, A. Montesano, P. Senesi, F. Vacante, R. Codella, L. Luzi, Italy

724 PXL770, a novel direct AMPK activator, inhibits hepatic de novo lipogenesis, for the treatment of metabolic disorders

S. Bozec, S. Bolze, M. Roden, M. Foretz, France, Germany

Poster Event D, Wednesday, 13:15 - 14:15

PS 064 SGLT-2 inhibitors: clinical trials

Chair: H.C. Gerstein, Canada

725 Achieving composite endpoint of HbA_{1c}, body weight, and systolic blood pressure reduction with canagliflozin in patients with type 2 diabetes

K. Merton, M.J. Davies, U. Vijapurkar, D. Inman, G. Meininger, USA

726 Effects of dapagliflozin on weight loss and metabolic changes in type 2 diabetes patients fasting in the month of Ramadan

W. Wan Seman, S. Rajoo, N. Mohd Noor, N. Kori, N. Sukor, N. A Wahab, N. Mustafa, N. Kamaruddin, Malaysia

727 Ertugliflozin effectively improves glycaemic control as monotherapy in patients with type 2 diabetes: the VERTIS MONO trial

S. Terra, M.J. Davies, J. Frias, G. Derosa, A. Darekar, K. Focht, G. Golm, J. Johnson, D. Saur, S. Dagogo-Jack, USA, UK, Italy, France

728 Safety and efficacy of ertugliflozin plus sitagliptin versus either treatment alone in subjects with type 2 diabetes inadequately controlled with metformin: the VERTIS FACTORIAL trial

R. Pratley, R. Eldor, G. Golm, S. Huyck, Y. Qiu, S. Sunga, J. Johnson, S. Terra, J. Mancuso, S.S. Engel, B. Lauring, USA, China

729 Defining the potential “real-world” impact of the EMPA-REG OUTCOME trial on improving cardiovascular outcomes: observations from the Diabetes Collaborative Registry (DCR)

S.V. Arnold, S.E. Inzucchi, T.M. Maddox, F. Tang, D.K. McGuire, S.N. Mehta, A. Goyal, L.S. Sperling, D. Einhorn, N.D. Wong, M. Kosiborod, USA

730 Effect of empagliflozin on anthropometry and indices of visceral and total adiposity in patients with type 2 diabetes and high cardiovascular risk: EMPA-REG OUTCOME

I.J. Neeland, D.K. McGuire, C.S. Fernández, M. Mattheus, H.-J. Woerle, O. Johansen, D. Fitchett, USA, Spain, Germany, Norway, Canada

731 Effect of baseline HbA_{1c}, renal function, age and glucose-lowering medication on hypoglycaemia in the EMPA-REG OUTCOME trial

J. Duarte, T. Krarup, S. Kohler, M. Mattheus, J. George, H.-J. Woerle, S. Inzucchi, B. Zinman, Portugal, Denmark, Germany, USA, Canada

732 Effect of empagliflozin when added to insulin in patients with type 2 diabetes and high cardiovascular (CV) risk: results from EMPA-REG OUTCOME

D. Jurišić-Eržen, O. Johansen, J. George, M. Mattheus, B. Zinman, S. Inzucchi, Croatia, Norway, Germany, Canada, USA

Poster Event E, Thursday, 12:00 - 13:00

PS 065 SGLT-2 inhibitors: pathophysiology

Chair: A.L. Birkenfeld, Germany

733 Empagliflozin improves beta cell function measured with the hyperglycaemic clamp in type 2 diabetes patients

H. Al Jobori, G. Daniele, E. Cersosimo, R.A. DeFronzo, C. Triplitt, M. Abdul-Ghani, USA

734 Safety and efficacy of dapagliflozin in combination with potassium-sparing agents

M. Kosiborod, J. Xu, M. Sjöstrand, C.D. Sjöström, USA, Sweden

735 Effects of canagliflozin on serum magnesium in patients with type 2 diabetes

R. Gilbert, C. Mende, U. Vijapurkar, S. Sha, M.J. Davies, M. Desai, Canada, USA

736 SGLT-2 and SGLT-1 expression in renal tissue of patients with type 2 diabetes

A. Solini, C. Rossi, A. Proietti, E. Ferrannini, Italy

737 Comparison in tissue distribution and selectivity among the 3 sodium-glucose co-transporter inhibitors empagliflozin, dapagliflozin and canagliflozin

S. Liebig, H.-J. Martin, M. Mark, E. Mayoux, Germany

738 Comparison of serum miRNAs expression of diabetic patients with healthy volunteers after type 2 diabetes drugs treatment

V.M. Pushkarev, L. Sokolova, O. Zhuravel, V.V. Pushkarev, I. Belchina, M. Tronko, M. Tronko, Ukraine

739 SGLT2 inhibitors, via amplifying the effect of fasting moderately increases LDL-cholesterol and ketone levels

E. Mayoux, F. Briand, T. Sulpice, G. Luippold, M. Mark, Germany, France

740 Dapagliflozin attenuates human vascular endothelial cell activation and induces vasorelaxation: a potential mechanism for inhibition of atherogenesis

A.E. Dear, T. Gaspari, H. Liu, Y. Hu, I. Spizzo, R.W. Simpson, R.E. Widdop, Australia

Poster Event F, Thursday, 13:15 - 14:15

PS 066 Metformin and other oral agents

Chair: P.-M. Schumm-Draeger, Germany

742 Personalising therapy in type 2 diabetes: the effect of BMI and sex on glycaemic response and side effects to sulphonylureas and thiazolidinediones

B.M. Shields, J.M. Dennis, W. Henley, M. Weedon, M. Lonergan, L. Rodgers, A.G. Jones, R.R. Holman, E.R. Pearson, A.T. Hattersley, The MASTERMIND Consortium, UK

743 Relationship of insulin sensitivity, beta cell function and glycaemic control with intensification of glucose-lowering therapy in newly diagnosed type 2 diabetes

W. Rathmann, K. Strassburger, B. Bongaerts, P. Bobrov, O. Kuss, K. Müssig, J. Szendrödi, C. Herder, M. Roden, GDS Study Group, Germany

744 Metformin in type 1 diabetes: methods and baseline characteristics of the REMOVAL trial

J.R. Petrie, N. Chaturvedi, I. Ford, I. Hramiak, A.D. Hughes, A. Jenkins, B. Klein, R. Klein, T.C. Ooi, P. Rossing, N. Sattar, C. Stehouwer, H. Colhoun, The REMOVAL Investigators, UK, Canada, Australia, USA, Denmark, Netherlands

745 Latest metformin use patterns among type 2 diabetes patients in the UK

J. Liu, X. Huang, Y. Tang, E. Lai, USA

746 Dual therapy with sulphonylurea and insulin is associated with increased mortality as compared with metformin and insulin combined treatment

M. Purcaru, S. Ioacara, C. Guja, D. Stegaru, A. Reghina, O. Georgescu, S. Martin, L. Mintici, S. Fica, Romania

747 Monotherapy with sulphonylurea is associated with increased mortality as compared with metformin in type 2 diabetes

L. Mintici, S. Ioacara, C. Guja, D. Stegaru, A. Reghina, O. Georgescu, S. Martin, M. Purcaru, S. Fica, Romania

Poster Event A, Tuesday, 12:00 - 13:00**PS 067 New indications for GLP-1 RA**

Chair: T.R. Pieber, Austria

748 The effect of liraglutide on cerebral electrical activity and cognitive performance in patients with type 1 diabetes

B. Thorsteinsson, C.S. Frandsen, A.-S. Sejlning, T.F. Dejgaard, L.S. Remvig, E.M. Techago, J.J. Holst, S. Madsbad, Denmark

749 Cardiovascular effects of liraglutide in patients with type 1 diabetes: a randomised, double-blinded placebo-controlled trial (Lira-1)

T.F. Dejgaard, N.B. Johansen, C.S. Frandsen, A. Asmar, L. Tarnow, F.K. Knop, S. Madsbad, H.U. Andersen, Denmark

750 Efficacy and safety of liraglutide added to capped insulin treatment in type 1 diabetes, the ADJUNCT TWO™ randomised trial

I.B. Hirsch, B. Åhrén, T. Pieber, C. Mathieu, F. Gomez-Peralta, T. Hansen, A. Philotheou, E. Christiansen, T.J. Jensen, S. Birch, J. Buse, USA, Sweden, Austria, Belgium, Spain, Denmark, South Africa

751 Efficacy and safety of gemigliptin as add-on therapy in patients with type 2 diabetes inadequately controlled on metformin and glimepiride

S.-H. Kim, J. Yu, H. Jang, Y. Song, K. Ahn, T. Oh, H. Lee, D. Lee, J. Kim, T.-S. Park, C.-H. Jeong, B.-J. Kim, K. Han, K. Park, Korea, Republic of

752 Efficacy and safety of evogliptin monotherapy in patients with type 2 diabetes

D. Kim, J. Park, S. Park, M. Lee, K. Yoon, Korea, Republic of

753 Evaluation of safety and efficacy of teneligliptin in newly diagnosed Indian type 2 diabetes patients

S.Y. Suryawanshi, A. Bhargava, P. Agarwal, V. Chamle, India

754 The effects of once-weekly semaglutide on beta cell function in subjects with type 2 diabetes

C. Kapitza, K. Dahl, J. Bonde Jacobsen, M. Buhl Axelsen, A. Flint, Germany, Denmark

Poster Event B, Tuesday, 13:15 - 14:15

PS 068 GLP-1 RA: renal aspects

Chair: L. Gnudi, UK

755 Effects of mild to moderate renal impairment on albiglutide (ALBI) in type 2 diabetes

V. Bainbridge, B. Ahrén, A. Jones-Leone, A. Acosta, L.A. Leiter, UK, Sweden, USA, Canada

756 Effects of renal impairment on the pharmacokinetics, safety, and tolerability of ITCA 650

L. Kjems, M. Peltz, R. Fielding, H. Huang, M.A. Baron, USA

757 Effects of linagliptin on glycaemic control and albuminuria in type 2 diabetes: the MARLINA-T2D™ trial

G. Schernthaner, P.-H. Groop, M.E. Cooper, V. Perkovic, B. Hoher, K. Kanasaki, K. Sharma, R.C. Stanton, R. Toto, J. Cescutti, M. Gordat, T. Meinicke, A. Koitka-Weber, H.-J. Woerle, M. Von Eynatten, Austria, Finland, Australia, Germany, Japan, USA, France

758 Sitagliptin increases circulating endothelial progenitor cells in patients with type 2 diabetes and advanced chronic kidney disease

R. Bellante, D. Lucchesi, L. Giusti, M. Garofolo, V. Sancho-Bornez, R. Caprioli, M.F. Egidi, R. Miccoli, S. Del Prato, G. Penno, Italy

759 Assessing the safety of sitagliptin in patients with type 2 diabetes and chronic kidney disease in the Trial Evaluating Cardiovascular Outcomes with Sitagliptin (TECOS)

S.S. Engel, S. Suryawanshi, R.G. Josse, E.D. Peterson, R.R. Holman, the TECOS Study Group, USA, Canada, UK

760 Efficacy and safety of gemigliptin in type 2 diabetes patients with moderate to severe renal impairment (GUARD study)

S. Yoon, B. Han, S. Kim, S. Han, Y.-I. Jo, K. Jeong, K.-H. Oh, H. Park, S.-H. Park, S.-W. Kang, K.-R. Na, Y. Jang, S.-H. Kim, D. Cha, Korea, Republic of

Poster Event C, Wednesday, 12:00 - 13:00

PS 069 GLP-1 RA: new agents

Chair: T. Forst, Germany

761 ITCA 650 provides a novel therapeutic approach to treating patients with type 2 diabetes

A. Whitson, R. Azeem, T. Alessi, M.A. Baron, USA

762 Semaglutide reduces appetite and energy intake, improves control of eating and provides weight loss in subjects with obesity

J. Blundell, G. Finlayson, M. Buhl Axelsen, A. Flint, C. Gibbons, T. Kvist, J. Hjerpsted, UK, Denmark

763 Semaglutide improves postprandial glucose and lipid metabolism and delays first-hour gastric emptying in subjects with obesity

J. Hjerpsted, M. Buhl Axelsen, A. Brooks, A. Flint, T. Kvist, J. Blundell, Denmark, UK

764 Effect of once-weekly semaglutide on the counter-regulatory response to hypoglycaemia in subjects with type 2 diabetes

S. Korsatko, M. Brunner, S. Sach-Friedl, L. Jensen, M. Tarp, A. Gaarsdal Holst, S.R. Heller, T.R. Pieber, Austria, Denmark, UK

765 Efficacy and safety of once-weekly semaglutide monotherapy versus placebo in subjects with type 2 diabetes (SUSTAIN 1)

C. Sorli, S.-I. Harashima, G. Tsoukas, J. Unger, J. Derving Karsbøl, T. Hansen, S. Bain, USA, Japan, Canada, Denmark, UK

766 Efficacy and safety of semaglutide once-weekly vs placebo as add-on to basal insulin alone or in combination with metformin in subjects with type 2 diabetes (SUSTAIN 5)

H. Rodbard, I. Lingvay, J. Reed, R. De la Rosa, L. Rose, D. Sugimoto, E. Araki, P.-L. Chu, N. Wijayasingh, P. Norwood, USA, Germany, Japan, Denmark

767 Efficacy and safety of once-weekly semaglutide vs sitagliptin as add-on to metformin and/or thiazolidinediones after 56 weeks in subjects with type 2 diabetes (SUSTAIN 2)

B. Ahrén, L. Masmiquel Comas, H. Kumar, M. Sargin, J. Derving Karsbøl, S. Hald Jacobsen, F. Chow, Sweden, Spain, India, Turkey, Denmark, Hong Kong

Poster Event D, Wednesday, 13:15 - 14:15**PS 070 Incretins and the heart**

Chair: N. Marx, Germany

768 Mortality risk following a non-fatal CV event in patients with type 2 diabetes: findings from the EXAMINE trial

W.B. White, S. Kupfer, C.P. Cannon, C. Mehta, S. Heller, C. Wilson, G. Bakris, W.C. Cushman, S. Nissen, R. Bergenstal, P. Fleck, F. Zannad, EXAMINE Investigators, USA, UK, France

769 Haemodynamic effects of combination therapy with the DPP-4 inhibitor linagliptin and renin-angiotensin system inhibitors in patients with type 2 diabetes

M.E. Cooper, V. Perkovic, P.-H. Groop, B. Hocher, J. Cescutti, T. Meinicke, A. Koitka-Weber, S. Thiemann, M. Von Eynatten, Australia, Finland, Germany, France

770 Effect of lixisenatide on heart rate: a pooled analysis of eight GetGoal studies

J. Plutzky, N. Skolnik, E. Nikonova, W. Stager, R. Berria, USA

771 The effect of liraglutide on body composition among patients with heart failure with and without type 2 diabetes: a sub-study from the LIVE randomised clinical trial

C. Kistorp, P. Holmager, J. Rasmussen, M. Schou, J. Faber, L. Tarnow, I. Gustafsson, Denmark

772 Treatment with liraglutide increases 24-hour heart rate in chronic heart failure patients with and without type 2 diabetes: a sub-study from the LIVE randomised clinical trial

M.L. Johansen, J. Rasmussen, P. Holmager, I. Gustafsson, M. Schou, J. Faber, L. Tarnow, C. Kistorp, Denmark

773 Effect on cardiac function of exercise combined with glucagon-like peptide-1 receptor agonist treatment: a randomised double-blind placebo-controlled clinical trial

P.G. Jørgensen, M.T. Jensen, P. Mensberg, H. Storgaard, S. Nyby, J.S. Jensen, B. Kiens, E.A. Richter, F.K. Knop, T. Vilsbøll, Denmark

774 Impact of sitagliptin on cardiovascular and safety-related outcomes in insulin-treated type 2 diabetes: the TECOS experience

M.A. Bethel, S.S. Engel, J. Ding, R.G. Josse, R.R. Holman, the TECOS Study Group, UK, USA, Canada

775 Effectiveness of lixisenatide in nonalcoholic fatty liver disease in patients with type 2 diabetes after an acute coronary syndrome compared to sitagliptin and pioglitazone

A. Koutsovasilis, A. Sotiropoulos, M. Pappa, O. Apostolou, I. Binikos, V. Kordinas, D. Papadaki, I. Tamvakos, S. Bousboulas, Greece

Poster Event E, Thursday, 12:00 - 13:00

PS 071 DPP-4 inhibitors

Chair: R.R. Holman, UK

776 Characteristics of elderly patients initiating sitagliptin and non-DPP-4i oral antihyperglycaemic agents: a cross-sectional US claims database analysis

T. Wang, A.M. McNeill, Y. Chen, M. Senderak, S.S. Engel, USA

777 Safety and tolerability of alogliptin in patients with type 2 diabetes: pooled analysis of 20 double-blind randomised controlled clinical studies

M.S. Munsaka, N. Smith, D. Lee, C. Wilson, USA

778 Linagliptin (LINA) as add-on to empagliflozin (EMPA) and metformin in patients with type 2 diabetes (T2DM):

two 24-week randomised, double-blind, parallel-group trials

F.J. Tinahones, B. Gallwitz, M. Nordaby, S. Götz, M. Maldonado-Lutomirsky, H.-J. Woerle, U.C. Broedl, Spain, Germany

779 Efficacy and safety of saxagliptin plus metformin versus acarbose plus metformin in type 2 diabetes patients inadequately controlled with metformin monotherapy

J. Du, L. Liang, H. Fang, F. Xu, W. Li, L. Shen, Y. Mu, China

780 Sitagliptin and risk of fractures in type 2 diabetes: results from the TECOS trial

R.G. Josse, S.R. Majumdar, Y. Zheng, J.B. Buse, J.B. Green, K.D. Kaufman, E.D. Peterson, R.R. Holman, P.W. Armstrong, on behalf of the TECOS Study Group, Canada, USA, UK

781 Combination therapy with linagliptin and empagliflozin improves alpha- and beta cell function in patients with type 2 diabetes

T.A. Forst, G. Andersen, A. Falk, L. Plum Mörschel, A. Fischer, C. Kapitza, T. Heise, Germany

782 Behaviour of free fatty acid by mixed meal tests along with incretin therapies

K. Sakamoto, S. Okahata, T. Mitsumatsu, T. Shiba, Japan

783 GLP1R gene variant is associated with glycaemic response to treatment with DPP-4 inhibitors

M. Javorsky, I. Gotthardová, L. Klimčáková, M. Kvapil, Z. Schroner, P. Doubravová, J. Židzik, I. Gaľa, I. Dravecká, I. Tkáč, Slovakia, Czech Republic

Poster Event F, Thursday, 13:15 - 14:15

PS 072 GLP-1 RA: experimental studies

Chair: J.J. Holst, Denmark

784 Differential efficacy of a GLP-1R/GCGR agonist versus a GLP-1R agonist in improving hepatic insulin sensitivity and reducing steatosis in obese mice

P. Valdecantos, L. Ruiz-Cañas, P. Rada, A. Gonzalez-Rodriguez, A. Konkar, A. Dos Santos, M. Bednarek, J. Grimsby, C. Rondinone, A.M. Valverde, Spain, USA

785 Liraglutide protects against the development of atherosclerosis in obese pro-atherosclerotic LDLr^{-/-} mice

G. Rakipovski, B. Rolin, R. Kirk, R. Augustin, L.B. Knudsen, Denmark

786 Liraglutide exerts anti-steatotic and anti-fibrotic action in a diet-induced obese mouse model of biopsy-confirmed nonalcoholic steatohepatitis

N. Vrang, S.S. Veidal, K. Tølbøl, J. Jelsing, M. Feigh, Denmark

787 A long-acting glucagon-like peptide 1 and 2 co-agonist improves glycaemic control in db/db mice

J. Jelsing, P. Wismann, K. Fabricius, S.L. Pedersen, N. Vrang, Denmark

788 Investigation of blood-brain barrier penetration of albiglutide in mice

C.S. Hottenstein, M.E. Szapacs, C.C. Maier, USA

789 Comparative effects of proximal and distal small intestinal glucose on glycaemia, incretin hormone secretion and incretin effect in healthy males

X. Zhang, M. Bound, S. Standfield, S. Hu, K.L. Jones, M. Horowitz, C.K. Rayner, T. Wu, China, Australia

790 Effect of GLP-1 receptor agonist on digestive tract movement evaluation using capsule endoscopy

Y. Nakatani, M. Maeda, Y. Majima, N. Domeki, Y. Miyashita, M. Matsumura, Y. Aso, N. Banba, T. Yasu, H. Harasawa, T. Nakamoto, Japan

791 The rate of intraduodenal glucose delivery affects the lowering of blood glucose by vildagliptin in type 2 diabetes

T. Wu, X. Zhang, T.L. Little, M.J. Bound, S. Standfield, C.F. Deacon, M. Horowitz, K.L. Jones, C.K. Rayner, Australia, Denmark

Poster Event A, Tuesday, 12:00 - 13:00

PS 073 Incretin therapies: metabolic and physiological effects

Chair: T. Vilsbøll, Denmark

792 Metabolic effects of dapagliflozin QD and exenatide QW in obese adults without diabetes: a 24-week randomised placebo-controlled phase 2 study

P. Lundkvist, S. Amini, J. Lau Börjesson, M. Pereira, P. Kamble, C. Sjöström, E. Johnsson, J. Eriksson, Sweden

793 Exenatide plus metformin and glibenclamide compared with metformin plus glibenclamide on beta cell and alpha cell function and adipocytokines in patients with type 2 diabetes

O. Koteschkova, M. Antsiferov, Russian Federation

794 Combination therapy with metformin/pioglitazone/exenatide is superior to sequential add-on therapy in new onset diabetes: 3-year follow-up results of the EDICT study

R.A. DeFronzo, C. Puckett, E. Cersosimo, C. Triplitt, M. Abdul-Ghani, USA

795 The efficacy and durability of exenatide in combination with pioglitazone versus basal bolus insulin in poorly controlled type 2 diabetic patients: the QATAR study

M. Abdul-Ghani, O. Migahid, A. Migahid, S. Hassoun, M. Alkasem, M. Zirie, R.A. DeFronzo, A. Jayyousi, USA, Qatar

796 Glycaemic lowering with albiglutide: effective at 1 week and efficacy maintained for 1 year

S. Forero-Schwanhaeuser, A. Jones-Leone, A. Acosta, P. Home, USA, UK

797 Liraglutide increases circulating miR-27b, miR-130a and miR-210 in patients with type 2 diabetes: a 4-month pilot study

R.V. Giglio, G. Li Volti, D. Nikolic, A.M. Patti, G. Castellino, C.C. Castracani, G. Montalto, M. Rizzo, Italy

798 Effects of exenatide once weekly on dynamics of 24-h glucose as a function of baseline age and mean daily glucose in patients with type 2 diabetes

P. Strange, J. Ruggles, S. Zhuplatov, M. Miller, USA

799 The effect of glucagon-like peptide-1 receptor agonists on postprandial glucagon secretion independent of the gastric emptying rate

C.S. Frandsen, L. Østergaard, T.F. Dejgaard, B. Søndergaard, N.J. Wewer Albrechtsen, J.J. Holst, S. Madsbad, Denmark

Poster Event B, Tuesday, 13:15 - 14:15

PS 074 GLP-1 RA: combination with insulin

Chair: R.A. Ritzel, Germany

800 Effect of exenatide after short-time intensive insulin therapy on maintenance of 2-year drug-free remission in patients with newly diagnosed type 2 diabetes

X. Shi, Y. Shi, N. Chen, M. Lin, W. Su, H. Zhang, C. Liu, H. Song, L. Wang, W. Liu, S. Yang, X. Li, Z. Li, X. Li, China

801 Postprandial glycaemic outcomes of a fixed-ratio combination of insulin glargine and lixisenatide in the LixiLan-L trial

J. Vidal, F. Giorgino, W. Stager, E.V. Nikonova, A. Vlajnic, R. Perfetti, J. Meier, Spain, Italy, USA, Germany

802 Insulin glargine/lixisenatide fixed ratio combination improves glycaemic variability in type 2 diabetes

R. Aronson, G. Umpierrez, W. Stager, B. Kovatchev, Canada, USA

803 Patient-reported outcomes with once weekly dulaglutide versus placebo, both in combination with once daily insulin glargine (+/- metformin) in type 2 diabetes (AWARD-9)

M. Yu, K. Van Brunt, Z. Milicevic, O. Varnado, K. Boye, Canada, UK, Austria, USA

804 Outcomes of LixiLan, a fixed-ratio combination of insulin glargine/lixisenatide, versus insulin glargine and lixisenatide by baseline characteristics: LixiLan-O trial

B. Guerci, M. Davies, L.A. Leiter, G. Grunberger, F. Ampudia-Blasco, C. Yu, W. Stager, E. Niemoeller, E. Souhami, J. Rosenstock, LixiLan-O trial investigators, France, UK, Canada, USA, Spain, Germany

805 Clinical impact of LixiLan, a fixed-ratio combination of insulin glargine plus lixisenatide in type 2 diabetes inadequately controlled on oral agents: LixiLan-O trial

J. Rosenstock, R. Aronson, M. Hanefeld, P. Piatti, P. Serusclat, X. Cheng, T. Zhou, E. Niemoeller, E. Souhami, G. Grunberger, M. Davies, LixiLan-O trial investigators, USA, Canada, Germany, Italy, France, China, UK

Poster Event C, Wednesday, 12:00 - 13:00**PS 075 GLP-1 RA: GDM and real world**

Chair: S.R. Heller, UK

806 Effects of the GLP-1 analogue liraglutide on ectopic fat distribution and sex hormones in women with PCOS: a randomised, clinical trial

S. Frøssing, M. Nylander, C. Kistorp, S.O. Skouby, J. Faber, Denmark

807 The effect of one-year treatment with a glucagon-like peptide-1 receptor agonist on NAFLD in women with prior gestational diabetes

L. Vedtofte, E. Bahne, S. Foghsgaard, C. Andreasen, C. Strandberg, T. Buhl, L.K. Christiansen, J.J. Holst, J.A. Svare, T.D. Clausen, E.R. Mathiesen, P. Damm, L.L. Gluud, F.K. Knop, T. Vilsbøll, Denmark

808 Intervention with a glucagon-like peptide-1 receptor agonist improves glycaemic control in women with prior gestational diabetes: a randomised, placebo-controlled trial

S. Foghsgaard, L. Vedtofte, E. Bahne, C. Andreasen, E.R. Mathiesen, J.A. Svare, L.K. Christiansen, J.J. Holst, T.D. Clausen, P. Damm, F.K. Knop, T. Vilsbøll, Denmark

809 Treatment attributes of GLP-1 receptor agonists important to injection-naïve patients with type 2 diabetes: a multi-national preference study

S. Chen, L. Qin, E. Flood, B. Romero, M. De la Cruz, A. Shaunik, C. Alvarez, S. Grandy, USA

810 Higher adherence and persistence observed in patients with type 2 diabetes treated with dulaglutide compared to exenatide once weekly or liraglutide

L. Fernández Landó, C. Alatorre, K. Brown, R. Mody, L. Montejano, P. Juneau, A. Huang, M. Yu, USA, Canada

811 Treatment and dosing patterns among patients with type 2 diabetes initiating glucagon-like peptide-1 receptor agonists (GLP-1 RAs) in Europe

K. Norrbacka, V. Divino, M. DeKoven, K.S. Boye, Finland, USA

812 Health service utilisation and costs of treatment with either exenatide twice daily or basal insulin for patients with type 2 diabetes: a retrospective UK study

C.L. Morgan, S. Jenkins-Jones, C.J. Currie, E.R. Berni, S.E. Holden, Q. Qiao, UK, Sweden

Poster Event D, Wednesday, 13:15 - 14:15

PS 076 Depression and diabetes

Chair: M.W. Strachan, UK

813 Effect of weight loss after laparoscopic sleeve gastrectomy in BECK depression scale in diabetic and non-diabetic obese subjects: a 2 years follow-up study

C. Verras, A. Papazafiropoulou, E. Fousteris, G. Ayiomamitis, A. Angelidi, S. Konitsiotis, A. Evangelou, D. Kiortsis, A. Melidonis, Greece

814 The impact of depression, glycaemic control and in self-rated health in type 1 diabetes

E. Lopez Gonzalez, M. Ruiz Morosini, S.A. Milrad, A.B. Garcia, S. Houssay, A. Luongo, M.C. Varela, C. Saragossi, H. Kohl, DM1 FRADYC Group, Argentina

815 What is the course of depression symptoms in type 2 diabetes? Risk factors and outcomes of 6-year depression trajectories using latent curve growth analysis

S.R. Whitworth, D.G. Bruce, S.S. Starkstein, T.M. Davis, W. Davis, T. Skinner, R.S. Bucks, Australia

816 Daytime napping and the risk of metabolic diseases: dose-response meta-analysis

Y. Tomohide, N. Shojima, T. Yamauchi, T. Kadowaki, Japan

817 Diabetes and mental health: the INTERPRET-DD study

C.E. Lloyd, A. Nouwen, N. Sartorius, UK, Switzerland

818 Identifying depression among women and men with diabetes using three instruments: health insurance data, CES-D, PHQ-9 depression scales

U. Linnenkamp, S. Andrich, M. Brüne, T. Kvitkina, A. Begun,
I. Schmitz-Losem, J. Kruse, A. Icks, Germany

819 Hospital based prevalence of major depression and it's association with microangiopathy amongst adults with type 2 diabetes from India

S.S. Gupta, S.S. Chiddarwar, K.S. Gupta, P.B. Kore, S.S. Gupta,
M. Tiwaskar, India

Poster Event E, Thursday, 12:00 - 13:00

PS 077 Hypoglycaemia: clinical impact

Chair: S.C. Bain, UK

820 Assessment of the impact of fear of hypoglycaemia on glycaemic control in adults with type 1 diabetes

C. Halevy, G. Margiotta, E. Smith, L. Gonder-Frederick, P. Choudhary,
S. Amiel, UK, USA

821 'Attitudes to awareness of hypoglycaemia' (A2A) questionnaire: an analysis of the HypoCOMPASS data

E. Sepúlveda, E. Smith, G. Margiotta, J. Shaw, J. Speight, P. Choudhary,
S. Amiel, N. De Zoysa, UK, Australia

822 Severity of hypoglycaemia and health related quality of life and work productivity in type 2 diabetes patients

M. Pawaskar, K. Iglay, S.S. Engel, S. Rajpathak, E. Witt, USA

823 Self-reported hypoglycaemia in insulin-treated patients with diabetes: results from an international survey of 7289 patients from 9 countries

A. Jain, S. Abusnana, M.H. El Hefnawy, R. Emral, S.-Y. Goh, R. Mirasol,
A. Murphy, F. Pathan, A. Rudijanto, Z. Ma, C.A. Yepes Cortés, Switzerland,
United Arab Emirates, Egypt, Turkey, Singapore, Philippines, South Africa,
Bangladesh, Indonesia, Colombia

824 A population-based study on incidence and associated risk factors for hypoglycaemia in Canada: the INHYPO-DM study

S.M. Reichert, S. Harris, B. Ryan, S. Mequanint, S. Webster-Bogaert, A. Ratzki-Leewing, J.B. Brown, Canada

825 Determinants of severe hypoglycaemia in a French population of adults with type 1 diabetes in 2015

J.-B. Julla, P. De Boissieu, T. Vidal Treca, C. Bouché, J.-P. Kevorkian, M. Laloi, F. Feron, L. Salle, V. Juddoo, T. Sarron, H. Leblanc, J.-F. Gautier, J.-P. Riveline, France

826 Comparison of two treatment approaches in older patients with type 2 diabetes (IMPERIUM)

A. Sinclair, S.R. Heller, R.E. Pratley, R. Weitgasser, A. Festa, J. Kiljanski, C.S. Brusko, R. Duan, R.J. Heine, UK, USA, Austria, Poland

827 Older people with type 2 diabetes are commonly overtreated with therapies associated with hypoglycaemia, even in the presence of chronic kidney disease

C.E. Hambling, S.I. Seidu, K. Khunti, UK

Poster Event F, Thursday, 13:15 - 14:15

PS 078 Psychological aspects: influences on life

Chair: R. Weitgasser, Austria

828 Life chances of children diagnosed with type 1 diabetes in early childhood (< 6 years): psychological well-being and social integration in the 3rd decade of life

K.-M. Rölder, S. Matthaai, A. Lueg, B. Lutze, K. Lange, on behalf of the Diabetesakademie Niedersachsen e.V. VNDN Versorgungsforschung, Germany

829 Self-management obedience rate, metabolic control and cost of diabetes associated with medical insurance in China

W. Li, Y. Zhang, J.L. Tang, X.H. Guo, Q.Q. Lou, Z.L. Sun, China

830 Adherence amongst type 2 diabetics: real-world physician and patients views and patient profiling

V. Higgins, A. Leith, J. Siddall, UK

831 Meta-analysis of improvement in glycaemic control by family intervention in patients with diabetes

M. Tsuruta, S. Kodama, K. Hujihara, H. Ishiguro, R. Igarashi, M. Yamamoto, M. Ishizawa, C. Horikawa, S. Yoshizawa, H. Sone, Japan

832 Effects of patient, physician, and health care environment factors on insulin progression in patients with type 2 diabetes: the MOSAIC study

S.C. Kim, J. Rogers, M. He, A. Abdurrob, J. Bae, B. Linetzky, S. Bain, M. Chawla, I. Matsuba, W.H. Polonsky, M. Araz, R. Montenegro Jr, B.H. Curtis, USA, Argentina, UK, India, Japan, Turkey, Brazil

833 The effect of the patient-physician relationship on insulin progression, diabetes distress, adherence, and HbA_{1c} control over time: insights from the MOSAIC study

B. Linetzky, B.H. Curtis, J.R. Rogers, J. Bae, R. Duan, M. Chawla, M. Tsoukas, L. Rista, Y. Toledano, W.H. Polonsky, M.M. Funnell, S.C. Kim, Brazil, USA, India, Canada, Argentina, Israel

Poster Event A, Tuesday, 12:00 - 13:00

PS 079 Insulin therapy

Chair: D.R. Matthews, UK

834 Faster-acting insulin aspart vs insulin aspart as part of basal-bolus therapy improves postprandial glycaemic control in uncontrolled type 2 diabetes: the onset[®] 2 trial

K. Bowering, C. Case, J. Harvey, M. Reeves, M. Sampson, R. Strzinek, D.-M. Bretler, R.B. Bang, B.W. Bode, Canada, USA, UK, Denmark

835 Adding faster-acting insulin aspart to basal insulin significantly improved glycaemic control in adults with type 2 diabetes: the onset[®] 3 trial

M. Piletič, D. Tripathy, M. Vidrio Velázquez, M. Demissie, S. Can Tamer, H. Rodbard, Slovenia, USA, Mexico, Denmark

836 BioChaperone Combo (BC Combo) reduces post-prandial glucose in type 1 diabetes compared to conventional lispro mix 75/25 (LMx)

S. Bruce, T. Heise, U. Hoevelmann, A. Fischer, L. Nosek, G. Meiffren, C. Megret, R. Soula, M. Gaudier, O. Soula, C. Shaefer, S. Edelman, France, Germany, USA

837 IDegLira is efficacious across baseline HbA_{1c} categories in subjects with type 2 diabetes uncontrolled on SU, GLP-1RA or IGlir U100: analyses from completed phase 3b trials

E. Jaeckel, S.B. Harris, E. Jódar, I. Lingvay, K. Chandarana, J. Langer, C.H. Sorli, Germany, Canada, Spain, USA, Denmark

838 Impact of BMI on HbA_{1c} reduction in response to IDegLira in subjects with type 2 diabetes uncontrolled on SU, GLP-1RA or IGlir U100: analyses from completed phase 3b trials

E. Jódar, S.B. Harris, E. Jaeckel, I. Lingvay, K. Chandarana, T. Abrahamsen, C.H. Sorli, Spain, Canada, Germany, USA, Denmark

839 Safe and effective blood glucose lowering with IDegLira in elderly patients with type 2 diabetes uncontrolled on Oral Antidiabetic Drugs (OADs) and/or insulin glargine U100

A. Liebl, C.H. Sorli, S. Linjawi, T.J. Abrahamsen, L. Lehmann, I. Lingvay, Germany, USA, Australia, Denmark

840 Insulin glargine as an adjunct to oral antidiabetic drugs for Asians with type 2 diabetes: a pooled analysis to identify predictors of dose and treatment response

Y. Bi, D. Zhu, T. Hong, Y. Jing, P. Zhang, S. Tang, China

841 Basal insulin analogues for type 2 diabetes: systematic review and network meta-analysis

A. Tsapas, A.-V. Madenidou, T. Karagiannis, P. Paschos, E. Athanasiadou, A. Liakos, M. Mainou, K. Kitsios, E. Bekiari, A.-B. Haidich, D.R. Matthews, Greece, UK

Poster Event B, Tuesday, 13:15 - 14:15

PS 080 Hypoglycaemia: the down side

Chair: M. Walker, UK

842 Glucagon response to insulin-induced hypoglycaemia in subjects with latent autoimmune diabetes in adults

C.G. Fanelli, F. Porcellati, P. Lucidi, P. Cioli, P. Candeloro, G.B. Bolli, Italy

843 Glucagon response in C-peptide positive vs C-peptide negative patients with type 1 diabetes under hypoglycaemic clamp vs real-life setting

S. Zenz, P. Baumann, M. Brunner, A. Puffing, M. Rumpler, M. Wolf, M. Hajnsek, H. Sourij, T.R. Pieber, J.K. Mader, Austria

844 The association between hypoglycaemic events and ventricular arrhythmias in type 1 diabetes

V. Vass, V. Horvath, B. Domjan, V. Ferencz, P. Kempler, T. Tanczer, Z. Szili Janicsek, L. Beranek, Z. Putz, A. Tabak, Hungary, UK

845 Effects of antecedent hypoglycaemia on gastric and cardiac responses to subsequent hypoglycaemia in health

P. Kar, M.P. Plummer, E. Giersch, M.J. Summers, S. Hatzinikolas, M. Horowitz, M.J. Chapman, K.L. Jones, S.R. Heller, A. Deane, Australia, UK

846 High-intensity interval exercise reduces symptomatic responses to subsequent hypoglycaemia in patients with type 1 diabetes

H.M. Rooijackers, E.C. Wieggers, C.J. Tack, B.E. De Galan, Netherlands

847 Is the presence or absence of nocturnal hypoglycaemia unawareness related to changes in parameters for 24-hour glycaemic variability in type 1 diabetic patients?

E. Sudo, R. Nishimura, S. Mitsuishi, D. Tsujino, K. Ando, K. Utsunomiya, Japan

848 The association of hypoglycaemia severity and economic outcomes among patients with type 2 diabetes using basal insulin

L.K. Lee, H. Wang, L. Tong, S. Gupta, R. Preblick, L. Meneghini, USA

849 Dangerous antidiabetic overtreatment of patients with type 2 diabetes having experienced severe hypoglycaemia

T. Wohland, F. Trachte, O.-M. Patzer, P. Kovacs, J. Holstein, A. Holstein, Germany

Poster Event C, Wednesday, 12:00 - 13:00

PS 081 Devices: glucose monitoring

Chair: L. Heinemann, Germany

850 Effects of an automated carbohydrate-assessment tool (GoCARB) on glycaemic profile in individuals with type 1 diabetes: a clinical pilot study

L. Bally, J. Dehais, M. Anthimopoulos, M. Laimer, D. Rhyner, G. Rosenberg, T. Zueger, S. Mougiakakou, C. Stettler, Switzerland

851 The clinical application of learning-type closed-loop blood glucose (BG) control algorithm in patients with type 1 diabetes

Z. Jinping, China

852 Better postprandial glucose control with a new closed-loop system as compared with open-loop treatment in patients with type 1 diabetes

C. Quirós, M. Giménez, P. Rossetti, V. Moscardó, A. Comas, F.J. Ampudia, F. León, E. Montaser, I. Conget, J. Bondia, J. Bondia, J. Bondia, J. Vehí, Spain

853 A prospective study of the prevalence of self glucose measurement of blood glucose according to guidelines in persons with type 1 diabetes in Sweden

E. Ahlén, P. Moström, P.-O. Hansson, H. Imberg, M. Lind, Sweden

854 Real-time tracking of risk for hypoglycaemia in diabetes using multiple data sources

C. Fabris, B. Kovatchev, M. Breton, USA

855 Clinical outcomes of the United4Health (U4H) project in patients with diabetes: a European large-scale telehealth deployment project

G.E. Dafoulas, S. Thekkepat, P. Stafylas, K. Kidholm, G. Crooks, S. Rice, M. Epsek-Lenart, G. Giannakopoulos, A. Longobucco, S. Settembrini, A. Bargiota, M. Pakanen, M. Huttyra, Greece, UK, Belgium, Denmark, Slovenia, Germany, Italy, Finland, Czech Republic

Poster Event D, Wednesday, 13:15 - 14:15**PS 082 Devices: accuracy**

Chair: S.M. Marshall, UK

856 A clinical trial of the accuracy and treatment experience of the flash glucose monitor FreeStyle Libre in persons with type 1 diabetes

A.F. Ólafsdóttir, S. Attvall, U. Sandgren, S. Dahlqvist, H. Imberg, S. Skritc, M. Lind, Sweden

857 Standardised evaluation of three continuous glucose monitoring systems mimicking real-life conditions

F. Aberer, M. Hajnsek, M. Rumpler, S. Zenz, A. Puffing, T. Augustin, P. Baumann, F. Sinner, H. Sourij, T.R. Pieber, J.K. Mader, Austria

858 Decision support via dynamic tracking of HbA_{1c} using sparse SMBG measurements: effect of calibration

M.D. Breton, J. Sieber, G. Freckmann, F. Flacke, B.P. Kovatchev, USA, Germany

859 Accuracy of a subcutaneous continuous glucose monitoring system in critically ill patients

S. Rijkenberg, S.C. Van Steen, J.H. DeVries, P.H. Van der Voort, Netherlands

860 Impact of xylose on glucose-dehydrogenase-based blood glucose meters for patient self-testing

A. Pfützner, F. Demircik, J. Spatz, S. Ramljak, A.H. Pfützner, Germany

861 Effects of hydroquinone-containing skin-lightening creams on capillary glucose measurements before and after serial hand washings

S.-P. Choukem, D.T. Efié, A.-P. Kengne, Cameroon, South Africa

862 The C-peptide correlations and influence on the glycaemic variability parameters recorded using continuous glucose monitoring system in patients with type 2 diabetes

A.E. Craciun, C.I. Craciun, D. Sima, C. Bala, G. Roman, N. Hancu, Romania

Poster Event E, Thursday, 12:00 - 13:00**PS 083 Insulin usage**

Chair: P.D. Home, UK

863 Similar glucose control, post-prandial glucose excursions and safety in people with type 1 diabetes on MDI using SAR342434 or insulin lispro and insulin glargine (U100): SORELLA 1 study

S.K. Garg, K. Wernicke-Panten, M. Rojeski, S. Pierre, K. Jedynasty, Y. Roettger, M. Ziemen, USA, Germany, France, Poland

864 Nocturnal glycaemic control with glargine titration based on bedtime in addition to fasting plasma glucose in type 1 diabetes

F. Porcellati, P. Lucidi, G.B. Bolli, C.G. Fanelli, Italy

865 Demographic and clinical factors may predict insulin progression and glycaemic control among patients with type 2 diabetes using insulin: learnings from the MOSAIC study

A.K. Ali, B.H. Curtis, J.R. Rogers, M. He, A. Abdurrob, B. Linetzky, J. Bae, S. Bain, M. Chawla, Y. Toledano, I. Matsuba, M. Araz, W.H. Polonsky, S.C. Kim, USA, Argentina, UK, India, Israel, Japan, Turkey

866 A cloud-based electronic health records study of treatment intensification patterns in type 2 diabetes patients uncontrolled on ≥ 2 oral anti-diabetes drugs

L. Kallenbach, J. Pesuit, T. Fan, W. Hu, A. Shui, W. Cheng, M. Duh, M. Zichlin, P. Levin, USA

867 What are the HbA_{1c} thresholds for initiating insulin therapy in people with type 2 diabetes in UK primary care?

W. Hinton, A.P. McGovern, M. Whyte, B.H. Curtis, K. McCullough, K. Van Brunt, S. Calderara, S. De Lusignan, UK, USA, Switzerland

868 Defining insulin responders with a composite measure in an integrated real-world health system database compared to a clinical trials database

I. Conget, M. Lage, M.S. Kirkman, D. Cao, M. Wong, J. Reviriego, Spain, USA

869 Exploring ideal time points for predicting glucose fluctuations in type 1 diabetics receiving insulin degludec: a continuous glucose monitoring study

S. Sawano, R. Nishimura, H. Takahashi, E. Sudo, S. Mitsuishi, D. Tsujino, K. Ando, K. Utsunomiya, Japan

870 Changes in blood pressure before and after initiation of continuous subcutaneous insulin infusion therapy in a large cohort of adults with type 1 diabetes

K. Markakis, T. Alam, A. Hindle, P. Jinadev, A. Chapman, A. Urwin, J. Morris, A.J. Boulton, M.K. Rutter, L. Leelarathna, UK

Poster Event F, Thursday, 13:15 - 14:15

PS 084 Devices: continuous glucose monitoring

Chair: C.J. Tack, Netherlands

871 Flash glucose monitoring improves metabolic control and treatment satisfaction in people with type 1 diabetes

M. Löndahl, K. Berntorp, K. Filipsson, A. Frid, P. Katzman, M. Landin-Olsson, E. Lindholm, H. Olsen, Sweden

872 Using novel flash glucose-sensing technology for 12 months reduces hypoglycaemia in individuals with type 2 diabetes on intensive insulin therapy

T. Haak, H. Hanaire, R.A. Ajjan, N. Hermanns, J.-P. Riveline, G. Rayman, Germany, France, UK

873 Using novel flash glucose-sensing technology for 6 months results in a high rate of concordance by young adults with type 1 diabetes

J. Bolinder, R. Antuna, P. Geelhoed-Duijvestijn, S. Matthaei, R. Weitgasser, Sweden, Spain, Netherlands, Germany, Austria

874 Performance of a fourth-generation glucose sensor during a pivotal Hybrid Closed-Loop (HCL) trial

S.W. Lee, S. Garg, R.M. Bergenstal, T.S. Bailey, B.A. Buckingham, R.H. Slover, B. Bode, S.A. Weinzimer, S.M. Anderson, R. Brazg, J. Ilany, J.B. Welsh, J. Shin, F.R. Kaufman, USA, Israel

875 Can FreeStyle Libre™ sensor-based glucose data support decisions for safe driving?

G. Rayman, J. Kroeger, J. Bolinder, UK, Germany, Sweden

876 Fifth generation glucose sensor system with 10-day wear and fewer calibrations

J. Ulloa, R. Gautham, Y. Lu, A. Varsavsky, S. Jacks, Z. Decke, I. Premakumar, S. Ranauta, W. Morgan, J. Ruelas, E. Larson, J. Rodriguez, V. Lebron, A. Tran, J. Hanna, USA

877 Implantable CGM with daily transmitter adhesive demonstrates high use compliance in a 180 day pivotal trial

M. Link, J. Kropff, P. Choudhary, S. Neupane, S.C. Bain, C. Kapitza, T. Forst, X.O. Chen, J.H. DeVries, Germany, Netherlands, UK, USA

Poster Event A, Tuesday, 12:00 - 13:00

PS 085 Health care: technology and algorithms

Chair: A. Mari, Italy

878 Evaluation of the use of new communication technologies in patients with type 2 diabetes

A. Oleaga, F. Goñi, T. Pascual, S. Gaztambide, A. Rubio, M. Perez de Ciriza, J. Juez, L. Bilbao, A. Izuzquiza, J. Espiga, M. Paja, Spain

879 The results of extended study of smart phone based the S-Diabetes Care programme in policyholders with type 2 diabetes

E.S. Lee, D. Lee, D. Choi, J. Park, S.-W. Park, C.-Y. Park, Korea, Republic of

880 Reduced utilisation of health care provider resources with automated basal insulin titration in patients with type 2 diabetes

J. Sieber, H.S. Bajaj, T. Kottmann, K. Venn, R. Aronson, F. Flacke, Germany, Canada

881 Use of a glucose alert pathway and connectivity blood glucose meters reduces inattention to hospital diabetes management

M. Kyi, P.G. Colman, P.R. Wraight, L.M. Rowan, K.A. Marley, S. Fournalanos, Australia

882 Randomised trial of a diabetes clinical decision support system: use rates, provider satisfaction, and impact on clinical outcomes

P.J. O'Connor, J.M. Sperl-Hillen, A.L. Crain, H.L. Ekstrom, K.L. Margolis, USA

883 Hyperglycaemia guidance (protocol) improves glycaemic control during nil-by-mouth periods in patients with type 2 diabetes in hospital

W. Loh, S. Chong, D. Lee, E. Ho, Y. Bee, S. Goh, M. Teh, Singapore

884 Efficacy of an education and treatment programme for people with type 2 diabetes on a non-intensive insulin regimen (MEDIAS2 BOT+SIT+CT): results of a RCT

N. Hermanns, B. Maier, S. Schall, T. Haak, B. Kulzer, Germany

885 CVD risk reduction in patients with type 2 diabetes going through a multifactorial treatment programme

N. Safai, B. Carstensen, M. Ridderstråle, Denmark

Poster Event B, Tuesday, 13:15 - 14:15

PS 086 Hypoglycaemia: influence of insulin type

Chair: E.M. Renard, France

886 Effect of hypoglycaemia frequency during insulin titration on outcomes in people with type 2 diabetes adding insulin glargine 100 U/mL to OADs: a subject-level pooled analysis

B.M. Frier, D.R. Owens, M. Zhang, G.B. Bolli, W. Landgraf, UK, USA, Italy, Germany

887 Reaching individualised Fasting Plasma Glucose (FPG) targets without nocturnal hypoglycaemia with IDegAsp BID vs BIAsp 30: a meta-analysis

R. Mehta, C.H. Sorli, G. Fulcher, S.Ø. Lindberg, L. Bardtrum, S.C. Bain, Mexico, USA, Australia, Denmark, UK

888 Meta-analysis comparing hypoglycaemia rates of insulin degludec with insulin glargine U100 across clinical trials with up to 2 years' duration

A. Philis-Tsimikas, B.W. Bode, S. Del Prato, J.L. Gross, C. Mathieu, L.N. Troelsen, M.C. Van Leeuwen, B. Zinman, USA, Italy, Brazil, Belgium, Denmark, Canada

889 Achieving FPG target without hypoglycaemia: a meta-analysis of insulin degludec vs insulin glargine U100

L.F. Meneghini, S.L. Atkin, R. Jain, C. Mathieu, A. Philis-Tsimikas, L. Bardtrum, D. Tutkunkardas, B. Zinman, USA, Qatar, Belgium, Denmark, Canada

890 Patients with type 2 diabetes treated with IDegLira have a greater chance of reaching glycaemic targets without hypoglycaemia and weight gain than with insulin glargine U100 (IGlar U100)

I. Lingvay, P.C. Norwood, K. Begtrup, I.H. Langbakke, F.C. Pèrez Manghi, USA, Denmark, Argentina

891 Lower rate of hypoglycaemia with IDegLira vs insulin glargine regardless of dosing time or hypoglycaemia definition in patients with type 2 diabetes

P. Norwood, R. Chen, E. Jaeckel, I. Lingvay, H. Jarlov, L. Lehmann, S. Heller, USA, Australia, Germany, Denmark, UK

892 Cost of severe hypoglycaemia among patients with type 2 diabetes in UK, by treatment regimens

Y. Tang, T. Holbrook, J. Williams, R. Das, R. Shankar, J. Chen, K. Tunceli, L. Radican, J. Piercy, USA, UK

Poster Event C, Wednesday, 12:00 - 13:00

PS 087 Health care delivery: real world insights

Chair: S.F. Dinneen, Ireland

893 Development of a protocol to allow commercial pilots with insulin-treated diabetes to fly

S. Mitchell, J. Vening, J. Montague, B. Frier, S. Heller, K. Shaw, D.L. Russell-Jones, UK

894 Living with one's spouse reduces the risks of overweight status and metabolic syndrome among patients with type 2 diabetes: a cross-sectional study

Y. Kondo, S. Satoh, Y. Terauchi, Japan

895 Personalised diabetes care: from diabetes monitoring to putting diabetes in a patient's context

H.A. Van Vugt, I. De Weerd, E.J. De Koning, G.E. Rutten, Netherlands

896 Delays in treatment intensification with oral anti-diabetics impact incidence of complications of type 2 diabetes: an individual patient simulation study

J. Mukherjee, H. Folse, A. Ward, R. Pelkey, T. Dinh, J. Sheehan, L. Qin, P. Hunt, J. Kim, USA

897 Suboptimal glycaemic control in patients with type 2 diabetes: retrospective data from 22,272 individuals

A. Nicolucci, B. Charbonnel, M.B. Gomes, K. Khunti, M. Kosiborod, S. Pocock, M.V. Shestakova, P. Fenici, N. Hammar, K. Hashigami, J. Hiller, M. Lillie, G. Macaraeg, J. Medina, L. Ji, Italy, France, Brazil, UK, USA, Russian Federation, Sweden, Japan, Spain, China

898 Differences in persistence by class of oral therapy for the treatment of type 2 diabetes

A.P. McGovern, W. Hinton, B.H. Curtis, K. Van Brunt, S. Calderara, S. De Lusignan, UK, USA, Switzerland

899 Clinical practice and outcomes versus clinical guidelines: a real-world perspective on the updated NICE guidelines

V. Foos, J. Gordon, M. Evans, P.M. Paldanius, P. McEwan, Germany, UK, Switzerland

900 Type 2 diabetes-related chronic complications' development prediction

M. Monteiro-Soares, Centro Hospitalar Vila Nova de Gaia / Espinho Diabetic Foot Clinic, Aquae Flaviae Family Health Unit (USF), M. Dinis-Ribeiro, Portugal

Poster Event D, Wednesday, 13:15 - 14:15

PS 088 Socio economics

Chair: W.H. Herman, USA

901 Quantifying the health economic value associated with levels of glycaemic control, weight change and hypoglycaemia in type 1 diabetes

H. Bennett, P. McEwan, J. Priaulx, K. Bergenheim, UK, Sweden

902 Health economic impact of hypoglycaemia among 7,289 insulin-treated patients with diabetes: results from an international survey in 9 countries

S.Y. Goh, S. Abusnana, R. Emral, R. Mirasol, A. Murphy, F. Pathan, A. Rudijanto, V. Chan, A. Jain, C.A. Yepes Cortés, Singapore, United Arab Emirates, Turkey, Philippines, South Africa, Bangladesh, Switzerland, Colombia

903 Validating prescribing choice in older patients with type 2 diabetes: an economic analysis of patient outcomes based on real world data

J. Gordon, P. McEwan, M. Evans, J. Puelles, A. Sinclair, UK

904 Correlates of absenteeism and productivity at work among adults in the UK who are overweight/obese

E.S. O'Brien, K. Annunziata, S.B. Traina, USA

905 Willingness To Pay (WTP) for flexibility at the workplace for people with diabetes

B. Cleal, L. Hagelund, K. Olesen, I. Willaing, Denmark

906 Socioeconomic status is associated with glycaemic control, health behaviors and diabetic complications in Korean men with type 2 diabetes

S. Kim, S. Ahn, C. Kim, Y. Kim, S. Hong, M. Nam, J.-T. Woo, Y. Kim, S. Baik, Y. Park, K. Lee, KNDP study group, Korea, Republic of

907 Cost effectiveness of insulin sparing treatment regimes in type 2 diabetes: data from a real world clinical database

W.D. Strain, UK

Poster Event E, Thursday, 12:00 - 13:00

PS 089 Basal insulin studies

Chair: K. Khunti, UK

908 Safety and efficacy of IDegLira titrated once weekly (1W) vs twice weekly (2W) in patients with type 2 diabetes uncontrolled on oral antidiabetic drugs: DUAL VI study

S.B. Harris, G. Kocsis, R. Prager, T. Ridge, K. Chandarana, N. Halladin, S. Jabbour, Canada, Hungary, Austria, USA, Denmark

909 Impact of delaying treatment intensification in type 2 diabetes uncontrolled on basal insulin: a longitudinal study of US Administrative Claims database

L. Tong, C. Pan, H. Wang, M. Bertolini, E. Lew, USA, France

910 Drivers of and barriers to optimal basal insulin (BI) titration: results of a quantitative survey

L.D. Berard, M. Bonnemaire, M. Mical, S. Edelman, K. Khunti, Canada, France, USA, UK

911 Safety and efficacy of a pragmatic self-titration 1 unit/day (INSIGHT) algorithm for insulin glargine 300 U/mL (Gla-300)

J.-F. Yale, S.B. Harris, L. Berard, M. Groleau, P. Javadi, J. Stewart, Canada

912 Biphasic vs basal bolus insulin in type 2 diabetes: real world clinical outcomes at one year post insulin initiation in UK general practice

U.C. Anyanwagu, J.B. Mamza, R. Mehta, R. Donnelly, I. Idris, UK

913 Impact of time to basal insulin initiation on glycaemic control in type 2 diabetes patients: an electronic medical record database analysis

D. Raccah, E. Lew, B. Guerci, J.L. Meyers, M. Ajmera, K.L. Davis, M. Bertolini, L. Blonde, France, USA

914 Clinical perspectives from the BEGIN and EDITION programmes: trial-level meta-analyses outcomes with either degludec or glargine 300 U/mL vs glargine 100 U/mL in type 2 diabetes

R. Roussel, R. Ritzel, S. Chevalier, B. Balkau, J. Rosenstock, France, Germany, USA

915 Improvement in quality of life after initiation of basal insulin therapy, results from the ORBIT study

P. Zhang, Y. Bao, D. Zhu, X. Li, J. Ji, L. Ji, Y. Wu, W. Jia, China

Poster Event F, Thursday, 13:15 - 14:15

PS 090 Features of pregnancy in type 1 diabetes

Chair: A. Dornhorst, UK

916 Glycaemic control and complication rate eleven-years post-partum in women with type 1 diabetes

N. Asatiani, R.B. Kurashvili, E.L. Shelestova, M.G. Dundua, L.R. Tsutskiridze, M. Hod, Georgia, Israel

917 Changes in pre-conception treatment and glycaemic control in women with type 1 diabetes: 15 years one centre observation

K. Cyganek, A. Hebda-Szydło, B. Katra, I. Janas, I. Trznadel-Morawska, P. Witek, E. Kozek, J. Hohendorff, B. Matejko, J. Skupien, M.T. Malecki, Poland

918 Insulin and glucose in the three trimesters of pregnancy are independently associated with neonatal growth parameters in women with type 1 diabetes

R. Corcoy, A. García-Patterson, A. Chico, M. Martínez, J. Adelantado, S. Hauguel de Mouzon, A. De Leiva, Spain, USA

919 Association of haemoglobin glycation index with macrosomia in pregnancies complicated by preexisting type 1 diabetes

I. Lason, J. Skupien, K. Cyganek, B. Katra, A. Hebda-Szydło, I. Janas, I. Trznadel-Morawska, P. Witek, E. Kozek, M.T. Malecki, Poland

920 Insulin resistance in the early pregnancy and subsequent preeclampsia in women with type 1 diabetes

P. Gutaj, J. Brazert, E. Wender-Ozegowska, Poland

921 The alteration of placental vascular permeability and AGE-RAGE system in rats with gestational diabetes mellitus

Y. Shi, B. Jia, L. Jiang, China

922 ATLANTIC DIP: type 1 and 2 diabetes: prepregnancy, pregnancy and beyond

A.M. Egan, L. Carmody, B. Kirwan, F.P. Dunne, Ireland

923 Parity and future risk of diabetes in patients with breast cancer

C.-L. Lee, T.-P. Chen, I.-T. Lee, J.-S. Wang, S.-Y. Lin, Y.-M. Song, C.-P. Fu, C.-S. Lin, D.-C. Yeh, W.H. Sheu, Taiwan

Poster Event A, Tuesday, 12:00 - 13:00

PS 091 Pregnancy: factors that impact outcome

Chair: E.R. Mathiesen, Denmark

924 Glucose alteration in pregnancy and risk of adverse neonatal outcomes

B. Pintaudi, G. Lucisano, G. Di Vieste, A. D'Ettorre, A. Nicolucci, Italy

925 The excessive weight gain during pregnancy is associated with adverse maternal and fetal outcomes

C. Bianchi, M. Romano, M. Aragona, L. Battini, M. Di Filippi, S. Del Prato, A. Bertolotto, Italy

926 Sleep quality in early pregnancy is associated with early-onset gestational diabetes and adverse perinatal outcome in obese pregnant women

A. Zawiejska, R. Corcoy, F. Dunne, D. Simmons, G. Desoye, R. Devlieger, P. Damm, D.M. Jensen, E.R. Mathiesen, A. Lapolla, M.N. Van Poppel, A. Kautzky-Willer, E. Wender-Ozegowska, Poland, Spain, Ireland, UK, Austria, Belgium, Denmark, Italy, Netherlands

927 Ethnic variations in glucose and the interaction with fetal growth in a multi-ethnic inner city antenatal cohort

R. Agha-Jaffar, S. Misra, N. Oliver, J. Terry, A. McCarthy, C. Yu, B. Jones, D. Gable, H. Shaikh, A. Dornhorst, I. Godsland, G.M. Alberti, S. Robinson, UK

928 Does the use of ultrasound (u/s) monitoring during GDM pregnancy help to prevent neonatal macrosomia?

E. Anastasiou, S. Kouki, P. Antsaklis, M. Pissia, G. Asimakopoulos, G. Daskalakis, Greece

929 Are there differences in the outcome of in vitro fertilisation vs spontaneous conception in pregnancies complicated by gestational diabetes?

P. Thomakos, O. Kepaptsoglou, I. Taraoune, C. Barreto, A. Korantzis, D. Trouvas, C.S. Zoupas, Greece

930 DALI lifestyle intervention in pregnant women with BMI ≥ 29 kg/m². Continuous glucose monitoring substudy

D. Tundidor, A. Zawiejska, E. Mathiesen, U. Mantag, E. Wender-Ozegowska, P. Damm, A. De Leiva, R. Corcoy, DALI Core Study Group, Spain, Poland, Denmark

931 Postpartum dysglycaemia among women meeting criteria for overt diabetes in pregnancy

E. Noctor, C. Crowe, L.A. Carmody, B. Kirwan, A. O'Dea, P. Gilespeie, L.G. Glynn, B.E. McGuire, C. O'Neill, P.M. O'Shea, F.P. Dunne, Ireland, Denmark

Poster Event B, Tuesday, 13:15 - 14:15

PS 092 Gestational diabetes: screening and predictors

Chair: R. Lindsay, UK

932 Analysis of a large German register with data of >11,000 pregnancies with gestational diabetes

L. Heinemann, H. Adamczweski, D. Weber, G. Faber-Heinemann, M. Kalthuener, Germany

933 Screening of glucose tolerance to detect gestational diabetes in Italy: a population study

C. Lencioni, G. Seghieri, E. Gualdani, E. Lacaria, P. Francesconi, G. Di Cianni, Italy

934 Incidence and major characteristics of gestational diabetes mellitus with the new IADPSG criteria: updated data of a Cantonal hospital in Switzerland

H. Savopol, E. Fontana, M. Richli, J.-L. Magnin, N. Ben Ali, J. Ducry, A. Lauber-Biason, Switzerland

935 Pre-pregnancy body mass index or gestational weight gain is a better predictor of gestational diabetes

M.V. Boyadzhieva, T. Tankova, I. Atanasova, V. Stoykova, S. Nashar, Bulgaria

936 The effect of maternal weight gain before the diagnostic OGTT on the risk of gestational diabetes

Z. Szili-Janicssek, T. Tanczer, B. Domján, E. Szabó, V. Ferencz, Z. Kerényi, A. Péterfai, V. Vass, Á. Tabák Gy, Hungary, UK

937 Total bile acid in first trimester pregnancy predicts the risk of gestational diabetes

W. Hou, X. Meng, W. Zhao, J. Pan, J. Tang, Y. Huang, F. Liu, W. Jia, China

938 Higher plasma levels of relaxin-2 and C-peptide in early pregnancy in patients with gestational diabetes

J. Dereke, Y. Alonso Lopez, M. Landin-Olsson, C. Nilsson, H. Strevens, M. Hillman, Sweden

939 Impact of maternal obesity on fetal growth independently of gestational diabetes

S. Jacqueminet, C. Ciangura, J.-M. Lacorte, C. De Carne, M.-L. Tanguy, M. Dommergues, J. Nizard, D. Mitanchez, France

Poster Event C, Wednesday, 12:00 - 13:00

PS 093 Gestational diabetes: biomarkers and predictors

Chair: A. Kautzky-Willer, Austria

940 Metabolomic differences in response to glucose challenge between gestational diabetes patients diagnosed based on fasting glucose level, oral glucose tolerance test and controls

M. Ciborowski, B.A. Raczkowska, J. Hryniewicka, M. Kuzmicki, B. Telejko, J. Godzien, C. Barbas, M. Gorska, A. Kretowski, Poland, Spain

941 Glucose intolerance after a recent history of gestational diabetes based on the IADPSG criteria

K. Jegers, R. Devlieger, J. Verhaeghe, C. Mathieu, K. Benhalima, Belgium

942 The association between mid-pregnancy metabolic dysfunction and postpartum glucose intolerance in women with gestational diabetes

K.-S. Kim, S.-K. Kim, S. Park, Y.-W. Cho, Korea, Republic of

943 HbA_{1c} as a predictor of diabetes after gestational diabetes

R. Claesson, C. Ignell, N. Shaat, K. Berntorp, Sweden

944 Consequences of reduced insulin sensitivity on adiponectin during course of pregnancy in women with gestational diabetes

L. Bozkurt, C.S. Göbl, S. Baumgartner-Parzer, A. Luger, G. Pacini, A. Kautzky-Willer, Austria, Italy

945 Differences in food intake and genetic variability in taste receptors between pregnant women with and without gestational diabetes mellitus

K. Kuricová, V. Bartakova, F. Zlámál, L. Pácal, J. Bělobrádková, K. Kaňková, Czech Republic

946 Serum miRNA profiles in women with gestational diabetes mellitus

X. Huang, J. Teng, L. Zhou, Y. Liu, China

947 Association study of 77 single nucleotide gene polymorphisms with gestational diabetes and with the fasting and post-challenge glucose levels in pregnancy

K. Rosta, Z. Al-Aissa, O. Hadarits, J. Harreiter, Á. Nádasdi, D. Bancher-Todesca, Z. Komlósi, L. Németh, I. Sziller, J. Rigó Jr, A. Somogyi, A. Kautzky-Willer, G. Firneisz, Austria, Hungary

Poster Event D, Wednesday, 13:15 - 14:15

PS 094 The many aspects of diabetic neuropathy

Chair: V. Spallone, Italy

948 Sudomotor function is related with microvascular perfusion in type 1 diabetic patients with long disease duration

A. Gandecka, A. Araszkiewicz, S. Pilacinski, B. Wierusz-Wysocka, D. Zozulinska-Ziolkiewicz, Poland

949 Impaired olfactory function is related to the presence of neuropathy in adults with type 1 diabetes

A. Duda-Sobczak, A. Araszkiewicz, M. Urbas, L. Borucki, K. Kulas, A. Suwalska, D. Zozulinska-Ziolkiewicz, Poland

950 Though nerve dysfunctions are associated with pre-diabetes and hypertension, peripheral neuropathy arises at the stage of diabetes

H. Sasaki, S. Kurisu, K. Ogawa, S. Kishimoto, H. Tanaka, M. Nishi, H. Furuta, K. Nanjo, T. Akamizu, Japan

951 Physical activity and albuminuria were associated with painful diabetic polyneuropathy in type 2 diabetes in an ethnic Chinese population

S.-S. Chiang, C.-L. Lee, H.-C. Liu, J.-S. Wang, I.-T. Lee, Y.-M. Song, C.-P. Fu, S.-Y. Lin, W.-H. Sheu, Taiwan

952 Impact of glycaemic variability on neuroretina in patients with type 1 diabetes

F. Picconi, D. Ylli, M.C. Parravano, L. Ziccardi, P. Pasqualetti, I. Giordani, S. Coluzzi, L. Chioma, C.C. Trombatore, I. Malandrucchio, P. Borboni, D. Lauro, S. Frontoni, Italy

953 Intra-epidermal electrical stimulation to determine pain thresholds in patients with diabetic neuropathy and with and without pain sensation

N. Takahashi, Japan

954 Oxidative stress induced neural neuritin reduction is associated with peripheral nerve dysfunction in diabetic rats

J. Li, Y. Zhang, C. Yao, Y. Wang, China

955 Modification of the glyoxalase system and the importance of alternative detoxification of methylglyoxal in the context of diabetic neuropathy

J. Morgenstern, T.H. Fleming, P.P. Nawroth, Germany

Poster Event E, Thursday, 12:00 - 13:00**PS 095 Autonomic neuropathy: assessment and treatment**

Chair: S. Frontoni, Italy

956 Proposal of a new clinical scoring system to predict cardiac autonomic neuropathy in patients with type 1 diabetes

C. Minatel Riguetto, S.N. Admoni, C. Takano, D. Bezerra, M. Correa-Giannella, E. João Pavin, M. Ribeiro Parisi, A. Moura Neto, Brazil

957 Risk markers for development of small and large nerve fiber lesion in patients with diabetes

S. Mala, V. Potockova, L. Hoskovcova, M. Brabec, J. Broz, M. Kvapil, Czech Republic

958 High prevalence of cardiovascular autonomic neuropathy in young patients with congenital generalised lipodystrophy (Berardinelli-Seip Syndrome)

C.M. Ponte, V.O. Fernandes, A.D. Montenegro, M.H. Gurgel, L.A. Karbage, I.T. Vasconcelos, C.P. Silva, C.B. D'Alva, R.M. Montenegro Jr, Brazil

959 Impaired cardiovascular autonomic function and diminished vibration perception are present among patients with higher future type 2 diabetes risk screened by FINDRISC questionnaire

O. Vági, A. Körei, Z. Putz, I. Istenes, N. Hajdú, F. Tótok, A. Nagy, P. Kempler, Hungary

960 Cardiovascular autonomic neuropathy and cardiovascular outcomes in DCCT/EDIC study

R. Pop-Busui, B.H. Braffett, B. Zinman, C. Martin, N.H. White, W.H. Herman, S. Genuth, R. Gubitosi-Klug, USA, Canada

961 Main predictors of cardiovascular autonomic dysfunction in early stages of glucose intolerance

R. Dimova, T. Tankova, N. Chakarova, G. Grozeva, L. Dakovska, Bulgaria

962 Efficacy of acupuncture in the treatment of patients with diabetic gastroparesis

I.O. Kostitska, Ukraine

Poster Event F, Thursday, 13:15 - 14:15

PS 096 Autonomic function tests and risk

Chair: P. Kempler, Hungary

963 Cardiac autonomic neuropathy is strongly associated with abnormal cardiac repolarisation

M. Oleolo, D. Selvarajah, R. Gandhi, G. Rao, I. Wilkinson, J. Marques, S. Tesfaye, UK

964 Cardiac autonomic function is associated with the coronary microcirculation in type 2 diabetic patients

B.J. Von Scholten, C.S. Hansen, P. Hasbak, A. Kjaer, P. Rossing, T.W. Hansen, Denmark

965 Effect of cardiac autonomic function on ST-segment depression, heart rate and heart rate variability during exercise in children and adolescents with type 1 diabetes

D. Laptev, Russian Federation

966 Long-term follow-up of autonomic function in type 1 diabetic patients on insulin pump treatment

T.T. Várkonyi, S. Nyiraty, S. Coluzzi, K. Fehértemplomi, F. Pesei, A. Orosz, C. Lengyel, S. Frontoni, P. Kempler, G. Ábrahám, Hungary, Italy

967 Corneal confocal microscopy and cardiovascular autonomic function tests for detecting diabetic neuropathy in children

E. Artemova, G. Galstyan, D. Laptev, T. Kuraeva, I. Dedov, Russian Federation

968 Diabetic cardiovascular autonomic neuropathy predicts recurrent cardiovascular diseases in patients with type 2 diabetes

L. Kang-Min, S.-A. Cha, J.-S. Yun, T.-S. Lim, K.-H. Song, S.-D. Moon, Y.-B. Ahn, S. Ko, Korea, Republic of

969 Dipeptidyl peptidase-4 activity is associated with autonomic neuropathy and insulin resistance in type 1 diabetic patients

L. Duvnjak, K. Blaslov, T. Bulum, S. Vučković Rebrina, Croatia

Poster Event A, Tuesday, 12:00 - 13:00**PS 097 The diabetic foot and wound healing**

Chair: E. Jude, UK

970 Investigation of the effects and molecular mechanism of adenine for diabetic wound healing

G.-H. Young, C.-F. Ho, Q.-Y. Kuok, J.-Y. Nong, H.-M. Chen, Taiwan

971 Epoxidized α -tocotrienol enhances wound healing in the db/db mouse model of diabetes and stimulates in vitro angiogenesis and cell migration

C. Xu, M. Bentinger, O. Savu, A. Moshfeg, V.G. Sunkari, G. Dallner, E. Swiezewska, S.-B. Catrina, K. Brismar, M. Tekle, Sweden, USA, Poland

972 The relationship between the skin advanced glycation endproducts (AGEs) and skin colour or elasticity in Japanese diabetic and non-diabetic subjects

J. Miura, S. Hoshina, M. Iwamura, K. Shimura, Y. Ichihara, S. Kikuchi, H. Kobayashi, K. Higuchi, T. Sano, Y. Uchigata, Japan

973 Indocyanine green fluorescence angiography in diabetic patients with peripheral arterial disease

Z. Abdul'vapova, O. Bondarenko, G. Galstyan, I. Dedov, Russian Federation

974 KPC-producing *Klebsiella pneumoniae* infection and gut colonisation as mortality risk factors in patients with diabetic foot infections: a multicentre case-control study

E. Iacopi, A. Coppelli, C. Goretti, A. Piaggese, Italy

975 Foot self-care in patients with and without a diabetic foot syndrome: a cross-sectional study on the knowledge-behaviour-gap and the role of barriers

B. Kröning, K. Lange, T. Von Lengerke, Lower Saxon Diabetes Outpatient Centres Study Group, Germany

Poster Event B, Tuesday, 13:15 - 14:15**PS 098 Focus on diabetic foot ulcers: Can we do better?**

Chair: I. Gurieva, Russian Federation

976 Discordance of standard classification systems to detect the risk of foot ulcer among type 2 diabetic subjects

P.C. Banik, M. Moniruzzaman, F. Zaman, L. Ali, Bangladesh

977 Characteristics of painful diabetic neuropathy and neuropathic symptom score as a predictor of ulceration: results of the national multi center BRAZUPA study

A. Moura Neto, M.J. Saad, M.C. Parisi, BRAZUPA study group, Brazil

978 Clinical characteristic and lower-extremity amputations in patients with arterial stiffness and limb-threatening diabetic foot ulcers

S.-Y. Hung, H.-M. Yang, I.-W. Chen, C.-H. Huang, Y.-Y. Huang, Taiwan

979 Albuminuria as predictive risk factor for foot ulceration in patients with diabetes

J. Venerová, L. Fialová, M. Malý, V. Havrlantová, S. Solař, M. Zavoral, Czech Republic

980 Initial results from the National Footcare Audit of England and Wales

R.J. Young, T. Latham, A. Yelland, W.J. Jeffcoate, UK

981 The impact of a diabetes task force on diabetic foot care

C.A. Shinton, J. Bujanova, S. Malcom, P. Howden, D. Meeking, UK

Poster Event C, Wednesday, 12:00 - 13:00

PS 099 The Charcot foot

Chair: N.L. Petrova, UK

982 Calcaneal quantitative ultrasonometry is useful method for diagnosis of Charcot foot in patients after simultaneous pancreas and kidney transplantation

R. Bem, A. Jirkovska, A. Němcová, J. Brunová, M. Dubský, S. Kratochvílová, V. Wosková, V. Fejfarová, F. Saudek, Czech Republic

983 The Charcot foot: an emerging public health problem for African diabetes patients

Z.G. Abbas, J.K. Lutale, L.K. Archibald, Tanzania, United Republic of, USA

984 Charcot foot in diabetic patients and risk of amputation: Is just a matter of neuropathy?

R. Anichini, F. Lombardo, A. Tedeschi, M. Perini, S. Viti, G. Seghieri, E. Brocco, M. Gulisano, P. Francia, M. Maggini, A. De Bellis, Italy

985 Treatment with parathyroid hormone does not enhance clinical resolution and fracture healing of Charcot osteoarthropathy: double blind randomised placebo controlled trial

N.L. Petrova, A.N. Donaldson, W. Tang, M. Bates, T. Jemmott, V. Morris, I. Alenjandro, E. Joseph, C. Moniz, D. Elias, M.E. Edmonds, UK

986 How to improve the outcome of Charcot foot? Results of five years follow up: prospective study

M.M. Motawea, F.A. Kyrillos, A.M. Albehairy, A.I. Hanafy, Egypt

987 Medical treatment evaluation of diabetic foot osteomyelitis using 99mTc-HMPAO-labelled leucocyte scan and predictive factors of outcome

C. Manes, S. Georga, C. Mellidis, T. Roggotis, D. Skoutas, V. Athanasiou, D. Katsaboukas, G. Arsos, Greece

Poster Event D, Wednesday, 13:15 - 14:15**PS 100 The eye on diabetic retinopathy**

Chair: G. Nijpels, Netherlands

988 Assessment of using a retinal OCT phantom in multi-centre trials assessing macular thickness

K.M. Gooding, A.C. Shore, R. Ling, H.C. Looker, H.M. Colhoun, E. Agardh, UK, Sweden

989 Ultra-wide-field retinal photography: implications for detection, treatment and study of diabetic retinopathy

T. Alharbi, B. Brooks, C. Lieu, T. Nguyen, J. Wong, B. Harrisberg, D.K. Yue, Saudi Arabia, Australia

990 Validation of a prediction model to optimise retinopathy screening in type 1 diabetes

H. Ng, J. Keunen, C. Tack, G. Nijpels, A.A. Van der Heijden, Netherlands

991 Intraindividual variability and circadian rhythm of systemic vascular endothelial growth factors in subjects with normal glucose tolerance and patients with type 2 diabetes

M. Hanefeld, I. Weigmann, D. Appelt, C. Köhler, A. Birkenfeld, A. Gasparic, Germany

992 HbA_{1c} levels over time in children with type 1 diabetes and correlation to diabetic retinopathy

C. Nilsson, R. Andreasson, C. Ekelund, M. Landin-Olsson, Sweden

993 Ranibizumab and diabetic macular oedema (DMO): a retrospective review of patient outcomes

E.J. Nicholson, J. Bujanova, I.C. Cranston, J. Cansfield, S. Mourtzoukos, UK

Poster Event E, Thursday, 12:00 - 13:00**PS 101 Novel insights into diabetic retinopathy**

Chair: H.-P. Hammes, Germany

994 Mediators between reactive gliosis and vascular leakage in diabetic retinopathy: a proteomic approach using human retinas

O. Simó-Servat, C. Hernández, J. Sundstrom, M. García-Ramirez, T.W. Gardner, R. Simó, Spain, USA

995 Is urinary proteomics useful to predict retinopathy in type 2 diabetic patients in the direct 2 study

M.K. Eickhoff, M. Frimodt-Møller, M.K. Lindhardt, M. Dakna, H. Mischak, The DIRECT Steering Group, P. Rossing, Denmark, Germany, UK

996 Whole genome sequencing of Cohen diabetic rats identifies novel coding-variants in genes contributing to the susceptibility to diabetic retinopathy in humans

I. Guberman, D. Shadi, M. Cidor, A. Kogot-Levin, Y. Tabach, R. Itamar, T. Burstyn-Cohen, S. Weksler-Zangen, Israel

997 Functional assessment of retinal neovascularisations

L. Kern, M. Kolibabka, Y. Feng, H.-P. Hammes, Germany

998 Impact of reactive metabolites on vascular damage, microglial activation and neuronal function in the diabetic retina

A. Schlotterer, N. Dietrich, M. Kolibabka, T. Fleming, T. Klein, P. Nawroth, H.-P. Hammes, Germany

999 The effect of the dipeptidyl peptidase-4 inhibitor linagliptin on proliferative retinopathy in a mouse model

N. Dietrich, A. Schlotterer, L. Kern, K. Acunman, T. Klein, H.-P. Hammes, Germany

Poster Event F, Thursday, 13:15 - 14:15**PS 102 Diabetic retinopathy: the experimental approach**

Chair: A.M. Valverde, Spain

1000 Tie-2 expression is down-regulated by hyperglycaemia and AGEs in endothelial cells

A. Puddu, R. Sanguineti, C.E. Traverso, M. Nicolò, G.L. Viviani, Italy

1001 Hypoglycaemia-induced retinal neurodegeneration is associated with mitochondrial ROS production caused by fatty acid oxidation

N. Kajihara, D. Kukidome, K. Sada, H. Motoshima, T. Matsumura, T. Nishikawa, E. Araki, Japan

1002 Anril mediates diabetes induced endothelial dysfunction through upregulation of vascular endothelial growth factor

S. Chakrabarti, A. Thomas, B. Feng, Canada

1003 Anks6(p.R823W) overexpression in kidney affects retinal degeneration

J. Lin, M. Kolibabka, J. Wang, D. Zimmermann, S. Selig, A. Schlotterer, Y. Feng, S. Hoffmann, H.-P. Hammes, Germany

1004 FOXO1 is required for the NDPK B deficiency-induced upregulation of Angiopoietin-2 in endothelial and Müller cells

Y. Feng, S. Shan, Y. Qiu, A. Chatterjee, H.-P. Hammes, T. Wieland, Germany

1005 Effects of high glucose and fluid flow shear stress on connexin 43 (Cx43) hemichannel activity in retinal endothelial cells

D. Lee, D. Kim, M.A. Riquelme, J.X. Jiang, S. Roy, USA

Poster Event A, Tuesday, 12:00 - 13:00**PS 103 Impact of treatment on diabetic nephropathy**

Chair: H.J. Lambers Heerspink, Netherlands

1006 Effect of empagliflozin on nephropathy in subgroups by age: results from EMPA-REG OUTCOME

M. Von Eynatten, R.M. Bergenstal, P. Calabro, M. Maldonado-Lutomirsky, M. Mattheus, J.M. Lachin, C. Wanner, Germany, USA, Italy

1007 Empagliflozin and microvascular outcomes in EMPA-REG OUTCOME

C. Wanner, C. Lee, H.-J. Woerle, M. Mattheus, S.E. Inzucchi, B. Zinman, Germany, USA, Canada

1008 Evaluation of renal protection by Dipeptidyl Peptidase 4 inhibitor therapy in diabetic patients: relation with serum surfactant proteins

C. Watanabe, Y. Mori, Japan

1009 Effects of pioglitazone add-on treatment on blood glucose levels and insulin resistance in patients with type 2 diabetic nephropathy receiving sitagliptin

G. Yasuda, A. Fujiwara, S. Saka, N. Hirawa, Japan

1010 Efficacy of statins in patients with diabetic nephropathy: a meta-analysis of randomised controlled trials

X. Shen, X.J. Zhou, Z.W. Zhang, X.Q. Zhang, J.Y. Zhao, Q.L. Xu, H.X. Shang, T.Y. Xie, J.J. Dong, L. Liao, China

1011 The use of green tea polyphenols for treating residual albuminuria in diabetic nephropathy: a double-blind randomised clinical trial

C. Borges, A. Papadimitriou, D.A. Duarte, J.M. Lopes de Faria, J.B. Lopes de Faria, Brazil

1012 Metformin prevents from severe kidney failure, vascular calcification and high bone turnover disease in a rat model for chronic kidney disease-mineral and bone disorder

P. D'Haese, B. Vervaet, K. Brand, U. Gottwald-Hostalek, G. Dams, A. Verhulst, J.-D. Lalau, K. Said, M.E. De Broe, E. Neven, Belgium, Germany, France

1013 A new hope for the treatment of diabetic nephropathy based on histamine H4R antagonism

A.C. Rosa, E. Veglia, M. Argenziano, R. Cavalli, R.L. Thurmond, P.L. Chazot, A. Pini, Italy, USA, UK

Poster Event B, Tuesday, 13:15 - 14:15**PS 104 New perspectives in diabetic nephropathy**

Chair: S. Hadjadj, France

1014 New modelling approaches for the estimation of GFR in diabetes type 2 patients

N. Kakaletsis, V. Dourliou, K. Karatzas, N. Katsifarakis, E. Doumarapis, F. Iliadis, T. Didangelos, C. Savopoulos, A.I. Hatzitolios, Greece

1015 Deterioration of eGFR during a year is different among each stage of diabetic nephropathy: the interim report of PRe-STOPPER study

M. Miuchi, A. Hirai, M. Namba, members of PRe-STOPPER study, Japan

1016 Urinary metabolomics predict response to spironolactone therapy in patients with type 2 diabetes and hypertension

M.J. Pena, P. Perco, C. Oxlund, I.A. Jacobsen, T. Hankemeier, M. Lindhardt, P. Rossing, H.J. Heerspink, Netherlands, Austria, Denmark

1017 Time to treatment intensification and its association with subsequent microvascular outcomes among patients with type 2 diabetes

U. Desai, N.Y. Kirson, J. Kim, K.K. Khunti, S.B. King, E. Trieschman, M. Hellstern, P.R. Hunt, J. Mukherjee, USA, UK

1018 The healthcare costs and utilisation associated with diabetic nephropathy in adult patients with type 2 diabetes in the US

H. Yang, Z. Zhou, J. Zhao, A. Fang, E. Wu, P. Chaudhari, R. Seifeldin, USA

1019 Influence of coexisting diabetes on arterial pressure control in patients in late period after kidney transplantation

P. Miarka, D. Cieniawski, M. Walus-Miarka, E. Ignacak, A. Prokop, M. Kuzniewski, B. Idzior-Walus, W. Sulowicz, Poland

Poster Event C, Wednesday, 12:00 - 13:00**PS 105 Diabetic nephropathy: progression and outcomes**

Chair: J. Skupien, Poland

1020 Disease progression of diabetic nephropathy in adults with type 2 diabetes in the US

Z. Zhou, H. Yang, A. Fang, J. Zhao, E. Wu, P. Chaudhari, R. Seifeldin, USA

1021 The natural history of diabetes nephropathy in Korea: a Korean National Diabetes Programme prospective cohort study

J. Jeon, J.-D. Lee, S. Lee, H. Kim, K. Chun, T. Kim, D. Kim, S. Han, Y. Kim, J. Woo, K. Ahn, Y. Park, M. Nam, S. Baik, K.-W. Lee, Korea, Republic of

1022 Diabetes and risk of incident chronic kidney disease in women compared with men: a systematic review and meta-analysis

Y. Shen, R. Cai, J. Sun, X. Dong, R. Huang, S. Tian, S. Wang, China

1023 The impact of hyperuricaemia on mortality and renal outcome across different chronic kidney disease stages

T.-Y. Yu, M.-J. Wu, S.-F. Tsai, W.-H. Sheu, I.-T. Lee, S.-Y. Lin, C.-L. Lee, Taiwan

1024 Plasma copeptin in children and adolescents with type 1 diabetes in comparison to healthy controls

R. Schiel, T. Perenthaler, A. Steveling, G. Stein, Germany

1025 Secondary hyperparathyroidism and osteopenic syndrome in patients with diabetes type 1 and type 2 and chronic kidney disease

N. Alikhanova, M.A. Aykhodjaeva, N.S. Nazarova, Uzbekistan

1026 Long-term incidence of microvascular events in relation to incident type 2 diabetes in obese patients with prediabetes treated by bariatric surgery or usual care

P.-A. Svensson, M. Taube, L.M. Carlsson, K. Sjöholm, B. Carlsson, M. Peltonen, Sweden, Finland

Poster Event D, Wednesday, 13:15 - 14:15**PS 106 Biomarkers of diabetic nephropathy**

Chair: N.M. Panduru, Romania

1027 Predictive biomarkers for chronic kidney disease in diabetes

Z. Zuraeva, O. Mikhaleva, O. Vikulova, A. Ilyin, M. Shamkhalova, M. Shestakova, I. Dedov, Russian Federation

1028 Association between the serum adipocyte fatty acid binding protein levels and microalbuminuria in a Chinese hyperglycaemic population

X. Hu, X. Ma, Y. Luo, Y. Xu, Q. Xiong, X. Pan, Y. Bao, W. Jia, China

1029 Dramatically elevated pancreatic stone protein/regenerating protein (PSP/reg) in diabetic nephropathy

M.M. Zhi, J.Y. Yang, X.Y. Zhu, R. Graf, L. Li, China, Switzerland

1030 The lysosomal protease cathepsin L as a potential link between blood glucose levels and albuminuria in type 2 diabetic patients

S. Brings, T. Fleming, W. Mier, S. Kopf, P. Nawroth, Germany

1031 Change in urinary angiotensinogen excretion and progression of diabetic kidney disease

Y. Yi, E. Kim, M. Lee, S. Kim, J. Kim, Y. Jeon, B. Kim, I. Kim, M. Shin, C. Lee, Y. Kim, Korea, Republic of

1032 The relationship of fetuin-a with cardiac disease and markers of mineral and bone metabolism in type 1 diabetes patients

M. Arutyunova, A. Glazynova, I. Klephortova, N. Trubicina, O. Manchenko, I. Ulyanova, A. Ilyin, M. Shamkhalova, M. Shestakova, Russian Federation

1033 The carnosine metabolism of the human kidney under diabetes

T. Weigand, F. Pfister, S. Dodel, B. Singler, K. Klingbeil, C.P. Schmitt, V. Peters, Germany

Poster Event E, Thursday, 12:00 - 13:00

PS 107 Mechanistic aspects of diabetic nephropathy

Chair: G. Gruden, Italy

1034 Nox5 aggravates renal damage in diabetic nephropathy

J.C. Jha, C. Banal, S. Gray, H. Schmidt, M.E. Cooper, R. Touyz, C.R. Kennedy, K. Jandeleit-Dahm, Australia, Netherlands, UK, Canada

1035 Defense mechanisms against proteotoxic stress triggered by reactive dicarbonyls are up-regulated in diabetic nephropathy

J. Zemva, T. Fleming, S. Kaden, H.-J. Gröne, L. Schmidt, B.G. Bergheim, P.P. Nawroth, J. Tyedmers, Germany

1036 HIF-1 attenuates oxidative stress and ameliorates renal function in diabetes

X. Zheng, I.R. Botusan, S. Narayanan, C. Xu, M.D. Sole, J. Grünler, E. Forsberg, V.G. Sunkari, K. Brismar, S.-B. Catrina, Sweden, USA

1037 Peripherally restricted cannabinoid-1 receptor reverses diabetic nephropathy by regulating proximal tubule glut2

J. Tam, L. Hinden, S. Udi, A. Drori, R. Hadar, S. Baraghithy, A. Permyakova, M. Geron, M. Cohen, S. Tsytkin, Y. Nahmias, A. Priel, Israel

1038 Regulation of proximal tubule GLUT2 by cannabinoid-1 receptor in the diabetic kidney

L. Hinden, J. Tam, Israel

1039 Glycine attenuates renal oxidative stress in streptozotocin-induced diabetic rats

Z. Wang, J. Zhang, L. Wang, W. Li, L. Chen, J. Li, D. Zhao, H. Zhang, X. Guo, China

1040 Characterisation and targeting of CDA1/CDA1BP1 axis in diabetic nephropathy

Z. Chai, T. Wu, A. Dai, P. Huynh, M.E. Cooper, Australia

1041 Angiotensin II type 2 receptor localises to mitochondria of renal tubules and modifies mitochondrial function in early stages of type 1 diabetes in rats

T. Micakovic, M. Papagiannarou, E. Clark, J. Peters, N. Volk, T. Fleming, N. Alenina, H.-J. Gröne, S. Hoffmann, Germany

Poster Event F, Thursday, 13:15 - 14:15**PS 108 Hypertension revisited**

Chair: P. Rossing, Denmark

1042 Liver enzymes and hepatic insulin resistance are predictive of incident hypertension

F. Bonnet, A. Gastaldelli, A. Natali, R. Roussel, J. Petrie, J. Tichet, M. Marre, B. Balkau, France, Italy, UK

1043 Early blood pressure alterations are associated with pro-inflammatory markers in type 1 diabetes

J. Tamayo-Serrato, I. Mateo-Gavira, F. Vélchez-López, F. Visiedo-García, M. García-Palacios, M. Aguilar-Diosdado, Spain

1044 Changes in intrarenal catecholamines in diabetes and hypertension

A.M. Watson, S. Penfold, E.A. Gould, K.L. Jackson, J.-L. Moretti, N. Eikelis, G.W. Lambert, G.A. Head, K.A. Jandeleit-Dahm, Australia

1045 Co-existing hypertension as independent risk factor for diabetic retinopathy among type 2 diabetes

K.R. Ahmed, J. Akter, H.A. Chowdhury, B. Bhowmik, A. Hussain, Bangladesh, Norway

1046 Nocturnal blood pressure is related to the development of microvascular complications and hypertension in patients with type 1 diabetes

I. Mateo-Gavira, F. Vélchez-López, A. Montero-Galván, J. Ortego-Rojo, M. García-Palacios, M. Aguilar-Diosdado, Spain

1047 Wrist circumference is associated with systolic blood pressure in a population of overweight/obese children and adolescents

G. Campagna, S. Zampetti, F. Lucantoni, M. Capizzi, L. Marandola, C. Chiesa, L. Pacifico, A. Vania, R. Buzzetti, Italy

1048 Treatment of hypertension in type 2 diabetes and non-diabetic individuals; a population-based cohort study

B.H. Wolffenbuttel, S.N. Slagter, R.P. Van Waateringe, J.V. Van Vliet-Ostaptchouk, A.P. Van Beek, M.M. Van der Klauw, Netherlands

1049 Systolic blood pressure and cardiovascular events in type 2 diabetes: the lower the better

S. Adamsson Eryd, S. Gudbjörnsdottir, K. Manhem, A. Rosengren, A.-M. Svensson, M. Miftaraj, S. Franzén, S. Björck, Sweden

Poster Event A, Tuesday, 12:00 - 13:00

PS 109 Mediators and treatments for complications

Chair: A. Fornoni, USA

1050 Insulin therapy for diabetes does not modify the effect of patiromer on serum potassium in hyperkalaemic patients with type 2 diabetes on RAAS inhibitors

P. Rossignol, C. Gross, M. Weir, S. Arthur, E. Labonté, G. Bakris, France, USA

1051 Mitochondrial uncoupling combined with pyruvate dehydrogenase activity ameliorated hyperglycaemia

H.-W. Jiang, J.-Y. Li, Z.-F. Xie, A.-H. Gao, L.-N. Zhang, F. Yang, J. Li, China

1052 Oxyntomodulin analogue for the treatment of diabetes and obesity

Y. Chen, M. Song, L. Ding, A.L. Cox, X. Ruan, H.A. Bina, M.D. Michael, R.C. Cummins, J. Alsina-Fernandez, USA

1053 Adverse effects of methylglyoxal on metabolic syndrome parameters

H. Malinska, M. Hüttl, I. Markova, O. Oliarynyk, J. Trnovska, V. Skop, L. Kazdova, Czech Republic

1054 Effect of acute hyperinsulinaemia and postprandial state on the endothelial function in metabolically healthy volunteers with overweight or obesity

J. Veleba, L. Belinova, H. Malinska, K. Velebova, E. Stolarikova, T.V. Hoang, T. Pelikanova, Czech Republic

1055 Probiotic Lisosan G preserves functional properties of human endothelial progenitor cells exposed to lipopolysaccharides

L. Giusti, L. Pucci, M. Gabriele, V. Sancho-Bornez, M. Garofolo, V. Longo, A. Dardano, R. Miccoli, G. Penno, D. Lucchesi, S. Del Prato, Italy

1056 Novel targets involved in the restoration of recurrent hypoglycaemia induced defective counter-regulation following acute high intensity exercise

A.D. McNeilly, J.R. Gallagher, K.A. Wright, J.J. Huang, R.J. McCrimmon, UK

Poster Event B, Tuesday, 13:15 - 14:15

PS 110 Mechanisms of complications: pathways and interventions

Chair: J.R. Petrie, UK

1057 Recombinant ACE2 reduces angiotensin II and supresses atherosclerosis associated with experimental diabetes in apolipoprotein E knockout mice

M.C. Thomas, R. Pickering, D. Batu, M. Poglitsch, M.E. Cooper, C. Tikellis, Australia, Austria

1058 A salvage pathway of SGK1 in eNOS activation in coronary cells

D. Pastore, D. Della Morte, B. Capuani, F. Pacifici, A. Coppola, R. Arriga, A. Bellia, M. Tesaro, G. Donadel, G. Sconocchia, P. Sbraccia, D. Lauro, Italy

1059 Novel insights into the effects of insulin-like growth factor 1 and endothelin signalling on vascular redox state in patients with type 2 diabetes

I. Akoumianakis, L. Herdman, M. Margaritis, F. Sanna, R. Sayeed, M. Petrou, P. Wohlfart, N. Tennagels, K.M. Channon, C. Antoniadis, UK, Germany

1060 Transplantation of mobilised human mononuclear cells into nude rats improved diabetic peripheral neuropathy and nerve regeneration

S. Min, J. Kim, B.-M. Oh, H. Kim, W.-K. Moon, H. Lee, K. Park, H. Jung, Korea, Republic of

1061 Cardiac function and energy metabolism are preserved in diabetic mice overexpressing GTP cyclohydrolase I

S.F. Mafrici, K. Ziberna, D. Duglan, B. Casadei, R. Carnicer, Italy, UK

1062 Vascular GLP-1 receptor expression is decreased under diabetic conditions: TCF7L2 is a possible regulator of GLP-1 receptor expression in artery

T. Kimura, A. Obata, M. Shimoda, A. Tanabe, S. Okauchi, H. Hirukawa, K. Kohara, T. Mune, K. Kaku, H. Kaneto, Japan

1063 Exendin-4 induces autophagy via SIRT1/LKB1/AMPK pathway to protect vascular endothelial cells from oxidative stress damage

X. Wu, H. Zhang, T. Xu, H. Shi, J. Zhao, X. Zhao, H. Fan, D. Cui, C. Liu, China

1064 GLP-1 receptor independent effects of DPP-4 inhibition in mice with 5/6 nephrectomy

B. Hoher, A. Hasan, C. Reichetzedder, J. Guo, K. Von Websky, O. Tsuprykov, T. Klein, Germany

Poster Event C, Wednesday, 12:00 - 13:00

PS 111 Usual and unusual associations in diabetes complications

Chair: A. Solini, Italy

1065 Poor glycaemic control is related to excess risks of hospitalisation for infection in patients with type 2 diabetes: the Hong Kong Diabetes Registry

A.O. Luk, E.S. Lau, K.K. Cheung, A.P. Kong, R.C. Ma, R. Ozaki, F.C. Chow, W.Y. So, J.C. Chan, Hong Kong

1066 Plasma clusterin and the CLU gene rs11136000 variant are associated with mild cognitive impairment in type 2 diabetic patients

S. Wang, R. Cai, J. Sun, R. Huang, W. Xia, S. Tian, X. Dong, Y. Shen, China

1067 Incidence of urinary tract and genital infections among patients with and without diabetes

G.A. Nichols, K.G. Brodovicz, D.B. Bartels, USA, Germany

1068 Chronic disease hypogonadism not age-related: hypogonadism in diabetic male patients

A.F. Martins, J.M. Martins, S. Vale, Portugal

1069 Association of autoimmune thyroiditis with sarcopenia in patients with type 1 diabetes

T. Takahashi, K. Hara, T. Kawase, Y. Kimura, T. Takayoshi, Y. Nakagawa, T. Arai, K. Nishiyama, Y. Yasutomo, K. Yokono, Japan

1070 Role of the “resistin pathway” on cardiovascular risk factors and major cardiovascular events

C. Menzaghi, A. Marucci, A. Antonucci, C. De Bonis, L. Ortega-Moreno, L. Salvemini, M. Copetti, V. Trischitta, R. Di Paola, Italy

1071 Polymorphisms in the gene promoters of IL4, IL6, IL10 and TNFA associated with serum levels of cytokines in type 2 diabetic subjects

N.V. Tyan, V.V. Klimontov, A.V. Shevchenko, O.N. Fazullina, N.B. Orlov, V.I. Konenkov, Russian Federation

1072 Creating phenotypic clusters for the purpose of identifying a personalised HbA_{1c} target in patients with type 2 diabetes

M. Leventer-Roberts, B.H. Curtis, T. Karpatis, S.M. Babineaux, O. Reges, X. He, M. Hoshen, J. Wu, A. Akriv, G. Rubin, B. Feldman, A. Strizek, I. Raz, R. Balicer, Israel, USA

Poster Event D, Wednesday, 13:15 - 14:15

PS 112 Mechanisms and treatment of cardiovascular disease

Chair: V.E.R. Grill, Norway

1073 Diabetes is an independent cause of relative hypoxia in heart failure

L. Bernardi, M.T. La Rovere, A. Caporotondi, G. Guazzotti, A. Mugellini, F. Olmetti, E. Traversi, R. Maestri, Finland, Italy

1074 Effect of sarpogrelate, a selective 5-HT_{2A} receptor antagonist, on characteristics of coronary artery disease in patients with type 2 diabetes

D.-H. Lee, J.-E. Lee, J. Hur, E. Chun, T. Oh, K. Kim, J. Moon, S. Choi, H. Jang, H. Kim, S. Lim, Korea, Republic of

1075 Impact of glucose tolerance status on development of coronary artery disease among working aged men in Japan

K. Fujihara, N. Yamanaka, R. Nishikino, M. Yamamoto, Y. Matsubayashi, S. Matsunaga, T. Yamada, H. Ishiguro, C. Horikawa, M. Ishizawa, N. Ohara, K. Kato, H. Sone, Japan

1076 Effects of lixisenatide on natriuretic peptides in patients with diabetes and acute coronary syndrome

J.-C. Tardif, R. Diaz, K. Dickstein, H.C. Gerstein, L.V. Kober, F.C. Lawson, E.F. Lewis, A.P. Maggioni, J.J. McMurray, J.L. Probstfield, M.C. Riddle, S.D. Solomon, B.L. Claggett, M.A. Pfeffer, Canada, Argentina, Norway, Denmark, USA, Italy, UK

1077 SIRT1 rs7896005 polymorphism may be related to coronary artery disease in Caucasians with type 2 diabetes, without affecting all-cause mortality

D. Lucchesi, L. Giusti, M. Garofolo, V. Sancho-Bornez, A. Dardano, R. Miccoli, G. Penno, S. Del Prato, Italy

1078 Insulin resistance in valvular interstitial cells: an in vitro model for type 2 diabetes in degenerative aortic valve disease

J.I. Selig, S. Raschke, P. Akhyari, A. Lichtenberg, M. Barth, Germany

1079 Impaired energy metabolism, cardiac and endothelial function in the female type 2 diabetic Goto-Kakizaki rat heart following ischaemia-reperfusion injury

N. Fourny, C. Lan, J. Movassat, M. Bernard, M. Desrois, France

1080 Beta₁-, and beta₂-adrenoceptor responsiveness in the heart during type 2 diabetes

R.R. Lamberts, R.F. Cook, C.T. Bussey, P.A. Cragg, New Zealand

Poster Event E, Thursday, 12:00 - 13:00

PS 113 Novel vascular risk markers

Chair: C. Herder, Germany

1081 Telomere length, vascular aging and glycaemic variability in patients with type 2 diabetes

N.V. Brailova, E. Dudinskaya, I. Strazhesko, E. Plochova, D. Akasheva, O. Tkacheva, S. Boytsov, M. Shestakova, Russian Federation

1082 Annual decline of TBPI is an independent predictor of cardiovascular events in Japanese type 2 diabetes patients

M. Furuta, H. Yamaoka, T. Sanke, T. Akamizu, Japan

1083 The visceral adiposity index predicts cardiovascular events both in coronary artery disease patients with and in coronary artery disease patients without diabetes

D. Zanolin, A. Vonbank, C.H. Saely, P. Rein, A. Leiherer, A. Mader, P. Schwerzler, H. Drexel, Austria, Liechtenstein

1084 Evaluation of the creatinine uromodulin ratio as new serum marker for cardiovascular events

A. Leiherer, A. Muendlein, C.H. Saely, P. Rein, A. Vonbank, E. Kinz, E.-M. Brandtner, A. Mader, P. Schwerzler, P. Fraunberger, H. Drexel, Austria, Liechtenstein

1085 Hypoargininaemia predicts microvascular complications in type 2 diabetes

T. Ganz, J. Wainstein, S. Gilad, R. Limor, M. Boaz, N. Stern, Israel

1086 Cation channels of the TRPC family contribute to development of nephropathy and retinopathy in the STZ model

R. Sachdeva, D. Schumacher, C. Matka, I. Mathar, S. Homberg, U. Kriebs, P. Stettner, P. Nawroth, H.J. Gröne, H.P. Hammes, T. Fleming, M. Freichel, Germany

1087 Role of glycaemic variability in the changes in microcirculatory blood flow in patients with impaired glucose tolerance or type 2 diabetes

A. Rezki, S. Chiheb, B. Merioud, M. Fysekidis, E. Cosson, P. Valensi, France

1088 Validation in the real life of a prognostic model developed to predict major vascular outcomes in type 1 diabetes

M. Garofolo, E. Russo, D. Lucchesi, L. Giusti, E. Salutini, V. Sancho-Bornez, R. Miccoli, S. Del Prato, G. Penno, Italy

Poster Event F, Thursday, 13:15 - 14:15

PS 114 Diabetic complications: the unusual suspects

Chair: J.R. Brownrigg, UK

1089 Effect of glycaemic control on pulmonary function: data from a 3-months interventional study

L.P. Gutiérrez, E. Sánchez, C. López, M. Sánchez, A. Seminario, C. Turino, F. Barbe, M.D. Santos, M. Hernández, A. Lecube, Spain

1090 Serum surfactant D protein as a new marker for screening pulmonary disease in patients with type 2 diabetes. A case-control study

A. Lecube, M. García-Ramírez, E. Sánchez, C. López, A. Ciudin, C. Hernández, C. Turino, A. Seminario, R. Simó, Spain

1091 Impaired lung function as a diabetes related complication

S. Kopf, J.B. Gröner, A. Ziagaki, D. Oikonomou, T. Fleming, S. Herzig, P.P. Nawroth, Germany

1092 Prevalence and risk of falls among older people with diabetes

S. McHugh, S. Timmons, P.M. Kearney, Ireland

1093 Glyoxalase 1 inducer protects human periodontal ligament fibroblasts from dicarbonyl stress and dysfunction in model hyperglycaemia in vitro

A.A. Ashour, P.J. Thornalley, N. Rabbani, UK

1094 Vitamin D3 improves bones biomechanical properties through NF- κ B-VDR-related pathway in diabetes

D. Labudzynski, I. Shymanskyi, A. Mazanova, A. Koskela, J. Tuukkanen, M. Veliky, Ukraine, Finland

1095 Normal bone mineral density despite increased bone turnover and hypovitaminosis D in old type 2 diabetic patients

J.M. Martins, A.F. Martins, S. Vale, S. Fernandes, J.C. Romeu, Portugal

1096 Lower bone mineral density in Japanese type 2 diabetic patients and effect of GIP on RANKL mRNA expression in cultured osteoblastic cells

M. Eto, F. Kumagai, M. Saito, Japan

Poster Event A, Tuesday, 12:00 - 13:00

PS 115 Mechanisms of complications from glycation to inflammation

Chair: V. Lyssenko, Denmark

1097 Methylglyoxal affects angiogenesis in vitro in MAEC cells via a mechanism involving HoxA5

A. Leone, C. Nigro, I. Prevezano, P.E. Patano, T. Fleming, F. Fiory, F.C. Pignalosa, P.P. Nawroth, F. Beguinot, C. Miele, Italy, Germany

1098 Glyoxalase 1 mRNA levels in whole blood are higher in individuals with type 2 diabetes and associated with plasma markers of endothelial activation

N.M. Hanssen, K. Wouters, C.J. Van der Kallen, M.M. Van Greevenbroek, C.D. Stehouwer, C.G. Schalkwijk, Netherlands

1099 Acute hypoglycaemia increases pro-inflammatory cytokine production of peripheral mononuclear white blood cells

J.M. Ratter, H.M. Rooijackers, C.J. Tack, M.G. Netea, B.E. De Galan, R. Stienstra, Netherlands

1100 Dicarbonyl stress induces glyoxalase 1 copy number increase in mouse embryonic stem cells in vitro and escapes mutation lethality in gene trapping

A. Shafie, M. Xue, P.J. Thornalley, N. Rabbani, UK

1101 Complement C3 and hypofibrinolysis in diabetes: role of protein glycation and development of a new methodology to reduce thrombosis risk

R.J. King, K. Schuett, C. Tiede, V. Jankowski, V. John, K. Simmons, S. Ponnambalam, C. Fishwick, M. McPherson, D. Tomlinson, R. Ajjan, UK, Germany

1102 Inflammatory CD14++CD16+ monocytes contribute to atherosclerosis in type 2 diabetes

M. Nakamura, K. Motoyama, R. Kawarabayashi, Y. Okute, M. Asada, Y. Kakutani, Y. Yamazaki, T. Morioka, K. Mori, S. Fukumoto, T. Shoji, M. Emoto, M. Inaba, Japan

1103 Anti-inflammatory lipoxin A4 attenuates atherosclerosis progression in diabetic ApoE-/- mice

E. Brennan, A. McClelland, M. Mohan, S. Gray, R. Pickering, C. Tikellis, K. Jandeleit-Dahm, M. Cooper, C. Godson, P. Kantharidis, Ireland, Australia

1104 Increased serum levels of interleukin-1 receptor antagonist (IL-1ra) precede coronary heart disease: meta-analysis of 4 prospective cohort studies

C. Herder, T. De las Heras Gala, M. Carstensen-Kirberg, C. Huth, A. Zierer, J. Sudduth-Klinger, D. Peretz, S. Wahl, C. Meisinger, A. Peters, M. Roden, W. Koenig, B. Thorand, Germany, USA

Poster Event B, Tuesday, 13:15 - 14:15**PS 116 Statins and beyond**

Chair: K. Ray, UK

1105 Statin worsens glycaemic control of type 2 diabetic patients in target LDL-C level and LDL-C reduction dependent manners: a meta-analysis

R. Cai, Y. Yuan, J. Sun, W. Xia, R. Huang, S. Tian, X. Dong, Y. Shen, S. Wang, China

1106 Long-term efficacy of evolocumab in reducing lipids in EU subjects with and without type 2 diabetes: an analysis from the open-label extension OSLER studies

N. Sattar, P. Valensi, D. Preiss, R. Dent, I. Bridges, A. Ruzza, M. Cyrille, Y. Handelsman, UK, France, Switzerland, USA

1107 MEDI4166: a PCSK9 Ab-GLP-1 fusion molecule that elicits robust antidiabetic and antihyperlipidaemic effects in rodents and non-human primates

A. Konkar, A. Suckow, T. Hummer, M. Chodorge, A. Celeste, D. Hornigold, J. Naylor, L. Jenkinson, M. Feigh, B. Agoram, C. Lee, S. Coats, J. Grimsby, C. Rondinone, J. Trevaskis, USA, UK, Denmark

1108 Relationship between triglyceride-rich lipoprotein cholesterol concentrations and non-HDL cholesterol goal attainment in ODYSSEY phase 3 trials

K. Ray, L.A. Leiter, S. Del Prato, M.-R. Taskinen, A.J. Vallejo-Vaz, M. Bujas-Bobanovic, A. Letierce, R. Samuel, R.R. Henry, UK, Canada, Italy, Finland, France, USA

1109 Efficacy and safety of alirocumab in patients with multiple manifestations of cardiovascular disease: a post-hoc analysis of the ODYSSEY programme

H. Colhoun, V. Valcheva, S. Guillonnet, H. Wang, R.J. Sanchez, K.K. Ray, UK, USA, France

1110 Plasma PCSK9 is associated with the severity of coronary artery lesions in patients with acute coronary syndrome

B. Cariou, P. Guérin, M. Pichelin, L. Arnaud, C. Le May, X. Prieur, B. Guyomarch, V. Probst, France

1111 Alirocumab efficacy and safety in patients with pre-diabetes versus normoglycaemia

L.A. Leiter, D. Müller-Wieland, M.T. Baccara-Dinet, A. Letierce, R. Samuel, B. Cariou, Canada, Germany, France, USA

1112 Effects of K-877, a novel selective PPAR α modulator (SPPARM α), on lipid and glucose metabolism in fasting and postprandial states in type 2 diabetic patients with dyslipidaemia

E. Araki, S. Yamashita, H. Arai, K. Yokote, J. Satoh, T. Inoguchi, J. Nakamura, H. Maegawa, N. Yoshioka, Y. Tanizawa, H. Watada, H. Suganami, S. Ishibashi, Japan

Poster Event C, Wednesday, 12:00 - 13:00

PS 117 Heart failure is not an option

Chair: S. Gudbjörnsdottir, Sweden

1113 Glycosylated haemoglobin predicts mortality in patients with heart failure and unknown diabetes: insights from the Swedish Heart Failure registry (SwedeHF)

I. Johansson, U. Dahlström, M. Edner, P. Näsman, L. Rydén, A. Norhammar, Sweden

1114 The effect of metformin on cardiac function and selected metabolic parameters in patients with type 2 diabetes/prediabetes and chronic heart failure

E. Stoláriková, K. Velebová, L. Bělinová, J. Veleba, J. Kopecký, H. Malínská, M. Seget'ová, V. Melenovský, T. Pelikánová, Czech Republic

1115 Effect of DPP-4 inhibitors therapy on left atrial volume index in patients with type 2 diabetes

A. Papazafiropoulou, A. Trikkalinou, C. Tountas, A. Theodosios-Georgilas, V. Markakis, C. Ioannidis, V. Bampali, K. Petropoulou, S. Foussas, A. Melidonis, Greece

1116 The effect of metformin on serum levels of Trimethylamine-N-oxide in patients with type 2 diabetes/prediabetes and chronic heart failure

K. Velebova, T. Hoang, J. Veleba, L. Belinova, J. Kopecky, Jr, O. Kuda, M. Segetova, J. Kopecky, Sr, V. Melenovsky, T. Pelikanova, Czech Republic

1117 Influence of type 2 diabetes on five-year survival for acute decompensated heart failure patients

I. Pochinka, L. Strongin, A. Baranova, M. Dvornikova, K. Yurkova, Russian Federation

1118 Effect of empagliflozin on heart failure outcomes in subgroups by age: results from EMPA-REG OUTCOME

P. Monteiro, N. Schaper, D. Clark, S. Hantel, H.-J. Woerle, S.E. Inzucchi, D. Fitchett, Portugal, Netherlands, Germany, USA, Canada

1119 Heart failure hospitalisation or cardiovascular death with empagliflozin in patients with type 2 diabetes and high cardiovascular risk: analysis over time

P. Van de Borne, J. Selvanayagam, J. George, J. Lee, M. Mattheus, H.-J. Woerle, D. Fitchett, Belgium, Australia, Germany, Canada

1120 Arterial stiffness is related to myocardial impairment assessed with advanced echocardiography in type 1 diabetes patients with normal left ventricular ejection fraction

S. Theilade, P. Rossing, J.S. Jensen, M.T. Jensen, Denmark

Poster Event D, Wednesday, 13:15 - 14:15

PS 118 Predictive potential of dyslipidaemia

Chair: D.J. Betteridge, UK

1121 Increased risk for progression of coronary artery calcification in subjects with high baseline Lp(a) levels: the Kangbuk Samsung health study

D. Lee, E. Lee, J. Kim, S. Park, C.-Y. Park, W.-Y. Lee, K.-W. Oh, S.-W. Park, E.-J. Rhee, Korea, Republic of

1122 Type 1 diabetes: specific plasma lipoprotein subclass profiles associate with insulin resistance and arterial stiffness

G. Llauradó, A. Cano, S. Näf, L. Albert, A. Megia, M. González-Sastre, E. Berlanga, S. Fernández-Veledo, J. Vendrell, J.-M. González-Clemente, Spain

1123 Evaluation of three triglyceride metrics in relation to cardiovascular outcomes in 87,648 UK type 2 diabetes subjects

S. Skrtic, C. Cabrera, M. Olsson, V. Schneck, M. Lind, Sweden

1124 High LDLC levels despite statin therapy predicts higher 30 day mortality after acute myocardial infarction in Korean patients with type 2 diabetes

S. Lee, S. Cho, D. Lee, Korea, Republic of

1125 Cardiovascular (CV) outcomes according to LDL cholesterol (LDL-C) levels in EMPA-REG OUTCOME

G. Langslet, B. Zinman, C. Wanner, S. Hantel, R.-M. Espadero, O. Johansen, D. Fitchett, Norway, Canada, Germany, Spain

1126 Carbamylation of HDL in type 2 diabetes

K.C. Tan, S.W. Shiu, Y. Wong, Hong Kong

1127 Serum malondialdehyde-modified LDL levels are increased in type 2 diabetic patients with nephropathy

H. Suzuki, S. Furukawa, K. Fujihara, K. Kobayashi, H. Iwasaki, S. Yato, Y. Sugano, M. Sekiya, N. Yahagi, H. Yagyu, H. Shimano, Japan

1128 Association of PPARG2 Pro12Ala, APOE E2/E3/E4, TNF- α polymorphisms with macrovascular disease, lipid-lowering and endothelial response on atorvastatin in type 2 diabetes

N.O. Lebedeva, O.K. Vikulova, A.G. Nikitin, M.S. Shamkhalova, M.V. Shestakova, I.I. Dedov, Russian Federation

Poster Event E, Thursday, 12:00 - 13:00

PS 119 The heart of the matter: clinical

Chair: D.J. Preiss, UK

1129 Serum levels of angiogenic regulators in type 2 diabetic patients: the relationships with cardiovascular complications

V.V. Klimontov, N.V. Tyan, D.M. Bulumbaeva, N.B. Orlov, V.I. Konenkov, Russian Federation

1130 Effect of empagliflozin on cardiovascular death in subgroups by age: results from EMPA-REG OUTCOME

E. Toural, M. Ridderstråle, D. Fitchett, S. Giljanovic Kiš, H.-J. Woerle, M. Mattheus, B. Zinman, S.E. Inzucchi, Spain, Denmark, Canada, Croatia, Germany, USA

1131 Prevalence of ECG abnormalities in a population based diabetes cohort. The diabetes care system cohort study

G. Nijpels, P.J. Elders, J.W. Beulens, J.M. Dekker, F. Rutters, A.A. Van der Heijden, Netherlands

1132 Risk for cardiovascular diseases based on relationship between post-load and fasting plasma glucose levels in the normal range

Y. Wang, China

1133 Effects of serum bilirubin on the risk of cardiovascular disease

S. Park, S. Suh, N. Cho, M.-K. Lee, Korea, Republic of

1134 The level of phospholipid acyltransferase 1 in diabetic coronary heart disease patients' myocardial cell and analysis of the influence factors

J. Yang, H. Yuan, Z. Zhao, China

1135 Adding novel biomarkers to current cardiovascular risk scores for people with type 2 diabetes: the Edinburgh Type 2 Diabetes Study (ET2DS)

A.H. Price, C.J. Weir, M.W. Strachan, N. Sattar, S. McLachlan, J.F. Price, UK

1136 The prognostic role of high sensitivity CRP and triglycerides on the new onset of left ventricular diastolic dysfunction in type 2 diabetes patients: a 4-year prospective study

E. Fousteris, A. Angelidi, A. Papazafropoulou, A. Theodosios-Georgilas, C. Verras, C. Tountas, S. Matsagos, A. Kamaratos, S. Foussas, A. Melidonis, Greece

Poster Event F, Thursday, 13:15 - 14:15

PS 120 My sweet heart

Chair: A. Ceriello, Spain

1137 Estimated 10-year benefit for diabetes complication rates by 1% HbA_{1c} decrements in people with type 2 diabetes and cardiovascular disease

S.A. Mostafa, R.R. Holman, R.L. Coleman, O. Agbaje, M.A. Bethel, UK

1138 Metabolic subtypes and all-cause and cardiovascular mortality in patients with type 1 diabetes

R. Lithovius, I. Toppila, V. Harjutsalo, C. Forsblom, P.-H. Groop, V.-P. Mäkinen, Finland, Australia

1139 Interrelationship between treatment choice, glycaemic control and event incidence: optimal management of glycaemia in older patients with type 2 diabetes

J. Puelles, J. Gordon, P. McEwan, M. Evans, A. Sinclair, UK

1140 Glycaemic targets and cardiovascular events: comparing diabetic population of more or less than 70 years old. Escarval Risk study

A. Cebrian-Cuenca, D. Orozco-Beltran, V. Gil-Guillen, J. Navarro-Perez, T. Seoane-Pillado, S. Pita-Fernandez, Spain

1141 Sex differences in the Trial Evaluating Cardiovascular Outcomes with Sitagliptin (TECOS)

J.B. Green, J. Alfredsson, S.R. Stevens, S.D. Reed, D.K. McGuire, P.W. Armstrong, S.S. Engel, M.A. Bethel, F. Van de Werf, E.D. Peterson, R.R. Holman, USA, Sweden, Canada, UK, Belgium

1142 The haemoglobin glycation index does not predict the risk for complications in patients treated with aleglitazar: a post hoc analysis from the AleCardio trial

S.C. Van Steen, I.C. Schrieke, J.B. Hoekstra, A.M. Lincoff, J.-C. Tardif, D.E. Grobbee, J.H. DeVries, on behalf of the AleCardio study group, Netherlands, USA, Canada

1143 The effect of continuous subcutaneous insulin infusion treatment on lipid monitoring in type 1 diabetes patients: one-year follow up

K. Chantziara, A. Papachristou, S. Koutroumpi, G. Ioannidis, B. Vlassopoulou, S. Tsarakis, Greece

1144 Estimation of cardiovascular risk in diabetes

E.A. Ermakova, Russian Federation

Poster Event A, Tuesday, 12:00 - 13:00

PS 121 The early years

Chair: K. Dahl-Jørgensen, Norway

1145 Gender differences in insulin resistance during adolescence: a longitudinal study (EarlyBird)

S.C. Jeffery, J. Hosking, A.N. Jeffery, M.J. Murphy, L.D. Voss, T.J. Wilkin, J. Pinkney, UK

1146 Wrist circumference is associated with left ventricular dysfunction in obese children

S. Zampetti, G. Campagna, M. Capizzi, C. Moretti, F. Lucantoni, G. Leto, C. Chiesa, L. Pacifico, R. Buzzetti, Italy

1147 Type 2 diabetes in adolescents with positive specific autoantibodies

A.O. Emelyanov, I.A. Eremina, T.L. Kuraeva, E.V. Titovich, V.A. Peterkova, I.I. Dedov, Russian Federation

1148 Impact of autoantibody values on severity of type 1 diabetes manifestation in children

L.V. Navasardyan, Armenia

1149 Preliminary observations of gastric emptying in diabetic ketoacidosis

L.K. Phillips, C. Marathe, L. Trahair, M.J. Bound, S. Hatzinikolas, L.E. Mignone, A.M. Deane, C.K. Rayner, K.L. Jones, M. Horowitz, Australia

1150 DKA at diagnosis of type 1 diabetes predicts poor long-term glycaemic control

A. Rewers, B. Wang, M. Rewers, L.M. Duca, USA

1151 The gestational diabetes placental pericyte: unique angiogenic profile from South India

R. Samuel, C. Premkumar, S. Rajendran, K. Ramanathan, S.J. Benjamin, M.S. Seshadri, J.E. Mathews, India

Poster Event B, Tuesday, 13:15 - 14:15

PS 122 Markers of vascular disease

Chair: C. Schalkwijk, Netherlands

1152 Are recommended goals for secondary prevention of myocardial infarction or stroke achieved in real life? A German/Austrian DPV analysis of 29,325 patients with type 2 diabetes

B. Bohn, N. Prinz, C. Schöfl, V. Zimmer, M. Hummel, N. Heise, E. Siegel, W. Karges, M. Riedl, R.W. Holl, DPV-initiative, Germany, Austria

1153 High glycated haemoglobin level is associated with increased risk for recurrence of ischaemic non-cardioembolic stroke in diabetic patients

A. Bourdakis, S. Papadatos, C. Dalampira, K. Kalantzis, Greece

1154 High overall cardiovascular risk and mortality in patients with atrial fibrillation suffering from diabetes: a nationwide report

S. Karayiannides, P. Lundman, L. Friberg, A. Norhammar, Sweden

1155 Characteristics and cardiovascular complications of a large cohort of adults diagnosed with type 2 diabetes < 45 years

B. Deconinck, C. Mathieu, K. Benhalima, Belgium

1156 TSP-2 levels are higher in patients with type 2 diabetes, but do not increase with severity of PAD

B. Zierfuss, C. Herz, C. Höbaus, F. Obendorf, R. Koppensteiner, G.H. Schernthaner, Austria

1157 Plasma levels of asymmetric dimethyl arginine and endothelial dysfunction in diabetic subjects with neuropathic foot ulcer

F.A. Kyrillos, M.Y. Abdulaziz, M.M. Motawea, A.A. El-baiomy, T.A. Amer, M.R. El-nahas, Egypt

1158 Clinical neuropathy and proinsulin positive mononuclear cells in type 2 diabetes with neuropathic and neuroischaemic lesions. Italian leukaemia association Treviso project

M. Sambataro, L. Sambado, E. Trevisiol, M. Marcon, S. Conte, A. Paccagnella, Italy

1159 ProBNP strongly predicts future vascular events in peripheral arterial disease patients with as well as in those without the metabolic syndrome

P. Rein, C.H. Saely, D. Zanolin, A. Vonbank, A. Leiherer, A. Mader, P. Schwerzler, H. Drexel, Austria, Liechtenstein

Poster Event C, Wednesday, 12:00 - 13:00

PS 123 Liver in diabetes

Chair: A. Gastaldelli, Italy

1160 γ -Glutamyltransferase concentrations and obstructive sleep apnea syndrome: effect of bariatric surgery

D. Guarino, E. Bonanni, S. Taddei, E. Ferrannini, M. Nannipieri, Italy

1161 γ -Glutamyltranspeptidase fractions in subjects with type 2 diabetes: relation to insulin sensitivity

M. Nannipieri, M. Franzini, D. Guarino, V. Musetti, M. Emdin, A. Paolicchi, E. Ferrannini, Italy

1162 Chronic insulin deficiency and hyperglycaemia in INSC94Y transgenic pigs causes liver transcriptome changes in pathways of amino acid and lipid metabolism

M. Backmann, A. Blutke, S. Krebs, S. Renner, R. Wanke, H. Blum, E. Wolf, Germany

1163 Exogenous DLK1 treatment ameliorates hepatic steatosis and fibrosis by AMPK activation

Y. Shin, H. Kim, Y. Lee, B.-W. Lee, E. Kang, B. Cha, Korea, Republic of

1164 Non-alcoholic fatty liver disease in coronary artery disease patients: association with impaired glucose metabolism and with future cardiovascular event risk

C.H. Saely, D. Zanolin, A. Vonbank, A. Leiherer, P. Rein, A. Mader, P. Schwerzler, H. Drexel, Austria, Liechtenstein

1165 Pentraxin 3 level in serum is associated with LDL-C and apo C3 in patients with type 2 diabetes and NAFLD

M. Waluś, B. Idzior-Walus, A. Trojak, M. Kapusta, M.T. Małecki, Poland

1166 Risk score to predict advanced liver fibrosis in patients with type 2 diabetes

M.W. Yeung, A.O. Luk, R. Kwok, G.L. Wong, S.S. Shu, R.C. Ma, H.L. Chan, J.C. Chan, V.W. Wong, A.P. Kong, China

1167 Inflammation-dependent inactivation of hepatic GABP results in dyslipidaemia and promotes atherogenesis

K. Niopek, M. Berriel Diaz, P. Nawroth, S. Herzig, Germany

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in collaboration with third party supporters

European Foundation for the Study of Diabetes

In 1999 the European Association for the Study of Diabetes (EASD) created its own non-profit Foundation - the **European Foundation for the Study of Diabetes (EFSD)** - in order to support more actively diabetes research in Europe and to serve the goals of EASD.

Thanks to these major programmes, EFSD has already committed an amount over €100 million to European diabetes research.

EFSD is greatly indebted to the following companies and organisations for their most generous support of European diabetes research:

AstraZeneca

EFSD European Diabetes Research Programme in Cellular Plasticity Underlying the Pathophysiology of Type 2 Diabetes supported by AstraZeneca

This programme on the pathological role of cellular plasticity in type 2 diabetes particularly encouraged projects focusing on islet cell plasticity.

EFSD Clinical Diabetes Research Programme in Macrovascular Complications of Diabetes supported by AstraZeneca

Applications dealing with all aspects of clinical diabetes research in macrovascular complications were accepted.

EFSD-PACT for Diabetes Project: PAtient-Centred Treatment to support a holistic approach towards type 2 diabetes supported by AstraZeneca

The primary goal of the project is to develop novel evidence-based approaches for the patient-centred management of type 2 diabetes, based on a validated algorithm to be assessed in a “real world” setting.

Boehringer Ingelheim:

EFSD/Boehringer Ingelheim Research Programme in Microvascular Complications of Diabetes

This Programme is intended to stimulate and accelerate European research in the specific area of microvascular complications (retinopathy, nephropathy and neuropathy) of diabetes.

Japan Diabetes Society:

EFSD/JDS Reciprocal Travel Research Fellowships

The objective of these fellowships is to encourage collaborative research between Europe and Japan in the field of diabetes.

JDRF and Lilly:

EFSD/JDRF/Lilly European Programme in Type 1 Diabetes Research

This programme aims to increase awareness and promote the highest quality of basic biomedical and clinical research in Europe and its associated countries applicable to type 1 diabetes.

Lilly:

EFSD/Lilly European Diabetes Research Programme

These grants are offered within the frame of the EFSD/Lilly Fund and cover any area of basic or clinical diabetes research.

EFSD/Lilly Research Fellowships

The objective of these fellowships is to encourage innovative research in the field of diabetes and its complications, and to promote excellence in medical education.

Merck Sharp & Dohme:

EFSD European Research Programme on New Targets for Type 2 Diabetes supported by MSD

This programme is intended to stimulate and accelerate European research focusing on the identification and molecular understanding of new targets for the treatment of type 2 diabetes.

EFSD Albert Renold Travel Fellowships

Supported by an unrestricted educational grant from **MSD**, these travel fellowships enable young scientists to stay at other institutions in order to learn new techniques in basic or clinical diabetes research.

Novo Nordisk A/S:

EFSD/Novo Nordisk Programme for Diabetes Research in Europe

This programme accepts applications from all fields of clinical and basic diabetes research.

EASD Rising Star Symposium & EFSD Research Fellowship Programme supported by Novo Nordisk

This initiative aims to identify promising and innovative young researchers in basic and clinical diabetes research.

Sanofi:

EFSD/Sanofi European Research Programme: Innovative Approaches for the Treatment of Type 1 and Type 2 Diabetes

The programme is intended to stimulate and accelerate European research focusing on innovative approaches to treat type 1 and/or type 2 diabetes.

Servier:

EFSD/Servier INTENSE Programme: Improving Treatment adherence in people with diabetes mellitus supported in part by an unrestricted educational grant from Servier

This project has been created to develop novel evidence-based approaches for the enhancement of patient adherence in type 2 diabetes therapy.

EFSD awards are strictly competitive and decisions are based upon a rigorous and fully independent peer-review process.

Further information on EFSD programmes can be found under:

www.EuropeanDiabetesFoundation.org

**SYMPOSIA
ON THE OCCASION
OF THE
52nd EASD ANNUAL MEETING
OF THE
EUROPEAN ASSOCIATION
FOR THE STUDY
OF DIABETES**

IDF EUROPE SYMPOSIUM NEW TECHNOLOGIES AND THERAPIES IN DIABETES IMPROVING PATIENT QUALITY OF LIFE

SUNDAY, 11 SEPTEMBER 2016

13:30 - 17:00

Tiburtius Hall

Symposium Chairs: **Konstantinos Makrilakis**, National and Kapodistrian University of Athens Medical School (Greece)

Dario Rahelić, Dubrava University Hospital Zagreb (Croatia)

13:30

Welcome by IDF Europe

13:45

Session 1: Monitoring Technologies and Apps

Chair: **Sandra Bršec Rolih**, Croatian Diabetes Association (Croatia)

Debate

- Oliver Schnell, Forschergruppe Diabetes e.V. (Germany)
- Kyle Jacques Rose, French Diabetes Federation (France)
- Q & A session

14:45

Session 2: Pumps and Closed Loop Systems

Chair: **Cristina Petrut**, Romanian Federation of Diabetes, Nutrition & Metabolic Diseases (Romania)

Debate

- Luiz Tadej Battelino, University Children's Hospital Ljubljana (Slovenia)
- Roman Hovorka, University of Cambridge (United Kingdom)
- Q & A session

15:45

Session 3: The Role of New Insulins in Diabetes Treatment

Chair: **Dario Rahelić**, Croatian Society for Diabetes and Metabolic Disorders (Croatia)

Debate

- Nebojsa M Lalic, University of Belgrade (Serbia)
- Michael Roden, German Diabetes Center (DDZ) (Germany)
- Q & A session

16:45

Conclusion and take home messages

17:00

End/Network

International Diabetes Federation European Region
Promoting diabetes care, prevention and a cure worldwide

ADHERENCE TO TREATMENT: FROM CONCEPT TO PRACTICE

SUNDAY, 11 SEPTEMBER 2016

14:00 - 17:00

Behring Hall

- 14:00 **Welcome by Line Kleinebreil, DESG (FR) and Johan Wens, PCDE (BE)**
- 14:10 **Session I: Non-adherence to treatment, why?**
Chair: **Line Kleinebreil, DESG (FR)**
Co-chair: *Johan Wens, PCDE (BE)*
"Non-adherence in Europe" - Sylvia Lion, Consultant (FR)
"Patients' non-adherence and doctors' clinical inertia:
two faces of medical irrationality" - Gérard Reach (FR)
Panel discussion - moderator Thérèse Lethu (CH)
Klára Picková (CZ), Heike Traub (DE),
Joao Raposo, diabetologist (PT), Kamlesh
Khunti, PCP (UK), Guusje Neijens, nurse educator (NL),
Agata Juruc, psychologist (PL) will be invited to react
and share with us their experience
- 16:00 **Session II: Adherence to treatment: new approaches**
Chair: **Anna Majchrzak, DESG (PL)**
Co-chair: *Kamlesh Khunti, PCDE (UK)*
Peer to peer support in social media, Bastian Hauck (DE)
Do we need a coach to change lifestyle?
Guise Neijens (NL)
- 16:45 **Take home messages**
Mohamed Hassanein, DESG (UK)
- 17:00 **Conclusion**
Florian Toti, DESG (AL) and Xavier Cos, PCDE (ES)

Organised by:
Diabetes Education Study Group (DESG) and Primary Care Diabetes
Europe (PCDE)

Immunotherapy in T1D: Low dose IL2 and beyond

SUNDAY, 11 SEPTEMBER 2016

14:30 - 17:00

Hirsch Hall

- 14:30 **Antigen-specific immunotherapies:
learning from human T-cell biomarkers and bringing it
to the next stage in the mouse**
Roberto Mallone, Cochin Institute, Paris
- 15:00 **Immunotherapy clinical trials for type 1 diabetes**
Alberto Pugliese, Diabetes Research Institute, Miami
- 15:30 **Deep immunophenotyping in autoimmune diseases**
Fabien Pitoiset, Pitié-Salpêtrière Hospital, Paris
- 16:00 **Low dose IL2 in type 1 diabetes**
David Klatzmann, Pitié-Salpêtrière Hospital, Paris

DIABETES AND BONE SYMPOSIUM

On the occasion of the 52nd Annual Meeting
of the European Association for the Study of Diabetes

SUNDAY, 11 SEPTEMBER 2016

14:30 - 17:45

Rubner Hall

- Chairmen: **Paolo Pozzilli (IT/UK) and David Leslie (UK)**
- 14:30 **Registration and introduction by the chairmen**
- 15:00 **The burden of fractures in diabetic patients**
Richard Eastell, Sheffield, UK
- 15:30 **Pathophysiology of bone fragility in T2D patients**
Serge Ferrari, Geneva, Switzerland
- 16:00 **Bone strength in diabetics**
Claus Glüer, Kiel, Germany
- 16:30 **The bone marrow environment and WNT signalling alteration in diabetics**
Roberto Civitelli, St Louis, USA
- 17:00 **Treating a diabetic patient with bone fragility**
Nicola Napoli, Rome, Italy
- 17:30 **Round table: management of the diabetic patient with risk of fracture: all**

For further information please contact: Riina Severini, Campus Bio-Medico University of Rome, Post-Graduate Education, Via Alvaro del Portillo 21 00128 Rome, Italy Tel: +39 06225419402 - 9300

Email: r.severini@unicampus.it; postlauream@unicampus.it

Organised by Campus Bio-Medico University of Rome, Post-Graduate Education (Italy), Barts and the London School of Medicine, Queen Mary, University of London (UK), and Centro Internazionale Studi Diabete, Rome (Italy)

Supported by educational grants by Merck Sharp & Dohme to Campus Bio-Medico University of Rome and by Amgen to Centro Internazionale Studi Diabete

GLOBAL DATA FOR DIABETES AND OBESITY RESEARCH

MONDAY, 12 SEPTEMBER 2016

14:30 - 17:00

Rubner Hall

Chair: **Nick Wareham, University of Cambridge, UK**

InterConnect seeks to optimise the use of existing data to enable new research into the causes of diabetes and obesity.

The variation in the risk of diabetes and obesity between different countries and continents around the world is considerably greater than the variation in risk within individual countries. This population-level heterogeneity in diet, physical activity and disease outcomes is largely unexplained because physically bringing data together from cohort studies across the world is constrained by governance, ethical and legal challenges.

InterConnect is taking a new approach to enabling cross-cohort analyses. Rather than physically pooling data, it takes the analysis to the data - analytical instructions are sent remotely and the analysis is performed locally so all data stays at source and only results are shared. In this way, it is possible to perform an analysis that is equivalent to a meta-analysis of harmonised individual level data and so the approach is called “federated meta-analysis”. A number of exemplar research projects are now being used to make sure the tools are well aligned with their research use and to begin to establish a collaborative network for such federated meta-analyses.

Come to this meeting to discuss:

- **The scientific application – understand the particular contexts for research where federated meta-analysis is the method of choice**
- **The exemplar research projects that are underway – and hear about their findings**
- **What cohorts need to do to get set up – and be part of the network for federated meta-analyses**

Together we can create the foundation for a sustainable, global network for diabetes and obesity population research.

To register for the Symposium, please follow the instructions on:

<https://interconnect2016.eventbrite.co.uk/>

If you are not registered to attend EASD but would like to attend this Symposium, please contact Sarah.Hills@euradia.org.

You can find out more about InterConnect via

<http://www.InterConnect-diabetes.eu>

Organised by EURADIA: Alliance for European Diabetes Research

Industry Symposia Industry Exhibition

on the occasion of the
52nd EASD Annual Meeting



www.easd-industry.com

Organised by



INTERPLAN
media & service gmbh

INDUSTRY SYMPOSIA SCHEDULE

Industry Symposia

	09:00	10:00	11:00	12:00
Minkowski Hall	Novo Nordisk 09:00 – 15:45			
Langerhans Hall		AstraZeneca 09:30 – 16:15		
Meyerhof Hall	Sanofi Diabetes 09:00 – 16:00			
Thannhauser Hall				
Naunyn Hall				
Kussmaul Hall				
Koch Hall			Eli Lilly and Company 11:00 – 12:30	
Heubner Hall		Amgen 10:00 – 12:30		
Virchow Hall		Dexcom 10:00 – 12:30		

INDUSTRY SYMPOSIA SCHEDULE

Monday, 12 September 2016

13:00	14:00	15:00	16:00	17:00
	PCM Scientific/Novartis 13:30 – 16:00			
	Merck Sharp & Dohme 14:30 – 17:00			
	Boehringer Ingelheim & Eli Lilly and Company Diabetes Alliance 14:30 – 16:30			
	Roche Diabetes Care 14:30 – 17:00			
	Abbott 14:30 – 17:00			
	Takeda Pharmaceuticals International, Inc. 14:30 – 17:00			

INDUSTRY SYMPOSIA SCHEDULE

Industry Evening Symposia

Wednesday, 14 September 2016

	18:45 – 20:15
Naunyn Hall	Boehringer Ingelheim & Eli Lilly and Company Diabetes Alliance
Kussmaul Hall	Sanofi Diabetes
Koch Hall	Servier International
Heubner Hall	Novo Nordisk
Virchow Hall	Sanofi Diabetes/Regeneron

Industry Mini Symposia

Wednesday, 14 September 2016

	19:00 – 20:00
Rubner Hall	Merck KGaA

Industry Evening Symposia

Thursday, 15 September 2016

	18:30 – 20:00
Koch Hall	AstraZeneca
Heubner Hall	Novo Nordisk
Virchow Hall	Merck Sharp & Dohme
Hirsch Hall	Sanofi Diabetes

Industry Mini Symposia

Thursday, 15 September 2016

	19:00 – 20:00
Rubner Hall	Fukuda Denshi UK
Behring Hall	JDRF

MONDAY, 12 SEPTEMBER 2016

09:00 – 15:45
MINKOWSKI HALL

IMPROVING CARE: INDIVIDUALISED TREATMENT ACROSS THE DIABETES SPECTRUM

Morning Session

MODERN INSULIN TREATMENT OF TYPE 1 DIABETES

Host: Michael Nauck (Germany), Chair: Thomas Pieber (Austria)

09:00 – 09:10 Welcome

Michael Nauck (Germany), Thomas Pieber (Austria)

09:10 – 09:25 The evolution of prandial insulin – approaching physiology

Peter Kurtzhals (Denmark)

09:25 – 09:40 Translating faster onset into pharmacological performance

Tim Heise (Germany)

09:40 – 09:55 From faster onset to clinical benefits in type 1 diabetes

Chantal Mathieu (Belgium)

09:55 – 10:10 Hypoglycaemia in patients with type 1 diabetes treated with insulin degludec compared to insulin glargine U100: the double blinded SWITCH 1 trial

Wendy Lane (USA), Simon Heller (UK)

10:10 – 10:30 Panel Discussion

10:30 – 11:00 Coffee

MANAGING OBESITY AND EARLY TYPE 2 DIABETES WITH GLP-1 RECEPTOR AGONISTS

Chair: Michael Nauck (Germany)

11:00 – 11:20 Can GLP-1 receptor agonists reduce the risk of T2DM?

Carel le Roux (Ireland)

11:20 – 11:40 Switching from DPP-4 inhibitors to GLP-1 receptor agonists: what to expect?

Richard Pratley (USA)

11:40 – 12:00 GLP-1 receptor agonists – are they all the same?

Filip Knop (Denmark)

12:00 – 12:20 Panel Discussion

12:20 – 13:20 Lunch

MONDAY, 12 SEPTEMBER 2016

09:00 – 15:45
MINKOWSKI HALL

IMPROVING CARE: INDIVIDUALISED TREATMENT ACROSS THE DIABETES SPECTRUM

Afternoon Session

INTENSIFYING LATER-STAGE TYPE 2 DIABETES TREATMENT

Chair: Michael Nauck (Germany), Thomas Pieber (Austria)

13:20 – 13:30 Welcome

Michael Nauck (Germany), Thomas Pieber (Austria)

13:30 – 13:45 Hypoglycaemia in patients with type 2 diabetes treated with insulin degludec compared to insulin glargine U100: the double blinded SWITCH 2 trial

Wendy Lane (USA), Simon Heller (UK)

13:45 – 14:05 Improving glycaemic control with combined dual injectable therapy

Melanie Davies (UK)

14:05 – 14:20 IDegLira: from clinical benefits to patient outcomes

Stewart Harris (Canada)

14:20 – 14:35 From faster onset to clinical benefits in type 2 diabetes

Athena Philis-Tsimikas (USA)

14:35 – 14:55 Panel Discussion

CARDIOVASCULAR OUTCOME TRIALS

Chair: Michael Nauck (Germany)

14:55 – 15:15 Results from the LEADER Trial

John Buse (USA)

15:15 – 15:35 The impact of CVOTs on the management of type 2 diabetes

Bernard Zinman (Canada)

15:35 – 15:45 Close

Michael Nauck (Germany), Thomas Pieber (Austria)

Organised by: **Novo Nordisk**

**FACING NEW HORIZONS: OPTIMISM &
OPPORTUNITIES IN DIABETES MANAGEMENT**

Morning Session

**BASAL INSULINS: CONFIDENCE TO NAVIGATE THE PATH OF
INTENSIFICATION**

Chairs: J. Skyler (USA), E. Ferrannini (Italy)

09:00 – 09:15 Introduction: The Evolving Face Of Diabetes
J. Skyler (USA)

**09:15 – 11:30 Managing risk in clinical practice:
Considerations across the metabolic continuum**

09:15 – 09:35 Patient case presentation
C. Wysham (USA)

09:35 – 10:10 The challenge of adherence: Can new insulins help?
C. Wysham (USA), K. Khunti (UK)

10:10 – 10:30 Hypoglycemia in context
R. Ritzel (Germany)

**10:30 – 10:50 The journey to control in special
populations**
J. Escalada (Spain)

**10:50 – 11:10 Addressing dyslipidemia in patients with diabetes and
high cardiovascular risk**
K. Ray (UK)

**11:10 – 11:30 Real world contributions to the understanding
of disease management in T2DM**
N. Freemantle (UK)

**11:30 – 11:50 Panel discussion: Considerations across the metabolic
continuum: key considerations for clinical practice**
J. Skyler (USA), C. Wysham (USA), K. Ray (UK)

11:50 – 12:00 Audience question

12:00 – 13:00 Lunch

MONDAY, 12 SEPTEMBER 2016

09:00 – 16:00
MEYERHOF HALL**FACING NEW HORIZONS: OPTIMISM &
OPPORTUNITIES IN DIABETES MANAGEMENT****Afternoon Session****TITRATABLE CO-FORMULATIONS: REVOLUTIONISING THE ROAD TO GLYCAEMIC CONTROL?**

Chairs: J. Skyler (USA), E. Ferrannini (Italy)

13:00 – 13:10 Welcome Back, Introduction And Overview Of The Afternoon Session
E. Ferrannini (Italy)**13:10 – 14:55 Revolutionising The Path To Glycaemic Control****13:10 – 13:30 New paths to glycaemic control in T2DM**
A. Cheng (Canada)**The emerging role of titratable co-formulations****13:30 – 13:50** – in patients failing on OADs
J. Rosenstock (USA),**13:50 – 14:10** – in patients uncontrolled on basal insulin
C. Aroda (USA)**14:10 – 14:45 Debate: Sequential vs simultaneous intensification – A new management paradigm**
J. Rosenstock (USA), N. Skolnik (USA)**14:45 – 15:50 The Road Ahead****14:45 – 15:05 How are CVOTs changing the road to control?**
J. Probstfield (USA)**15:05 – 15:25 The next treatment options for the journey ahead**
C. Bailey (UK)**15:25 – 15:50 How close are we to revolutionising diabetes management?**
W. Cefalu (USA)**15:50 – 16:00 Meeting summary and close**
E. Ferrannini (Italy)**Organised by: Sanofi Diabetes**

TYPE 2 DIABETES: BEYOND THE BETA CELL

Morning Session

Chairs: Baptist Gallwitz (Germany), Jiten Vora (UK/AZ)

09:30 – 10:00 Coffee

SESSION 1: GLYCAEMIC CONTROL: IS IT TIME TO MOVE ON?

10:00 – 10:15 Should glycaemic control be central to the management of Type 2 diabetes?

Tina Vilsbøll (Denmark)

10:15 – 10:25 Chairs' welcome and introduction

Baptist Gallwitz (Germany), Jiten Vora (UK/AZ)

SESSION 2: CARDIOMETABOLIC MECHANISMS UNDERLYING TYPE 2 DIABETES: THE NEXT THERAPEUTIC TARGET

10:25 – 10:45 Can we reduce the incidence of macrovascular complications?
Neil Poulter (UK)

10:45 – 11:05 Cardiovascular outcome trials: Current status
Bernard Zinman (Canada)

11:05 – 11:25 Cardiovascular outcome trials: Implications for clinical practice
Juris Meier (Germany)

11:25 – 11:35 Discussion

11:35 – 11:55 Is there more to learn about renal impairment in Type 2 diabetes?
Mark Cooper (Australia)

11:55 – 12:15 Preserving renal function beyond glycaemic control – myth or reality?
David Cherney (Canada)

12:15 – 12:25 Discussion

12:25 – 12:45 Hormonal dysregulation: What is the impact on glycaemic control and the broader pathophysiology?
Daniel Drucker (Canada)

12:45 – 13:05 Does management of the broader pathophysiology improve outcomes in Type 2 diabetes?
Jens Holst (Denmark)

13:05 – 13:15 Discussion

13:15 – 14:15 Lunch break

MONDAY, 12 SEPTEMBER 2016

09:30 – 16:15
LANGERHANS HALL

TYPE 2 DIABETES: BEYOND THE BETA CELL

Afternoon Session

Chairs: Baptist Gallwitz (Germany), Jiten Vora (UK/AZ)

SESSION 3: INDIVIDUALISED MANAGEMENT OF TYPE 2 DIABETES: THE PATIENT-CENTRED APPROACH

14:15 – 14:20 Chairs' introduction

Baptist Gallwitz (Germany), Jiten Vora (UK/AZ)

14:20 – 15:05 Is it time to shift the focus away from glycaemic control?

Juris Meier (Germany), Chantal Mathieu (Belgium)

15:05 – 15:25 Combination therapy in Type 2 diabetes – why, what and when?

Chantal Mathieu (Belgium)

15:25 – 15:50 Panel discussion: Where do novel therapies best fit within the treatment paradigm?

Panel: Jens Holst (Denmark), Juris Meier (Germany),
Chantal Mathieu (Belgium), Daniel Drucker (Canada)

SESSION 4: TREATING TODAY, MANAGING FOR THE FUTURE

15:50 – 16:05 From the science of today to the medicines of tomorrow

Marcus Schindler (Sweden/AZ)

16:05 – 16:15 Type 2 diabetes: Managing our patients beyond the beta cell

Panel: Jens Holst (Denmark), Juris Meier (Germany),
Chantal Mathieu (Belgium), Daniel Drucker (Canada),
Marcus Schindler (Sweden/AZ)

Organised by: **AstraZeneca**

MONDAY, 12 SEPTEMBER 2016

**11:00 – 12:30
KOCH HALL**

**OVERCOMING INSULIN TREATMENT CHALLENGES:
WHAT CAN WE LEARN FROM CLINICAL AND REAL WORLD
EVIDENCES**

Morning Session

- 11:00 – 11:15** **Introduction to the reality of people treated with insulin**
Melanie Davies (UK)
- 11:15 – 12:00** **Insulin treatment regimens in T2DM: how does real world
evidence support RCT findings?**
Dennis Raccach (France), Seoyoung Kim (USA)
- 12:00 – 12:30** **Expert perspectives: learnings and options to overcome
insulin treatment challenges**
Bill Polonsky (USA), Melanie Davies (UK), Peter Lin (Canada)
- 12:30** **Summary and Close**
Melanie Davies (UK)

Organised by: Eli Lilly and Company

MONDAY, 12 SEPTEMBER 2016

10:00 – 12:30
HEUBNER HALL

**REDUCING CARDIOVASCULAR RISK IN DIABETES:
WHAT DOES THE FUTURE HOLD?**

Morning Session

- 10:00 – 10:10 Welcome and introduction**
Naveed Sattar (UK)
- 10:10 – 10:30 Cardiovascular risk in patients with diabetes**
Diethelm Tschöpe (Germany)
- 10:30 – 10:50 Diabetes, lipids and CVD risk**
Jan Boren (Sweden)
- 10:50 – 11:10 Reducing LDL by PCSK9 inhibition: evidence of efficacy and safety in patients with diabetes**
Naveed Sattar (UK)
- 11:10 – 11:30 PCSK9 inhibition: an opportunity for CV risk reduction?**
Terje Pedersen (Norway)
- 11:30 – 11:55 Patient vignette**
Panel
- 11:55 – 12:25 Panel discussion and Q&A**
Terje Pedersen (Norway)
- 12:25 – 12:30 Concluding remarks**
Terje Pedersen (Norway)

Organised by: **Amgen**

MONDAY, 12 SEPTEMBER 2016

13:30 – 16:00
THANNHAUSER HALL

TRANSCENDING THE TEMPLATE: STRATEGIES FOR OPTIMISING COMPLEX PATIENT MANAGEMENT

Afternoon Session

Co-Chairs: Silvio Inzucchi (USA), David Matthews (UK)

13:30 – 13:40 Chairs' welcome
David Matthews (UK)

13:40 – 13:55 Setting targets and optimizing strategies in complex patients
Silvio Inzucchi (USA)

13:55 – 14:25 Interactive patient case study: heart failure and coronary artery disease
Mikhail Kosiborod (USA)

14:25 – 14:55 Interactive patient case study: severe obesity
Rachel Batterham (UK)

14:55 – 15:45 Interactive patient case study: advanced microvascular disease
Roland Schmieder (Germany)
Hans-Peter Hammes (Germany)

15:45 – 16:00 Chairs' summary
David Matthews (UK)

Organised by: **PCM Scientific** and supported by an independent educational grant from **Novartis Pharmaceuticals** (CME accredited)

MONDAY, 12 SEPTEMBER 2016

14:30 – 16:30
KUSSMAUL HALL

ADDRESSING THE CHALLENGES OF KIDNEY DISEASE IN TYPE 2 DIABETES

Afternoon Session

Moderator: Alice Cheng (Canada), Johannes Mann (Germany)

14:30 – 14:35 Welcome and introduction

Alice Cheng (Canada)

**14:35 – 14:55 Current challenges of managing kidney disease
in type 2 diabetes: could we do more?**

Johannes Mann (Germany)

**14:55 – 15:45 Glucose control and beyond: potential renal effects
of DPP-4 and SGLT2 inhibition**

Mark Cooper (Australia), Alice Cheng (Canada)

15:45 – 16:05 Future perspectives and implications

Andrew Frankel (UK)

**16:05 – 16:25 Panel discussion: The role of kidney disease
in type 2 diabetes management**

All faculty moderated by Johannes Mann (Germany)

16:25 – 16:30 Closing remarks

Alice Cheng (Canada)

Organised by: **Boehringer Ingelheim & Eli Lilly and Company
Diabetes Alliance**

MONDAY, 12 SEPTEMBER 2016

**14:30 – 17:00
KOCH HALL**

IMPROVING DIABETES MANAGEMENT WITH ADVANCES IN HEALTH TECHNOLOGY

Afternoon Session

Chairs: Gnanagurudasan Prakasam (USA), Rolf Hinzmann (Germany)

14:30 – 14:40 Introduction

**14:40 – 15:05 Improving treatment satisfaction with the Accu-Chek®
Connect diabetes management system**
Pablo Mora (USA)

15:05 – 15:30 The next generation Roche diabetes management system
Nigel Surridge (USA)

**15:30 – 15:55 How modern technologies enable integrated diabetes
management**
Matthias Axel Schweitzer (Germany)

15:55 – 16:20 Do insulin pumps dose insulin correctly?
Ralph Ziegler (Germany)

**16:20 – 16:45 Characteristics of the new Accu-Chek Insight CGM
System**
Günther Schmelzeisen-Redeker (Germany)

16:45 – 17:00 Discussion and closing

Organised by: Roche Diabetes Care

MONDAY, 12 SEPTEMBER 2016

14:30 – 17:00
HEUBNER HALL

**FLASH GLUCOSE MONITORING: REDEFINING DIABETES
MANAGEMENT WITH METRICS BEYOND HbA1c**

Afternoon Session

Chair: Thomas Haak (Germany)

14:30 – 14:40 Introduction and opening

Thomas Haak (Germany)

14:40 – 15:00 Flash Glucose Monitoring in the pediatric population

Thomas Danne (Germany)

15:00 – 15:25 Hypoglycemia in type 2 diabetes: myths, facts and future directions

Ramzi Ajjan (UK)

15:25 – 15:50 Is Time in Range the better HbA1c?

Michael Joubert (France)

15:50 – 16:20 IMPACT: Data from a recent Flash Glucose Monitoring clinical outcome trial in type 1 diabetes

Jan Bolinder (Sweden)

16:20 – 16:45 Concluding thoughts: the limitations of HbA1c

Irl B. Hirsch (USA)

16:45 – 17:00 Q&A session

Organised by: **Abbott**

MONDAY, 12 SEPTEMBER 2016

14:30 – 17:00
VIRCHOW HALL

**CHANGING HEARTS & MINDS
DELIVERING PERSONALISED MEDICINE AND SUPPORT FOR
POST-ACS PATIENTS WITH T2D**

Afternoon Session

Chair: Antonio Ceriello (Italy)

14:30 – 14:40 Welcome and Introduction

Antonio Ceriello (Italy)

14:40 – 15:10 High-risk patient profiles – how biomarkers can facilitate treatment individualisation

George Bakris (USA)

15:10 – 15:40 How physicians can use clinical decision-making tools to help individualise treatment

Antonio Ceriello (Italy)

15:40 – 16:20 Digital tools to help physicians support patient self-management

Stefano Bonacina (Sweden)

16:20 – 16:55 Panel discussion: a multidisciplinary framework for continuity of care

Antonio Ceriello (Italy),
George Bakris (USA),
Stefano Bonacina (Sweden),
Francesc Xavier Cos (Spain)

16:55 – 17:00 Conclusion & Symposium close

Antonio Ceriello (Italy)

Organised by: **Takeda Pharmaceuticals International, Inc.**

WEDNESDAY, 14 SEPTEMBER 2016

18:45 – 20:15
NAUNYN HALL

EVOLVING CONSIDERATIONS IN TYPE 2 DIABETES MANAGEMENT: GOING BEYOND GLUCOSE CONTROL

Evening Session

Moderator: Christoph Wanner (Germany), Alice Cheng (Canada)

18:45 – 18:50 Welcome and introduction
Christoph Wanner (Germany)

18:50 – 19:10 Are we doing enough for patients with type 2 diabetes?
George Bakris (USA)

**19:10 – 19:30 Addressing clinical outcomes in type 2 diabetes beyond
standard of care: learnings from EMPA REG OUTCOME®**
Christoph Wanner (Germany)

**19:30 – 19:50 Novel strategies to slow the progression of kidney
disease in type 2 diabetes: an emerging mechanism
of SGLT2 inhibition**
David Cherney (USA)

**19:50 – 20:10 Panel discussion: Reassessing current and future
treatment approaches in type 2 diabetes**
All faculty

20:10 – 20:10 Closing remarks
Alice Cheng (Canada)

20:10 – 20:15 Meeting close

Organised by: **Boehringer Ingelheim & Eli Lilly and Company
Diabetes Alliance**

HIGH CV RISK PATIENTS WITH DIABETES AND DYSLIPIDAEMIA

Evening Session

Chair: Klaus Parhofer (Germany)

18:45 – 18:50 Introduction

Klaus Parhofer (Germany)

18:50 – 19:20 Lipid targets in patients with diabetes: debate

– **LDL-C should be the primary target**

Ulrich Laufs (Germany)

– **Non-HDL-C should be the primary target**

Alberto Zambon (Italy)

19:20 – 19:50 Which patients with diabetes will benefit the most from additional lipid lowering therapy?

Lawrence Leiter (Canada)

19:50 – 20:10 Challenges in management of diabetes

– **How do we implement new evidence when managing cardiovascular risk in patients with diabetes?**

George Grunberger (USA)

20:10 – 20:15 Conclusion

Klaus Parhofer (Germany)

WEDNESDAY, 14 SEPTEMBER 2016

18:45 – 20:15
KOCH HALL

**STRATEGIES FOR ACHIEVING EFFECTIVE AND SUSTAINED
GLYCEMIC CONTROL REAL WORLD CHALLENGES FOR TYPE 2
DIABETES MANAGEMENT**

Evening Session

Chairs: Luc Van Gaal (Belgium), to be announced

18:45 – 19:15 Should glycemic control still be at the core of T2D management?

Pierre Gourdy (France)

19:15 – 19:45 When treatment goals are not met: the difficulty in translating to the real-world setting

Luc Van Gaal (Belgium)

19:45 – 20:15 Perspectives and new options for effective and sustained control

Juris Meier (Germany)

Organised by: **Servier International**

WEDNESDAY, 14 SEPTEMBER 2016

18:45 - 20:15

Ramada Hotel & Conference Center München Messe "Eventhof"

**DIABETES TIPO 2: INNOVACIÓN CONSTANTE EN EL
TRATAMIENTO (Presentado en Español)**

(In English: Type 2 Diabetes: Constant innovation in the treatment)

18:45 – 20:15: Simposio

20:15 – 21:30: Cena

Director del curso:

Jaime A. Davidson, MD, FACP, MACE

Profesor de Medicina Clínica

División de Endocrinología

Touchstone Diabetes Center

University of Texas Southwestern Medical Center

Dallas, Texas, USA

Ponentes:

Elías Delgado Álvarez, MD, PhD

Universidad de Oviedo

Jefe del Departamento de Diabetes, Endocrinología y Nutrición

Hospital Universitario Central de Asturias

Oviedo, España

Guillermo González Gálvez, MD

Especialista en Medicina Interna y Endocrinología

Maestro en Ciencias Médicas

Profesor de Endocrinología

Universidad de Guadalajara

Jefe del Servicio de Endocrinología

Hospital Civil de Guadalajara "Dr. Juan I. Menchaca"

Director del Instituto Jalisciense de Investigación en Diabetes y Obesidad S.C.

Guadalajara, México

Apoyado por una beca educacional no restringida de Novo Nordisk A/S.

WEDNESDAY, 14 SEPTEMBER 2016

19:00 – 20:00
RUBNER HALL

PRE-DIABETES – WHAT IS IT AND WHAT CAN BE DONE AGAINST IT?

Evening Session

- 19:00 – 19:15 What is “pre-diabetes”**
Rury Holman (UK)
– Is it a “disease”?
– Prevalence now and in the future
- 19:15 – 19:30 RCT findings for diet & exercise in pre-diabetes: What diet & exercise programme should be recommended?**
Jaakko Tuomilehto (Finland)
- 19:30 – 19:45 RCT findings for pharmacological interventions How should we prevent/treat “pre-diabetes”?**
Rury Holman (UK)
- 19:45 – 20:00 Interactive discussion**
All

Organised by: **Merck KGaA**

THURSDAY, 15 SEPTEMBER 2016

18:30 – 20:00
VIRCHOW HALL

CLINICAL TREATMENT IN PATIENTS WITH TYPE 2 DIABETES: AN EVOLVING UNDERSTANDING FOR CLINICIANS

Evening Session

- 18:30 – 18:35 Welcome and Opening Remarks**
Michael Nauck (Germany)
- 18:35 – 18:50 The Case for Early Multiple Combination Therapy
of Type 2 Diabetes: The Role of DPP-4 Inhibitors**
Bernard Zinman (Germany)
- 18:50 – 18:55 Q&A**
- 18:55 – 19:10 Across a Broad Spectrum of Type 2 Diabetes Patients:
Efficacy and Safety of DPP-4 Inhibitors in Older Type 2
Diabetic Patients With Multiple Comorbidities**
Lawrence Leiter (Canada)
- 19:10 – 19:15 Q&A**
- 19:15 – 19:30 Newly Emerging Data From the TECOS (Trial Evaluating
Cardiovascular Outcomes With Sitagliptin) Cardiovascular
Safety Trial: A Cardiologist's View**
Nikolaus Marx (Germany)
- 19:30 – 19:35 Q&A**
- 19:35 – 19:55 Clinical Considerations: Evolving the Spectrum of Patient
Care in Type 2 Diabetes**
Faculty
- 19:55 – 20:00 Final Comments and Summary**
Michael Nauck (Germany)

Organised by: **Merck Sharp & Dohme**

THURSDAY, 15 SEPTEMBER 2016

18:30 – 20:00
KOCH HALL

WHAT SCIENCE CAN DO IN DIABETES

Evening Session

Chair: Jiten Vora (UK/AstraZeneca)

18:30 – 19:00 Reception

19:00 – 19:05 Welcome

Jiten Vora (UK/AstraZeneca)

What Science can Do

Bruce Cooper (UK/AstraZeneca)

Current and forthcoming opportunities for diabetes treatment

19:05 – 19:15 Role of monotherapies today

Clifford Bailey (UK)

19:15 – 19:25 Opportunities from combination treatments

Francesco Giorgino (Italy)

19:25 – 19:35 What does the future look like in diabetes management

Melanie Davies (UK)

19:35 Panel Discussion

19:50 – 20:00 AstraZeneca R&D highlights

William Haynes (Sweden/AstraZeneca)

20:00 Close

Organised by: **AstraZeneca**

THURSDAY, 15 SEPTEMBER 2016

18:30 – 20:00
HEUBNER HALL

CHANGING PERCEPTIONS OF OBESITY AND ITS RELATED COMORBIDITIES

Evening Session

Chair: Matthias Blüher (Germany)

18:30 – 18:40 Welcome and introduction

Matthias Blüher (Germany)

18:40 – 19:00 Uncovering the risks associated with obesity

Leigh Perreault (USA)

19:00 – 19:20 Management of obesity: what options do we have?

John Wilding (UK)

19:20 – 19:40 From clinical trials to clinical practice

David Lau (Canada)

19:40 – 19:55 Panel discussion

All faculty

19:55 – 20:00 Summary and closure

Matthias Blüher (Germany)

THURSDAY, 15 SEPTEMBER 2016

19:00 – 20:00
RUBNER HALL

**CAVI – CARDIO-ANKLE VASCULAR INDEX – A NEW GLOBAL
ARTERIAL STIFFNESS INDEX IN DIABETIC PATIENTS**

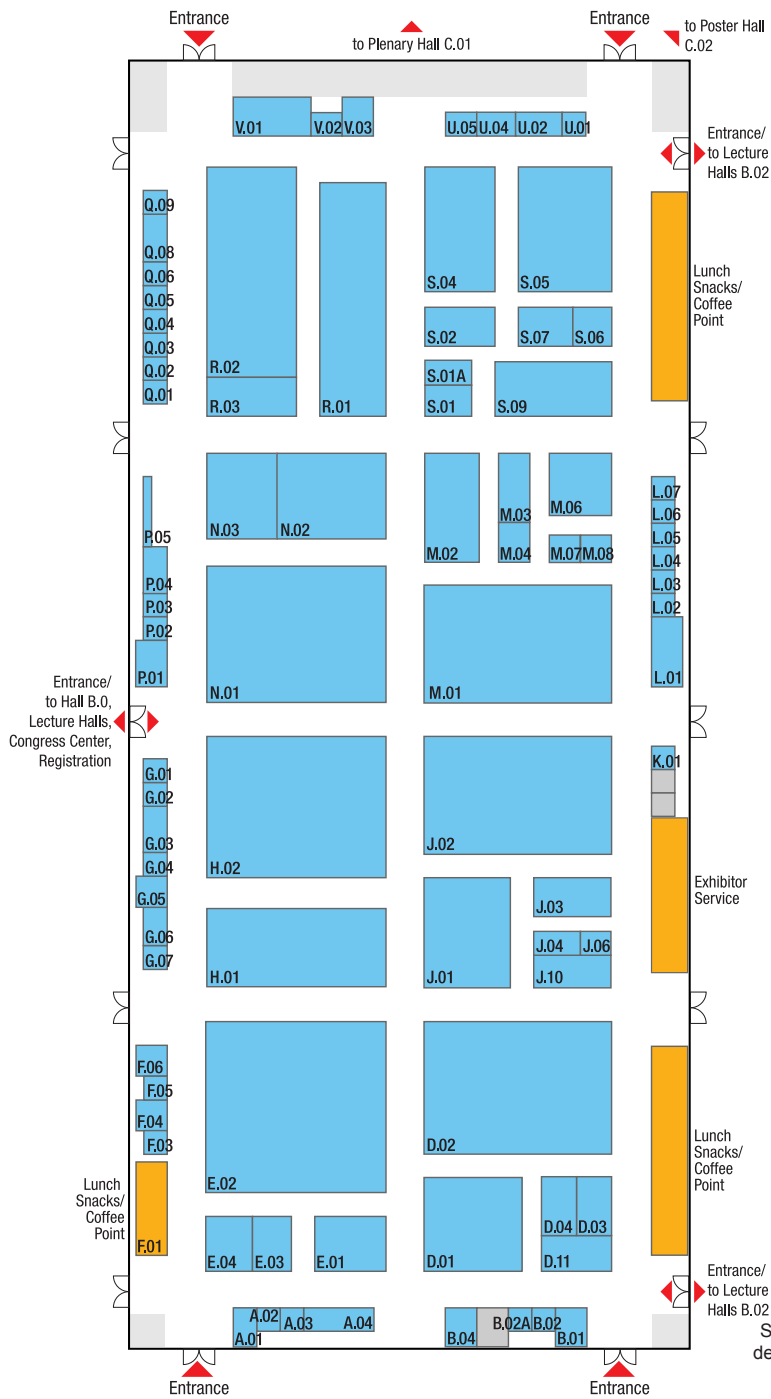
Evening Session

Chairs: Roland Asmar (Switzerland), Paul Valensi (France)

- 19:00 – 19:20 CAVI, Guiding Treatment for Arterial Dysfunction,
Independent of Blood Pressure? The Vasera Trial in People
with and at Risk of Type 2 Diabetes**
Kennedy Cruickshank (UK)
- 19:20 – 19:40 The Impact of Arterial Stiffness in Diabetic Management**
Kohji Shirai (Japan)
- 19:40 – 20:00 Metabolic Risk Factors and CAVI The Triple
A Multi-Center Study**
Roland Asmar (Switzerland)

Organised by: **Fukuda Denshi UK**

Industry Exhibition – Hall B1



Industry Exhibition

Status July 2016, details are subject to changes.

Preliminary

Company	Booth
A.MENARINI DIAGNOSTICS	S.04
Abbott Diabetes Care Inc.	M.02
ACON LABORATORIES, INC.	B.04
Adelphi Real World	L.06
Alere International Ltd	M.07
Allpresan – neubourg skin care	V.03
ARKRAY Europe B.V.	D.11
ARTSANA S.P.A. – PIC SOLUTION	L.01
Ascensia Diabetes Care	N.03
AstraZeneca	N.01
Becton Dickinson France S.A.S.	E.03
bio.logis Center for Human Genetics	L.05
Boehringer Ingelheim	E.02
Cadila Healthcare Ltd.	S.01
Cardiff University	L.03
Cellnovo Group	A.02
ClinTriCare GmbH & Co. KG	G.01
CODHy	Q.05
Crown Bioscience Inc.	B.01
Danish Diabetes Academy	Q.04
Dexcom, Inc.	S.06
Diagnostics Technologies B.V.	U.05
Diamesco Co., Ltd.	S.02
Edge Consulting srl	B.02
EFPIA	F.04
Eli Lilly and Company	D.02
Elsevier BV	Q.06
Emperra GmbH	L.02
EOFLOW Co., Ltd.	Q.02
Eyenuk Inc.	B.02A
ForaCare Suisse AG	M.03
Fukuda Denshi Co. Ltd	P.01
gbo Medizintechnik AG	Q.01
GI Dynamics	M.08
GlaxoSmithKline	G.03
Glenmark Pharmaceuticals Ltd.	S.01A
HRA Healthcare Research & Analytics	Q.03
IBL International GmbH	F.05
IDx Europe B.V.	V.02
iHealth Europe	J.06
IME-DC GmbH	J.10
Impeto Medical	A.01
Infopia Co., Ltd.	D.03
Inside Biometrics Ltd	F.06
Intarcia Therapeutics, Inc.	R.03

List**of**

Company	Booth
Integrity Applications	J.04
INVITALIS GmbH	Q.07
i-SENS, Inc.	E.04
Janssen	R.01
Johnson & Johnson Family of Diabetes Care Companies	R.01
Karger Publishers	G.02
LUPIN LTD	U.02
MED TRUST Handelsges.m.b.H.	P.04
MEDEXEL CO., LTD	A.03
Medical Supply Co., Ltd.	L.04
Medscape Diabetes & Endocrinology	S.05
Medtronic International Trading Sàrl	E.01
MEDTRUM TECHNOLOGIES INC.	A.04
MSD	J.02
Mylan	S.09
Novartis Pharma AG	H.01
novel gmbh	G.07
Novo Nordisk A/S	H.02
Novo Nordisk A/S	J.03
Optomed Oy	P.02
Phoenix Europe GmbH	Q.09
POCTech Medical	M.04
PODARTIS SRL	G.07
REGENERON	D.04
Research Diets, Inc.	U.01
Roche Diabetes Care GmbH	J.01
SANOFI	D.04/M.01
SERVIER	R.02
SOOIL Development Co., Ltd.	M.06
Steno Diabetes Center	U.04
Takeda Pharmaceuticals International AG	D.01
The JAMA Network	P.03
Time Research Limited	G.04
Trividia Health, Inc.	S.07
VibroSense Dynamics AB	F.03
ViCentra BV	V.01
VPD BLEED d.o.o.	G.05
Welch Allyn	K.05
Wiley	G.06
Wisepress Medical Bookshop	P.05
Wuxi Apex Medical Co., Ltd.	L.07
Ypsomed AG	N.02

Status July 2016, details are subject to changes.

WELCOME ADDRESS

On behalf of the Local Organising Committee, and after the great success of the 47th EASD Annual Meeting held in Lisbon in 2011, it is an honour to welcome this major scientific event back to our city in 2017. Lisbon, Europe's second oldest capital, once home to the world's greatest explorers, offers a wide variety of options to explore: wonderful architecture, magnificent monuments, a rich history, vibrant cultural life and great natural sightseeing opportunities. Surrounded by beaches, mountains and the countryside, it is a historic capital, a potpourri of unusual character and charm, an amalgam of 800 years of cultural influences mingled with modern trends and lifestyle, creating intricate and spectacular contrasts. It is the birthplace of the world's first diabetes association – the Portuguese Diabetes Association. Founded in 1926 by Ernesto Roma, today it is a national and international model for diabetes care.



The EASD Annual Meeting will take place in the Parque das Nações, at the International Fair of Lisbon (FIL), a former industrial zone, it was entirely rebuilt for Expo 98 with excellent access to downtown and the airport. The sessions will take place at the FIL and in the adjacent MEO Arena with the meeting starting with Symposia on 11 September and the Opening Session on the morning of Tuesday, 12 September. Always a rewarding meeting, with opportunities to make new contacts, meet old friends and stimulate creative exchange, we look forward to welcoming you in September 2017 for the 53rd EASD Annual Meeting in Lisbon.

A handwritten signature in dark ink, appearing to read 'Luis Gardete Correia'.

Luis Gardete Correia
Chairman, Local Organising Committee

EASD 2017



National Tiles Museum, Lisbon

Lisbon – Portugal

**53rd Annual Meeting of the
European Association for the
Study of Diabetes**

11 - 15 September 2017

www.easd.org

EASD VIRTUAL MEETING

ABSTRACTS WEBCASTS EPOSTER

The EASD Virtual Meeting* has changed the face of scientific meetings as we know it.

From its humble beginnings, the EASD Virtual Meeting is now the world's leading online platform for showcasing scientific excellence. Unlike many other medical associations, in our effort to spread knowledge and to promote excellence in diabetes care, EASD makes this available, to all, for free.

Up-to-date science which influences day-to-day health care around the world is a priority for all and not only the privileged few.

Easy to navigate, the EASD Virtual Meeting contains 1000's of presentations from recent years and is updated hourly during the Annual Meeting with the newest content.

Visit www.easdvirtualmeeting.org on your desktop or smart device to access this invaluable resource.



www.easdvirtualmeeting.org

* The EASD Virtual Meeting is unsponsored and is financed entirely by EASD