



LA DIABETES A DEBATE 2016

Diabetes in the Knowledge Frontier

Barcelona, 8th of October

Aula Magna de Casa de Convalescència

Carrer de Sant Antoni Maria Claret, 171

ciberdem

Centro de Investigación Biomédica en Red
Diabetes y Enfermedades Metabólicas Asociadas



AGENDA

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10:30 - 11:00 Welcome Coffee

11:00 - 11:15 **Welcome**

Dr. Eduard Montanya

Scientific Director, CIBERDEM. Endocrinology & Nutrition Service Hospital de Bellvitge, Barcelona

11:15 - 13:00 **OBESITY**

Chair: Dr. Rafael Simó

CIBERDEM Investigator. Endocrinology & Nutrition Service Hospital Vall d'Hebron, Barcelona

Fatty acids, obesity and insulin resistance: inflammation in adipocytes

Dr. Peter Arner

Lipid laboratory, Department of Medicine, Huddinge, Karolinska Institutet, Stockholm, Sweden

BAT as an antiobesogenic and antidiabetic strategy

Dr. Antonio Vidal Puig

University of Cambridge Metabolic Research Laboratories, United Kingdom

Effects of glucagon-like peptide on human adipocytes.

Dr. Joan Vendrell

CIBERDEM Investigator. Endocrinology & Nutrition Service Hospital Univ. Joan XXIII, Tarragona

13:00 - 14:00 Lunch

14:00 - 14:45 **MSD DIABETES PIPELINE UPDATE**

Chair: Dr. Ramón Gomis

CIBERDEM Investigator

Endocrinology & Nutrition Service Hospital Clínic, Barcelona

Future treatment options for type 2 and type 1 diabetes

Dr. Richard Carr

Regional Director Medical Affairs Europe & Canada MSD

14:45 - 16:30 **CELL AND REGENERATIVE THERAPY IN DIABETES**

Chair: Dr. Ramón Gomis

Embryonic stem cell therapy for type 1 diabetes

Dr. Robert Henry

University of California San Diego and Veterans Affairs San Diego Healthcare System, USA

Beta-cell reconstitution by modulation of islet cell type interconversion

Dr. Pedro Herrera

Department of Genetic Medicine & Development, University of Geneva

Cell therapy of diabetes mellitus and its complications

Dr. Bernat Soria

CIBERDEM investigator. Stem Cell Department, Andalusian Center of Molecular Biology & Regenerative Medicine (CABIMER), Sevilla

16:30 - 16:45 **Wrap-up**

Dr. Eduard Montanya

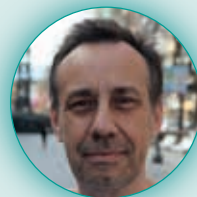
BIOSKETCH SPEAKERS



Peter Arner, MD, is principal investigator and associate director of the diabetes research program at the Karolinska Institute (Stockholm, Sweden), and head of the Lipid Laboratory of the Endocrinology Unit, which also includes a clinical research center at the Karolinska University Hospital. He specialized as internist and endocrinologist, and performed his postdoctoral training in the University of Rochester (New York, USA). During the last four decades, he has studied the regulation of human adipose metabolism and its role in metabolic disturbances using an integrative perspective based on both experimental and clinical approaches. He has investigated, precisely, how genes and adipocytes interact to control this at a molecular level in normal and pathological conditions, and also has inquired about the potential contribution of adipose tissue to the pathogeny of diabetes and atherosclerosis. For instance, his group has demonstrated that adipocytes are formed throughout life and not only in childhood. Consequently, his laboratory is deeply connected within the international metabolic research community and he belongs to the project board of three important projects of the Sixth and Seventh Framework Programme of the UE (HEPADIP, ADAPT, COST). The work of Prof. Arner has been worldly recognized by numerous prestigious awards: the Wasserman award in obesity research in 2005, the Eric K. Fernström Nordic Prize in medicine in 2012 and the Esko Nikkilä International Award in Medicine in 2014.



Antonio Vidal-Puig, MD, PhD, is Professor in Molecular Nutrition and Metabolism at the University of Cambridge, and honorary consultant in metabolic medicine at Addenbrooke's Hospital, Cambridge. In parallel, Director of the Cambridge Phenomics Centre, a state-of-the-art center that applies multidisciplinary approaches to murine phenotyping and Associate Faculty at Wellcome Trust Sanger Institute. His programme of research focuses on the molecular mechanisms of lipid-induced insulin resistance and on developing strategies to prevent the deleterious effects of lipids, specifically by modulating fatty acid oxidation and thermogenic mechanisms. He specialized in endocrinology and his doctoral thesis studied the physiological and clinical correlates between insulin resistance and hyperandrogenism. Furthermore, he was awarded the Paul Dudley White Fellowship from the American Heart Association for his post-doctoral training at Harvard University, what supported his work with Dr David Moller and Prof Jeffrey Flier at the Beth Israel Hospital. Having published several key papers on the genetics and expression of PPAR γ in human disease states and been appointed Instructor in Medicine at Harvard, Dr Vidal-Puig further broadened his scientific horizons with experience in mouse transgenesis and knockout techniques in Prof Brad Lowell's group. In 2000 he moved to the University of Cambridge to establish his own laboratory and embarked on the development of a programme based on genetically modified mouse models of metabolic diseases.



Joan Vendrell, MD, PhD, is Head of Endocrinology and Nutrition Service at the University Hospital Joan XXIII and Full Professor in the School of Medicine, at the Rovira I Virgili University (URV). After ending his specialization in endocrinology and nutrition at Hospital Clinic from Barcelona, Dr Vendrell benefited for a predoctoral fellow position in the same institution that established the basis of his future research activity in the field of endocrinology. In 1990 he started his professional activity as endocrinologist at the University Hospital Joan XXIII in Tarragona (HJ23) in parallel with his teaching activity as associated professor at the URV. In 1994 after obtaining his PhD degree Dr Vendrell occupied an interim position as full professor in the School of Medicine of the URV. Between 1994 and 2000 he increased his research activity by collaborating in several research projects leading a nation wide net in the field of diabetes. In 2000 Dr Vendrell succeed the position of full professor and head of the endocrinology unit. Since this year and until 2014 he has been the research coordinator of HJ23 receiving from our government research agencies several funds to co-found his salary to invest in research. Likewise, now he is the head of a nationwide research group of diabetes in the setting of the excellence research centers supported by Carlos III research health Institute from Spain. His teaching activity at URV is developed in three different areas, including medicine degree, nutrition degree and master in nutrition. Likewise the endocrinology service is also involved in post-graduate teaching activities in the endocrinology specialty. At this moment Dr Vendrell leads a research covering a wide area of the insulin-resistance, including morbid obesity and type 2 diabetes.



Richard Carr MD, PhD, Richard Carr received his Ph.D. from the University of Sheffield; UK in 1979 and 1984 respectively. After 14 years working within drug discovery at Novo Nordisk, rising to the position of Scientific Vice President, Richard moved to MSD (known as Merck Inc in the USA) in May 2007. He is currently the Regional Director of Medical Affairs for Europe and Canada and Director, Clinical Science Liaison within Diabetes and related fields. He is also a honorary senior lecturer at University College, London. Richard's research interests are in metabolic and cardiovascular disease, with particular interests in rational drug design, and currently focus upon the endocrinology of food intake and the cardiovascular properties of glucagon-like peptide 1. Richard was responsible for the initial proposal and identification of the DPP4 inhibitor approach to treat type 2 diabetes. Richard has co-authored over 75 original peer-reviewed publications.



Robert R. Henry, MD, is Professor of Medicine in the Division of Endocrinology & Metabolism at the University of California, San Diego and Chief of both the Section of Endocrinology, Metabolism & Diabetes and the Center for Metabolic Research at the VA Medical Center in San Diego. Dr Henry completed his residency in internal medicine and fellowship in endocrinology at the University of Manitoba Medical School, Canada. He is Past President of the American Diabetes Association (ADA) Medicine and Science (2011) and is a member of the American Association of Clinical Endocrinology (AACE), the European Association for the Study of Diabetes, the Obesity Society, the Endocrine Society, Western Society for Clinical Investigation, Western Association of Physicians, the American Federation for Clinical Research and the Royal College of Physicians Edinburgh. His research is funded by the National Institutes of Health-NIDDK, the ADA, the Department of Veterans Affairs and numerous pharmaceutical grants. Recent awards include the Distinguished Clinical Scientist Award from the ADA, the Mary Jane Kugal Award of the Juvenile Diabetes Research Foundation International, the Robert H. Williams-Rachmiel Levine Award from the Western Metabolism Club, Frontiers in Science Award from AACE and the Banting Medal for Public Service from the ADA. Dr Henry current clinical research interests involve the study of new therapies for type 1 and type 2 diabetes and obesity. Basic science interests include study of the metabolic and cardiovascular effects of human skeletal muscle and adipose tissue secretory products including adiponectin, signal interactions between skeletal muscle and adipose tissue and defects of insulin signal transduction in these tissues of obese and type 2 diabetic patients.

BIOSKETCH SPEAKERS



Pedro Herrera, PhD, is Full Professor in the Department of Genetic Medicine & Development at the University of Genève, Switzerland. He is also president of the Animal Ethics Committee and director of the Transgenic Core Facility of the university. Prof. Herrera has been recognized as a leader in pancreas and diabetes research by important awards, including the Denber-Pinard Prize and more recently the Gerold & Kayla Grodsky Basic Research Scientist Award and the Mary Jane Kugel Award. Besides, he is member of several international scientific committees and the Beta Cell Biology Consortium, which was established by the NIH to facilitate the understanding of pancreatic islet development and function.

Based on his work on transgenic mice, he published the first in vivo lineage-tracing analysis during development in mammals using the Cre/loxP system. The ultimate goal of his current research projects is to develop innovative treatments for diabetes. Consequently, his group studies the mechanisms of cell fate allocation and pancreatic cell type requisites, both during normal ontogeny and during pancreatic regeneration in adult diabetics. More specifically, he is interested in understanding the origin of insulin producing β cells.



Bernat Soria, MD, PhD, is University Professor of Regenerative Medicine at the University Pablo Olavide (Seville). He is principal investigator of the Diabetes Mellitus Cell Therapy group, Director of the Stem Cell Department and past director of CABIMER (Centro Andaluz de Biología Molecular y Medicina Regenerativa). Minister of Health of the Spanish Government between 2007 and 2009, he has received the Prize and Gold Medal of the Royal Academy of Medicine (1989), Alberto Sols Prize (1997), Paul Harris Fellow (2003), Extraordinary Friend of the Autonomous Univ of Barcelona (2003), Medal of Andalucía (2004), Ibn-al-Jatib Prize (Granada, 2005), Galien International Prize (2006), Prize for the Best Idea of the Decade (stem cell research, 2009), the High Cross of the Carlos III Order from the King of Spain (2009), Doctor Honoris Causa (Univ Científica del Sur, 2013; Univ Nacional Mayor de San Marcos, Peru 2014) and, more recently Honorary Fellow of the Royal College of Physicians (UK, 2015). Currently, his main interests lie on the potential use of cell therapy for diabetes, the biology of stem cells (SC), their directed differentiation of embryonic SC towards pancreatic beta cells and adult stem cells for the treatment of diabetic complications. Prof. Soria was pioneer in Spain in the research with embryonic stem cells. He pioneered the field of generate insulin producing cells (similar to the β cells in the islets of Langerhans) from embryonic stem cells with which he could actually normalize the diabetic phenotype of a murine model.



Eduard Montanya, MD, PhD, is professor at the Faculty of Medicine of the University of Barcelona, Chief of the Diabetes Section at the University Hospital of Bellvitge, and coordinator of the Diabetes & Metabolism research group at IDIBELL (Institut de Investigació Biomèdica de Bellvitge). His research interest is focused on pancreatic islet cells, particularly in the function and regeneration of insulin producing β cells, cell therapy of diabetes including islet cell transplantation and new pharmacologic treatments for diabetes. Prof. Montanya has authored over 150 scientific articles and book chapters, and has collaborated as scientific advisor of several key leader research institutions at national and international level such as the Juvenile Diabetes Research Foundation and the European Foundation for the Study of Diabetes. Moreover, he has served as reviewer for the most important scientific societies and journals in the field of diabetes. Prof. Montanya was granted a Fulbright Fellowship to perform his postdoctoral at Harvard, has received the Mary Jane Kugel Award, and has been distinguished with the E. Lilly research award and more recently the VI Alberto Sols Award of senior basic research by SED (Sociedad Española de Diabetes) foundation. Simultaneously, he has been coordinator of the pancreatic islets group of the SED and president of the Associació Catalana de Diabetis. He is currently secretary of the pancreatic islets group of the EASD, president of the diabetes advisory board of Catalonia and scientific director of CIBERDEM (Centro de Investigación Biomédica en Red de Diabetes y Enfermedades Metabólicas Asociadas).



Ramon Gomis, MD, PhD, is director of IDIBAPS (Institut d'Investigacions Biomèdiques August Pi i Sunyer), university professor of endocrinology at the University of Barcelona, senior advisor at the Clínic Hospital in Barcelona and fellow of the Academy of Europe. He has also been director of the Fundació Clínic per la Recerca Biomèdica and scientific director of CIBERDEM. Prof. Gomis has focused his clinical and fundamental research in diabetes and obesity, leading his own group at IDIBAPS-Hospital Clínic. Moreover, he has been principal investigator of research projects funded by national and international public and private entities since the very beginning of his professional career. As a result of his research work, he has published more than 300 original articles in the most prestigious scientific journals and owns the exploitation rights of 4 patents related to obesity, Alzheimer's disease, hemostasis and diagnostic methods of type 2 diabetes mellitus. Additionally, he has written 21 book chapters for medical students and has directed over 30 doctoral thesis. Prof. Gomis is also past president of the SED, and member of the EASD council and the European Union of Medical Specialists. He has participated in several government commissions, editorial committees and has also been evaluator of research projects for national and international agencies. Among the many awards he has been granted, the following stand out: the Creu de Sant Jordi, the Narcís Monturiol medal to the scientific and technologic merit and the Premi Nacional de Recerca by the regional government of Catalonia. Finally, he has also been conferred the Clinical Research Award of the Lilly Foundation and the Basic Diabetes Research Award of the SED.



Rafael Simó, MD, PhD, is director of the Diabetes & Metabolism research group at the Instituto de Investigación Hospital Universitario Vall d'Hebron in Barcelona, chief of section in the Endocrinology Service of the university hospital Vall D'Hebron and professor of medicine and endocrinology in the UAB (Universitat Autònoma de Barcelona). His group belongs to two national research networks of excellence: CIBERDEM and RECAVA (Red de Enfermedades Cardiovasculares). Prof. Simó has published more than 15 book chapters and 150 scientific articles related to diabetes in high impact factor journals. He is coordinator of the European projects EUROCONDOR (European Consortium for the Early Treatment of Diabetic Retinopathy) and HEALTH-FP7-278040, and is vice chair of the EASD-eye complications. Thanks to his contribution to the knowledge of diabetic complications pathophysiology (especially regarding diabetic retinopathy), Prof. Simó is considered a widely and internationally recognized opinion leader. Proof of that are the many awards he has received, including the Rodríguez Miñón Prize, the SEEN (Sociedad Española de Endocrinología) Award to the Trajectory of a Group and the Dr. Josep Trueta Award of the Academy of Medical Sciences of Catalonia and Balearics for his work in the advance in biomedical research.



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