

CIBERDEM ANNUAL MEETING 2016

May 11th-13th
Hotel Campus
Campus UAB
Cerdanyola del Vallès
Barcelona

ciberdem



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"Una manera de hacer Europa"

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WELCOME LETTER

Dear CIBERDEM investigators,

It is my pleasure to welcome you to our Annual Meeting. The program of the meeting has been structured aiming to stimulate the interaction among CIBERDEM investigators and to reflect the quality and diversity of our research activity. This would have not been possible without your enthusiastic participation contributing a large number of abstract that we very much appreciate.

The opening lecture, in memory of Dr. Anna Maria Gomez Foix, will be the occasion to remember and honor the scientist and the friend. On the next two days, the meeting has been organized in three blocks of scientific sessions based on our three research programs. Each block includes an initial State of the Art lecture followed by several oral presentations from the different research groups. Poster sessions are fundamental to stimulate the interaction among investigators, an essential aspect of the meeting, and we have tried to arrange them in a somewhat more relaxed ambience. We will also have a session to update our knowledge on CIBERDEM Platforms, their organization, achievements and services. Finally, we will cover two relevant questions particularly important for the future of CIBERDEM research: funding opportunities, that will be discussed in a pre-meeting workshop addressed specifically to CIBERDEM post-docs, and technology transference.

I hope that you will find the meeting rewarding both scientifically and personally, that it fulfills your expectations, and I wish you a pleasant stay in the natural environment of the UAB Campus.

A handwritten signature in blue ink, appearing to read 'Eduard', followed by a long, sweeping horizontal line that tapers to a point on the right.

Eduard Montanya
Scientific Director, CIBERDEM

Wednesday, May 11th

15:30 REGISTRATION

16:00-17:30 WORKSHOP “Public funding opportunities for young CIBERDEM investigators”

Deborah Burks (Centro de Investigación Príncipe Felipe, Valencia)
Angel Nadal (Universidad Miguel Hernández, Alicante)
Joan J. Vendrell (Fundación Instituto de Investigación Sanitaria Pere Virgili)

Addressed to CIBERDEM Post-Docs

18:30 OPENING SESSION

Eduard Montanya, Scientific Director, CIBERDEM

18:45-19:30 OPENING LECTURE. In Memoriam Dr. Anna Maria Gomez Foix

Insights into muscle metabolism from cellular and animal models:
Anna Maria Gómez-Foix, 1995-2015

Loranne Agius (Institutes of Cellular Medicine and Ageing and Health, Medical School, Newcastle University)

Chair: Joan Guinovart (IRB, Barcelona)

19:30-21:00 POSTERS AND REFRESHMENTS

19:30 CIBERDEM PIs MEETING

21:00 DINNER

Thursday, May 12th

9:00 PROGRAM 1 SESSION

Chair: Angela Martinez Valverde (Consejo Superior de Investigaciones Científicas, Madrid)

Ricardo Rodríguez (Pere Virgili Health Research Institute, Reus)

9:00-9:30 State of the Art lecture

Diabetes: a lipid metabolism disease. New insights from metabolomic studies

LLuís Masana (Pere Virgili Health Research Institute, Reus)

9:30-11:00 Oral Presentation session 1

9:30 OP1. PCSK9 circulating levels and CETP plasma activity are associated independently of lipid lowering therapies

Josefa Girona¹, [Daiana Ibarretxe](#)¹, Núria Plana¹, Sandra Guaita¹, Núria Amigó², Mercedes Heras¹, and Luis Masana¹

¹ *Vascular Medicine and Metabolism Unit, Research Unit on Lipids and Atherosclerosis, "Sant Joan" University Hospital, Universitat Rovira i Virgili, IISPV, Reus, CIBERDEM*

9:45 OP2. A novel GLP-1/Glucagon receptor dual agonist improves non-alcoholic steatohepatitis and liver regeneration in mice

[MP Valdecantos](#), V Pardo, E Fernández-Millán, C García-Monzón, Al Arroba, L Ruiz, A González-Rodríguez, F Escrivá, C Álvarez, C Barbas, A Konkar, J Grimsby, CM Rondinone, AM Valverde

Instituto de Investigaciones Biomédicas Alberto Sols (CSIC-UAM), Madrid

10:00 OP3. Mitochondrial biogenesis induced by calorie restriction in white adipose tissue is mediated by PGC-1s co-activators: influence on glucose homeostasis

L. Cervela¹, M. de Marco¹, R. Pardo¹, P. Gama², P. García-Rovés², R. Simó¹, [J. A. Villena](#)¹

¹ *Vall d'Hebron Institut de Recerca, Barcelona*

10:15 OP4. Topical administration of somatostatin prevents retinal neurodegeneration in a spontaneous model of type 2 diabetes
Lidia Corraliza, Patricia Bogdanov, Cristina Solà-Adell, Cristina Hernández, Rafael Simó
Diabetes and Metabolism Research Unit, Vall d'Hebron Research Institute, Barcelona, CIBERDEM

10:30 OP5. The cannabinoid sensitive receptors GPR55, GPR18 and CB1 might modulate inflammatory response in type 2 diabetes
S.Y. Romero-Zerbo, V. Espinosa-Jimenez, N. Cobo, B. Gauthier, F.J. Tinahones, G. Rojo, F.J. Bermudez-Silva
IBIMA-Hospital Regional de Málaga

10:45 OP6. Low-frequency and rare variants in type 2 diabetes mellitus by exome-sequencing
Galan-Chilet I¹, Pérez D¹, Martínez-Barquero V¹, Martínez-Hervas S², Real JT², Ascaso JF², Pérez-Soriano C¹, Marín P¹, García AB^{1,3}, Chaves FJ¹
¹ *Genetic Diagnosis and Genotyping Unit, Biomedical Research Institute Hospital Clinic of Valencia (INCLIVA)*

11:00-11:30 Coffee break

11:30-12:45 Oral Presentation session 2

11:30 OP7. The autoimmune disease candidate gene dext1 modulates virus-induced pancreatic beta cell inflammation and death
Izortze Santin¹, Reinaldo Dos Santos², Laura Marroquí², Amaia Jauregi-Miguel³, Decio L. Eizirik² and Luis Castaño¹
¹ *Endocrinology and Diabetes Research Group, BioCruces Health Research Institute, Barakaldo, CIBERDEM*

11:45 OP8. Fatty acids regulate TNF α levels released from adipocyte by changes in the methylation status of the TNF α promoter
Eva García-Escobar^{1,2}, Elehazara Martín-Rubio^{1,2}, Natalia Colomo^{1,2}, Juan M Gomez-Zumaquero³, Sergio Valdés^{1,2}, Sara García-Serrano^{1,2}, Ana Lago-Sampedro^{1,2}, Gemma Rojo-Martinez^{1,2}
¹ *UGC Endocrinología y Nutrición, Instituto de Investigación Biomédica de Málaga (IBIMA),* ² *CIBERDEM*

12:00 OP9. Glycemic control and antidiabetic treatment trends in patients with type 2 diabetes cared for in primary care during 2007-2013 in catalonia

Manel Mata Cases^{1,2,3}, Josep Franch Nadal^{2,3,4}, Jordi Real², Dídac Maurício^{2,4,5}

¹ Centre d'Atenció Primària La Mina, Sant Adrià de Besòs (Barcelona).
Gerència d'Àmbit d'Atenció Primària Barcelona Ciutat, Institut Català de la Salut, ² Grup DAP_Cat (Grup de Recerca en Diabetis en Atenció Primària a Catalunya) de la Unitat de Suport a la Recerca de Barcelona de l' Institut Universitari d'Investigació en Atenció Primària Jordi Gol (IDIAP-Jordi Gol),
³CIBERDEM

12:15 OP10. ApoA-I mimetic administration, but not increase in ApoA-I-containing HDL levels, reduces tumour growth in mice with inherited breast cancer

Lídia Cedó^{1,2}, David Santos^{1,2}, Annabel García-León¹, Lucía Baila-Rueda³, Josep Maria Carbó⁴, Antonio Zorzano⁵, Annabel F. Valledor⁴, Enrique Lerma^{1,6}, Fernando Civeira³, Srinivasa T. Reddy⁷, Joan Carles Escolà-Gil^{1,2,8}, Francisco Blanco-Vaca^{1,2,6,8}

¹ Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau, Institut d'Investigacions Biomèdiques (IIB) Sant Pau, Barcelona, ² CIBERDEM

12:30 OP11. Genetic and pharmacological HDL-raising strategies partly rescue macrophage-specific reverse cholesterol transport in diabetic mice
Teresa L. Errico^{1,2}, Lídia Cedó^{1,2}, David Santos^{1,2}, Joan C. Escolà-Gil^{1,2}, Francisco Blanco-Vaca^{1,2}, Josep Julve^{1,2}

¹ Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau. Institut d'Investigacions Biomèdiques Sant Pau, Barcelona, ² CIBERDEM

13:00-13:30 LECTURE: The relevance of technology transference in biomedical research and its management in CIBER

Luzma García Piqueres (Transferencia Tecnológica, CIBER, Madrid)

Chair: Eduard Montanya, Scientific Director CIBERDEM

13.30-15:30 LUNCH AND POSTERS

15:30 PROGRAM 2 SESSION

*Chair: Franz Martin Bermudo (Universidad Pablo de Olavide, Sevilla)
Noèlia Tellez (IDIBELL, Barcelona)*

15:30-16:00 State of the Art lecture

Non-coding genome function in pancreatic islets and diabetes

Jorge Ferrer (IDIBAPS, Barcelona)

16:00-17:30 Oral Presentation session 3

16:00 OP12. Identification of new mechanisms involved in the postnatal regeneration of endocrine pancreas: role of the autophagy in beta-cells and its relationship with IGF-2

Fernández-Millán E¹, Álvarez-Cilleros D², de Toro-Martín J³, Lizárraga-Mollinedo E^{1,4}, Escrivá F^{1,2}, Álvarez C^{1,2}

¹*Facultad de Farmacia, UCM, Madrid, CIBERDEM*

16:15 OP13. AAV-mediated specific overexpression of IGF1 in the pancreas prevents and counteracts type 1 diabetes

Cristina Mallol, Estefania Casana, Veronica Jimenez, Alba Casellas, Claudia Jambrina, Victor Sacristan, Meritxell Morró, Laia Vilà, Xavier León and Fatima Bosch

Center of Animal Biotechnology and Gene Therapy and Department of Biochemistry and Molecular Biology, School of Veterinary Medicine, Universitat Autònoma de Barcelona, Bellaterra, CIBERDEM

16:30 OP14. Cellular patterning of insulin/IGF1 signalling by insulin receptor substrate 2 gene expression

Manzano Núñez F., Acosta Umanzor C., Leal Tassias A., Burks DJ., Noon LA
Centro de Investigación Príncipe Felipe, Valencia

16:45 OP15. Protein tyrosine phosphatase a novel target for the improvement of revascularization and survival of transplanted islet grafts
H. Figueiredo, A.L. Castillo Figueroa, A. García, R. Fernández-Ruiz, R. Malpique, R. Gomis
Diabetes and Obesity Research Laboratory, Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Barcelona, CIBERDEM

17:00 OP16. Role of GATA6 in pancreatic β cell function
Anabel Rojas¹, Laura Villamayor Coronado¹, Raquel Araujo¹, Bernat Soria¹, Francisco Martín¹, David Cano²
¹ CABIMER, Sevilla, CIBERDEM

17:15 OP17. Umbilical Cord Mesenchymal Stromal Cells Delay the Onset of Hyperglycaemia in the RIP-B7.1 model of type 1 diabetes
Esther Fuentes-Martin, Christian Lachaud C, Nadia Cobo-Vuilleumier, Franz Martin, Karim Hmadcha, Benoit Gauthier, Bernat Soria
CABIMER, Sevilla, CIBERDEM

17:30 – 18:00 Coffee break

18:00-19:15 Oral Presentation session 4

18:00 OP18. β -cell dedifferentiation and reduced neogenesis contribute to impaired β -cell mass regeneration in middle-aged rats
Noèlia Téllez, Marina Vilaseca, Yasmina Martí, Arturo Pla, Eduard Montanya
IDIBELL, Barcelona, CIBERDEM

18:15 OP19. Insulin secretion is inhibited by cortistatin-14 in pancreatic beta cells
M. Castellano-Muñoz, A. Rafacho, P. Alonso-Magdalena, E. Irlles, M. Bello, B. Merino, S. Soriano, P. Iborra, A. Ruiz, R. M. Luque, A. Nadal, I. Quesada
Universidad Miguel Hernandez, Alicante

18:30 OP20 Targeting inflammation in pancreatic islets

Júlia Rodríguez, Carlos Castaño, Gema Alcarraz-Vizán, Sara de Pablo, Mercè Obach, Joel Montané, Marcelina Párrizas, Anna Novials, Joan-Marc Servitja
Diabetes and Obesity Research Laboratory, Institut d'Investigacions Biomèdiques August Pi i Sunyer, Barcelona, CIBERDEM

18:45 OP21. Exosomal miRNAs participate in the regulation of glucose homeostasis in mice

Marcelina Párrizas, Carlos Castaño, Maria Pallarés, Laura Brugnara and Anna Novials
Institut d'Investigacions Biomèdiques August Pi i Sunyer, Barcelona

19:00 OP22. Altered central and peripheral circadian clocks affecting energy metabolism in congenitally blind mice show differential entrainment by time-restricted feeding

Río-Martín A. R.¹, Fernández-Pérez, A.^{1,2}, de la Villa, P.³ and Vallejo, M.^{1,2}
¹*Instituto de Investigaciones Biomédicas Alberto Sols, CSIC/UAM, Madrid,*
²*CIBERDEM*

19:30-21:00 POSTERS AND REFRESHMENTS

21:00 DINNER

Friday, May 13th

9:00 PROGRAM 3 SESSION

*Chair: Antonio Zorzano (IRB, Barcelona)
Maria Inseser (Servicio Madrileño de Salud)*

9:00-9:30 State of the Art lecture

Treatment of Polycystic Ovary Syndrome in Adolescence: Towards a therapy targeting adipose tissue and insulin resistance

Lourdes Ibáñez (Fundación para la investigación y la docencia Sant Joan de Déu, Barcelona)

9:30-11:00 Oral Presentation session 5

9:30 OP23. Stimulated Occurrence and Biological Activity of Palmitoleic Acid and Its Isomers in Metabolic Diseases

Clara Meana, Carlos Guijas, María A. Balboa and Jesús Balsinde
Instituto de Biología y Genética Molecular, CSIC, Valladolid

9:45 OP24. Hyperactivation of mTORC1 in pancreatic β cells overexpressing human amylin causes a blockade in autophagic flux and an induction of apoptosis

Guillén C, García Aguilar A, García Hernández M, Benito M
Facultad de Farmacia, UCM, Madrid

10:00 OP25. Insulin receptor isoform α ameliorates glucose intolerance in diabetic mice

O Escribano, S Diaz-Castroverde, A Gómez-Hernández, S Fernández, G García-Gómez, E Fernández-Millan, N Beneit, M Benito
Facultad de Farmacia, UCM, Madrid, CIBERDEM

10:15 OP26. Metabolomics reveals impaired maturation of HDL particles in adolescents with hyperinsulinaemic androgen excess

Samino S, Vinaixa M, Díaz M, Beltran A, Rodríguez MA, Mallol R, Heras M, Cabre A, Garcia L, Canela N, de Zegher F, Correig X, Ibáñez L, Yanes O
Universitat Rovira i Virgili, IISPV and Hospital Sant Joan de Déu, Reus

10:30 OP27. Liver glycogen, a novel target to treat diabetes and obesity
Iliana López-Soldado, Rebeca Iris Fuentes, Jordi Duran, Joan J. Guinovart
Institut de Recerca Biomèdica (IRB), Barcelona, CIBERDEM

10:45 OP28. Genetic models rule out a major role of beta cell glycogen in the control of glucose homeostasis

Joan Mir-Coll^{1,2}, Jordi Duran^{1,3}, Felipe Slebe^{1,3}, Mar García-Rocha^{1,3}, Ramon Gomis^{2,3}, Rosa Gasa^{2,3}, Joan J. Guinovart^{1,3}

¹*Institut for Research in Biomedicine*, ³*CIBERDEM*

11:00 -11:30 Coffee break

11:30-13:00 Oral Presentation session 6

11:30 OP29. Characterization of serum microRNAs profile of polycystic ovary syndrome (PCOS), and obesity

María Insenser, Mora Murri, Elena Fernández-Durán, Jose L. San-Millán, Héctor F. Escobar-Morreale

Diabetes, Obesity and Human Reproduction Research Group, Hospital Universitario Ramón y Cajal & Universidad de Alcalá & Instituto Ramón y Cajal de Investigación Sanitaria (IRYCIS), Madrid, CIBERDEM

11:45 OP30. BACE1 contributes to saturated fatty acid-induced ER stress, inflammation and insulin resistance in skeletal muscle cells

G. Botteri¹, L. Salvadó¹, A.M. Gómez-Foix², G. Montagut³, M.L. Ashford³, E. Barroso¹, X. Palomer¹, M. Vázquez-Carrera¹

¹Department of Pharmacology and Therapeutic Chemistry, Faculty of Pharmacy, University of Barcelona

12:00 OP31. ASCs from obese environment are more resistant to apoptosis: A potential role of survivin

Victoria Ceperuelo-Mallafré^{1,2} and Miriam Ejarque^{1,2}, Carolina Serena^{1,2}, Noelia Keiran^{1,2}, Catalina Núñez-Roa^{1,2}, Kelly Roche^{1,2}, Joan Vendrell^{1,2}, Sonia Fernández-Veledo^{1,2}

¹ *Hospital Universitari de Tarragona Joan XXIII-Institut d'Investigació Sanitària Pere Virgili-Universitat Rovira i Virgili, Tarragona,* ²*CIBERDEM*

12:15 OP32. Obesity and type 2 diabetes alters the immune properties of human adipose derived stem cells

Serena C, Keiran N, Ceperuelo-Mallafré V, Maymó E, Nuñez C, Ejarque M, Roche K, Vendrell J, Fernández-Veledo S

¹*Hospital Universitari de Tarragona Joan XXIII. Institut d'Investigació Sanitària Pere Virgili. Universitat Rovira i Virgili, Tarragona, CIBERDEM*

12:30 OP33. Mitofusin 2 links mitochondrial fitness with age-related metabolic disease and sarcopenia

David Sebastián, Eleonora Sorianello, Jessica Segalés, David Sala, Maria Isabel Hernández-Álvarez, Antonio Zorzano

Institute for Research in Biomedicine (IRB Barcelona)

12:45 OP34. Mitofusin 2 is a phosphatidylserine transfer protein involved in liver cancer

María Isabel Hernández-Alvarez^{1,2,3}, David Sebastián^{1,2,3}, Saška Ivanova^{1,2,3}, Paola Bartoccioni^{1,2,9}, Natalia Plana¹, Nuno Vasconcelos¹, Peddinti Gopalacharyulu⁴, Anna Adrover¹, Rui Castro⁵, Antonio Berenguer-Llargo¹, David Sala⁷, Tuulia Hyotylainen⁸, Matej Orešič⁸, Carles Cantó⁶, Manuel Palacin^{1,2,9}, and Antonio Zorzano^{1,2,3}

¹ *Institute for Research in Biomedicine (IRB Barcelona), Institute of Science and Technology, Barcelona,* ²*Departament de Bioquímica i Biologia Molecular, Facultat de Biologia, Barcelona,* ³*CIBERDEM*

13:00-13:45 CIBERDEM PLATFORMS

Chair: Anna Novials (IDIBAPS, Barcelona)

Biorepositorio de Diabetes y Enfermedades Metabólicas
CIBERDEM-IDIBAPS

Veronica Fernández Pascual (Technical coordinator Blood and
Fluid Biobank, Biobank HCB-IDIBAPS, Barcelona)

Metabolomics Platform: new organization, objectives and
research activities

Oscar Yanes (Coordinator Metabolomics Platform, Universitat
Rovira i Virgili, Reus, CIBERDEM)

13:45-14:00 CLOSE OF MEETING

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