



**9<sup>th</sup> CIBERDEM ANNUAL MEETING**

**May 23 - 25, 2018**

**Hotel Campus**

**Campus Universitat Autònoma Barcelona**

**Cerdanyola del Vallès, Barcelona**

**Program**

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## WELCOME LETTER 2018

Dear CIBERDEM investigators,

It is my pleasure to welcome you to our 2018 Annual Meeting. As we did in previous meetings, we will cover the current research developed by CIBERDEM groups in several scientific sessions that will include an initial State of the Art lecture and oral presentations by different research groups. We will welcome the new CIBERDEM group with a lecture given by the PI, Dr Jorge Bondia that will present the main research lines of his group. This year, we have increased the time devoted to the Poster Sessions that provide an excellent opportunity to discuss results, exchange knowledge, and generate new interactions and potential collaborations. As a novelty, a prize will be awarded to the three posters with the higher scores. Finally, we will close the meeting on Friday with a session with the members of the Board of the German Center for Diabetes Research (DZD) that will present the structure of DZD as well as some of their research projects. This session is part of the strategic action to explore potential avenues for collaboration between CIBERDEM and DZD.

I would like to thank each of you for attending the meeting and for contributing with your more recent research data. I wish you two days of exciting science and friendly interactions, and a pleasant stay in the UAB campus.

A handwritten signature in blue ink, appearing to read 'Eduard Montanya', with a long horizontal line extending to the right from the end of the signature.

Eduard Montanya  
Scientific Director, CIBERDEM

Wednesday, May 23<sup>th</sup>

**15:30 REGISTRATION**

**17:00 OPENING AND WELCOME**

Eduard Montanya, Scientific Director, CIBERDEM

**17:15 SESSION 1:**

Chair: *Francisco Blanco (Instituto de Investigación del Hospital de la Santa Cruz y San Pablo, Barcelona)*  
*Emma Barroso (Universidad de Barcelona)*

**17:15-17:45 STATE OF THE ART LECTURE**

Unexpected variety of palmitoleic acid isomers in human inflammatory cells.  
Implications for metabolic disease  
Jesus Balsinde (Instituto de Biología y Genética Molecular, CSIC, Valladolid)

**17:45-19:00 ORAL PRESENTATIONS**

**17:45 OP1 KEY ROLE OF ETHANOLAMINE PLASMALOGENS IN THE RESOLUTION OF INFLAMMATION BY MACROPHAGES**

Julio M. Rubio, María A. Balboa and Jesús Balsinde  
*Instituto de Biología y Genética Molecular, CSIC, Valladolid.*

**18:00 OP2 IDENTIFICATION OF NEW BIOMARKERS OF LIPID METABOLISM IN DIABETIC ATHEROSCLEROSIS**

Oscar Yanes<sup>1,2</sup>, Esmeralda Castelblanco<sup>2,3</sup>, Andris Jankevics<sup>5</sup>, Catherine L Winder<sup>5</sup>, Gavin R. Lloyds<sup>5</sup>, Míriam Gil<sup>4</sup>, Núria Amigó<sup>4</sup>, Ralf JM Weber<sup>5</sup>, Warwick Dunn<sup>5</sup>, Xavier Correig<sup>1,2</sup>, Núria Alonso<sup>2,3</sup>, Dídac Mauricio<sup>2,3</sup>

<sup>1</sup>*Metabolomics Platform, IISPV & Universitat Rovira i Virgili (Tarragona);* <sup>2</sup>*CIBERDEM (Madrid);*

<sup>3</sup>*Diabetes Research Group, Fundación Instituto de Investigación Germans Trias i Pujol (Badalona);* <sup>4</sup>*Biosfer Teslab (Reus);* <sup>5</sup>*Phenome Centre Birmingham, University of Birmingham (Birmingham, UK).*

**18:15 OP3 RESVERATROL REVERSES THE IMPAIRED THERMOGENESIS OF A MOUSE MODEL WITH AN ATROPHIED IBAT**

Guillen, C., Burillo, J., Martínez, H., Marqués, P., García, G., Fernández, S., Benito, M  
*Departamento de Bioquímica y Biología Molecular, Facultad de Farmacia, UCM, CIBERDEM, IdISSC Hospital Clínico San Carlos. Madrid.*

**18:30 OP4 TP53INP2 NEGATIVELY REGULATES ADIPOSITY BY PROMOTING THE AUTOPHAGY-DEPENDENT SEQUESTRATION OF GSK3 $\beta$**

Montserrat Romero<sup>1,2,3</sup>, Ignacio Castrillón<sup>1,2,3</sup>, Alba Sabaté<sup>1,2,3</sup> and Antonio Zorzano<sup>1,2,3</sup>

<sup>1</sup>CIBERDEM, Barcelona; <sup>2</sup>Institute for Research in Biomedicine (IRB Barcelona) Barcelona; <sup>3</sup>Department of Biochemistry and Molecular Biology, Faculty of Biology, University of Barcelona, Barcelona.

**18:45 OP5 POSTPRANDIAL METABOLIC RESPONSE TO ORAL MACRONUTRIENT CHALLENGES: THE EFFECT OF SEXUAL STEROIDS AND OBESITY IN THE ADVANCED LIPOPROTEIN PROFILES**

María Insenser<sup>1,2</sup>, Sara Samino<sup>2,3</sup>, M. Ángeles Martínez-García<sup>1,2</sup>, Elena Fernández-Durán<sup>1,2</sup>, Nuria Amigó<sup>2,3,4</sup>, Oscar Yanes<sup>2,3</sup>, Miguel Ángel Rodríguez<sup>5</sup>, Xavier Correig<sup>2,3</sup> and Héctor Escobar-Morreale<sup>1,2</sup>

<sup>1</sup>Diabetes, Obesity and Human Reproduction Research Group, Hospital Universitario Ramón y Cajal & Universidad de Alcalá & Instituto Ramón y Cajal de Investigación Sanitaria (IRYCIS); <sup>2</sup>CIBERDEM, Madrid; <sup>3</sup>Metabolomics Platform, Department of Electronic Engineering, Rovira i Virgili University, IISPV, Tarragona; <sup>4</sup>Biosfer Teslab S.L., Reus; <sup>5</sup>Centre for Omic Sciences, Rovira i Virgili University, Reus.

**19:00-21:00 POSTERS & REFRESHMENT**

**21:00 DINNER**

Thursday, May 24<sup>th</sup>

## 9:00 SESSION 2

Chair: *Xavier Correig (Instituto de Investigación Sanitaria Pere Virgili, Reus)*  
*Clara Meana (Instituto de Biología y Genética Molecular, CSIC, Valladolid)*

## 9:00-9:30 WELCOME TO NEW CIBERDEM GROUP

Grupo en Páncreas Artificial y Tecnologías para la Diabetes  
Jorge Bondía (Universidad Politécnica de Valencia)

## 9:30-10:45 ORAL PRESENTATIONS

### 9:30 OP6 OBESITY-DRIVEN METHYLATION SIGNATURE OF ADIPOCYTE PRECURSORS DETERMINES MITOCHONDRIAL PHENOTYPE IN HUMAN ADIPOSE TISSUE

Miriam Ejarque<sup>1,2</sup>, Victoria Ceperuelo-Mallfré<sup>1,2</sup>, Carolina Serena<sup>1,2</sup>, Xevi Duran<sup>2</sup>, Angels Díaz-Ramos<sup>2,3,4</sup>, Monica Millan-Scheiding<sup>1,2</sup>, Yaiza Núñez-Álvarez<sup>5</sup>, Catalina Núñez-Roa<sup>1,2</sup>, Pau Gama<sup>6</sup>, Pablo M. Garcia-Roves<sup>6</sup>, Miquel A. Peinado<sup>5</sup>, Jeffrey M. Gimble<sup>7</sup>, Antonio Zorzano<sup>2,3,4</sup>, Joan Vendrell<sup>1,2\*</sup>, Sonia Fernández-Veledo<sup>1,2\*</sup>

<sup>1</sup>Hospital Universitari de Tarragona Joan XXIII-Institut d'Investigació Sanitària Pere Virgili-Universitat Rovira i Virgili, Tarragona; <sup>2</sup>CIBERDEM-Instituto de Salud Carlos III, Madrid; <sup>3</sup>Institute for Research in Biomedicine (IRB Barcelona), The Barcelona Institute of Science and Technology, Barcelona; <sup>4</sup>Departament de Bioquímica i Biomedicina Molecular, Facultat de Biologia, Universitat de Barcelona, Barcelona; <sup>5</sup>Health Sciences Research Institute Germans Trias i Pujol (IGTP)-Institute of Predictive and Personalized Medicine of Cancer (IMPPC), Badalona; <sup>6</sup>Department of Physiological Sciences II, Faculty of Medicine - University of Barcelona, Hospitalet del Llobregat; <sup>7</sup>LaCell LLC and Center for Stem Cell Research and Regenerative Medicine, School of Medicine, Tulane University, New Orleans, LA., USA. \*Co-senior authors: Sonia Fernández-Veledo and Joan Vendrell, Research Unit, University Hospital of Tarragona Joan XXIII, Tarragona.

**9:45 OP7 HEPATIC REGULATION OF VLDL RECEPTOR BY PPAR $\beta/\delta$  AND FGF21 MODULATES NON-ALCOHOLIC FATTY LIVER DISEASE**

Zarei M<sup>1</sup>, Barroso E<sup>1</sup>, Palomer X<sup>1</sup>, Rada P<sup>2</sup>, Quesada-López T<sup>3</sup>, Escolà-Gil JC<sup>4</sup>, Cedó L<sup>4</sup>, Valverde ÁM<sup>2</sup>, Villarroya F<sup>3</sup>, Liu Y<sup>5</sup>, Wahli W<sup>6</sup>, Vázquez-Carrera M<sup>1</sup>

<sup>1</sup>Department of Pharmacology, Toxicology and Therapeutic Chemistry, Faculty of Pharmacy and Food Sciences, IBUB (Institut de Biomedicina de la Universitat of Barcelona), and CIBERDEM, University of Barcelona; <sup>2</sup>CIBERDEM of Barcelona, Instituto de Investigaciones Biomédicas Alberto Sols (CSIC/UAM), Madrid; <sup>3</sup>Research Institute-Hospital Sant Joan de Déu, CIBEROBN-Instituto de Salud Carlos III; <sup>4</sup>CIBERDEM, University of Barcelona, Institut d'Investigacions Biomèdiques (IIB) Sant Pau, Barcelona, Departament de Bioquímica i Biologia Molecular, Universitat Autònoma de Barcelona, Barcelona; <sup>5</sup>Hubei Key Laboratory of Cell Homeostasis, College of Life Sciences, Institute for Advanced Studies, Wuhan University, Wuhan, China; <sup>6</sup>Center for Integrative Genomics, University of Lausanne, Lausanne, Switzerland, Lee Kong Chian School of Medicine, Nanyang Technological University, 308232, Singapore, INRA ToxAlim, UMR1331, Chemin de Tournefeuille, Toulouse Cedex, France.

**10:00 OP8 HUMAN HEPATIC LIPASE OVEREXPRESSION IN MICE INDUCES HEPATIC STEATOSIS AND OBESITY THROUGH PROMOTING HEPATIC LIPOGENESIS AND WHITE ADIPOSE TISSUE LIPOLYSIS AND FATTY ACID UPTAKE**

Lídia Cedó<sup>1,2</sup>, David Santos<sup>1,2</sup>, Núria Roglans<sup>3</sup>, Josep Julve<sup>1,2,4</sup>, Víctor Pallarès<sup>1</sup>, Andrea Rivas-Urbina<sup>1,4</sup>, Vicenta Llorente-Cortés<sup>5,6</sup>, Joan Carles Laguna<sup>3</sup>, Francisco Blanco-Vaca<sup>1,2,4</sup>, Joan Carles Escolà-Gil<sup>1,2,4</sup>

<sup>1</sup>Institut d'Investigacions Biomèdiques (IIB) Sant Pau, Barcelona; <sup>2</sup>CIBERDEM, Hospitalet de Llobregat; <sup>3</sup>Department of Pharmacology and Therapeutic Chemistry, School of Pharmacy, University of Barcelona, Barcelona; <sup>4</sup>Departament de Bioquímica, Biologia Molecular i Biomedicina, Universitat Autònoma de Barcelona, Barcelona; <sup>5</sup>Lipids and Cardiovascular Pathology Group, CSIC-ICCC-IIB-Sant Pau and Instituto de Investigaciones Biomédicas de Barcelona (IIB)-CSIC, Barcelona; <sup>6</sup>CIBERCV, Madrid.

**10:15 OP9 EFFECT OF THE HEPATIC EXTRACELLULAR VESICLES IN INFLAMMATION-ASSOCIATED INSULIN RESISTANCE IN NON-ALCOHOLIC FATTY LIVER DISEASE**

Irma Garcia-Martinez<sup>1,2</sup>, Manuel Izquierdo<sup>1</sup>, Ángela M. Valverde<sup>1,2</sup>

<sup>1</sup>Instituto de Investigaciones Biomédicas "Alberto Sols", CSIC-UAM, Madrid; <sup>2</sup>CIBERDEM, Madrid.

**10:30 OP10 FATTY ACID BINDING PROTEIN 4 (FABP4) CONTRIBUTES TO MYOCARDIAL STEATOSIS AND INSULIN RESISTANCE IN CARDIAC CELLS**

Ricardo Rodríguez-Calvo<sup>1,2</sup>, Josefa Girona<sup>1,2</sup>, Marina Rodríguez<sup>1,2</sup>, Sara Samino<sup>2,3</sup>, Emma Barroso<sup>2,4,5</sup>, David de Gonzalo-Calvo<sup>6,7</sup>, Sandra Guaita-Esteruelas<sup>1,2</sup>, Mercedes Heras<sup>1,2</sup>, Rutger W. van der Meer<sup>8</sup>, Hildo J. Lamb<sup>8</sup>, Oscar Yanes<sup>2,3</sup>, Xavier Correig<sup>2,3</sup>, Vicenta Llorente-Cortés<sup>6,7,9</sup>, Manuel Vázquez-Carrera<sup>2,4,5</sup>, Lluís Masana<sup>1,2</sup>

<sup>1</sup>Vascular Medicine and Metabolism Unit, Research Unit on Lipids and Atherosclerosis, "Sant Joan" University Hospital, Universitat Rovira i Virgili, Institut de Investigació Sanitària Pere Virgili (IISPV), Reus; <sup>2</sup>CIBERDEM, Madrid; <sup>3</sup>Metabolomics Platform, Department of Electronic Engineering (DEEEA), Universitat Rovira i Virgili, Tarragona; <sup>4</sup>Pharmacology Unit, Department of Pharmacology, Toxicology and Therapeutic Chemistry, Faculty of Pharmacy and Food Sciences, Institut de Biomedicina de la Universitat de Barcelona (IBUB), University of Barcelona, Barcelona; <sup>5</sup>Institut de Recerca Sant Joan de Déu (IR-SJD), Barcelona; <sup>6</sup>Lipids and Cardiovascular Pathology Group, Biomedical Research Institute Sant Pau (IIB Sant Pau), Barcelona; <sup>7</sup>CIBERCV, Madrid; <sup>8</sup>Department of Radiology, Leiden University Medical Centre, Leiden, The Netherlands; <sup>9</sup>Biomedical Research Institute of Barcelona, CSIC, Barcelona.

**10:45-11:15 Coffee break**

**11:15 SESSION 3**

*Chair: Josep Villena (Hospital Universitario Vall d'Hebron - Institut de Recerca (VHIR), Barcelona)*

*Patricia Rada (Consejo Superior de Investigaciones Científicas, Madrid)*

**11:15 - 11:45 STATE OF THE ART LECTURE**

Diabetes and its complications: the need for a more holistic view

Didac Mauricio (Instituto de Investigación Germans Trias i Pujol, Badalona)

**11:45-13:30 ORAL PRESENTATIONS**

**11:45 OP11 EXENDIN-4 AND PASK CONTROL HEPATIC OXIDATIVE STRESS**

Dongil P, Pérez-García A, Hurtado-Carneiro V, Blázquez E, Álvarez E and Sanz C

*Department of Biochemistry and Molecular Biology and Department of Cell Biology, Faculty of Medicine, Complutense University of Madrid, Institute of Medical Research at the Hospital Clínico San Carlos (IdISSC), CIBERDEM.*

**12:00 OP12 BRANCHED-CHAIN AMINO ACIDS PROMOTE ENDOTHELIAL DYSFUNCTION THROUGH INCREASED OXIDATIVE STRESS AND INFLAMMATION**

Zhenyukh O<sup>1</sup>, Gonzalez Amor M<sup>2</sup>, Rodrigues-Diez RR<sup>1</sup>, Esteban V<sup>3</sup>, Ruiz-Ortega M<sup>1</sup>, Salaices M<sup>2,4</sup>, Mas S<sup>1,5</sup>, Briones AM<sup>2,4</sup>, Egado J<sup>1,5</sup>

<sup>1</sup>Renal, Vascular and Diabetes Research Laboratory, Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Universidad Autónoma de Madrid; <sup>2</sup>Department of Pharmacology, Faculty of Medicine, Universidad Autónoma de Madrid, IdiPaz; <sup>3</sup>Laboratory of Immunoallergy, Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Madrid; <sup>4</sup>CIBERCV; <sup>5</sup>CIBERDEM.



**12:15 OP13** UPREGULATION OF ANGIOSTATIC CHEMOKINES CXCL10 AND CXCL11 IN MORBID OBESE PATIENTS AND THEIR IMPLICATION IN ADIPOSE TISSUE ANGIOGENESIS  
José T Real<sup>1,2,3,4</sup>, Rebeca Ortega<sup>1,3</sup>, Miguel Civera<sup>1,2</sup>, Marta Peiro<sup>3</sup>, Juan F Ascaso<sup>1,2,3,4</sup> and Laura Piqueras<sup>1</sup>

<sup>1</sup>*Institute of Health Research-INCLIVA, Valencia;* <sup>2</sup>*Endocrinology and Nutrition Unit, University Clinic Hospital of Valencia, Valencia;* <sup>3</sup>*CIBERDEM, Madrid;* <sup>4</sup>*Department of Medicine. Valencia University, Valencia.*

**12:30 OP14** CIRCULATING LEVELS OF A SPECIFIC MICRORNA ARE ASSOCIATED WITH TYPE 2 DIABETES MELLITUS (T2DM) AND FOOD INTAKE IN THE ANDALUSIAN POPULATION OF THE DI@BET.ES STUDY

Sara Garcia-Serrano<sup>1,2</sup>, Eva García Escobar<sup>1,2</sup>, Sergio Valdés<sup>1,2</sup>, Natalia Colomo<sup>1,2</sup>, Eduardo García Fuentes<sup>3,4</sup>, Ana Lago Sampedro<sup>5</sup>, Juan Miguel Gómez Zumaquero<sup>6</sup>, Gabriel Oliveira Fuster<sup>1,2</sup>, Gemma Rojo-Martinez<sup>1,2</sup>

<sup>1</sup>*UGC de Endocrinología y Nutrición, Instituto de Investigaciones Biomédicas de Málaga (IBIMA), Hospital Regional Universitario, Málaga;* <sup>2</sup>*CIBERDEM, Málaga;* <sup>3</sup>*CIBEROBN, Málaga;* <sup>4</sup>*UGC de Cirugía General, Digestiva y Trasplantes, Instituto de Investigaciones Biomédicas de Málaga (IBIMA), Hospital Regional Universitario, Málaga;* <sup>5</sup>*Unidad de Gestión Clínica de Laboratorio, Instituto de Investigaciones Biomédicas de Málaga (IBIMA), Hospital Regional Universitario, Málaga;* <sup>6</sup>*ECAI de Genómica del Instituto de Investigación Biomédica de Málaga (IBIMA), Málaga.*

**12:45 OP15** LACK OF MTERF4 IN BROWN ADIPOCYTES IMPAIRS MITOCHONDRIAL-ENCODED PROTEIN TRANSLATION AND LEADS TO BROWN ADIPOSE TISSUE THERMOGENIC DYSFUNCTION

Anna Castillo<sup>1</sup>, Rosario Pardo<sup>1</sup>, Inés Pedriza<sup>1</sup>, Maria Vilà<sup>1</sup>, Edgar Martín<sup>1</sup>, Yolanda Cámara<sup>1</sup>, Rubén Nogueiras<sup>2,3</sup>, Rafael Simó<sup>1,4</sup>, and Josep A. Villena<sup>1,4</sup>

<sup>1</sup>*Vall d'Hebron Research Institute, Barcelona;* <sup>2</sup>*University of Santiago de Compostela, Santiago de Compostela;* <sup>3</sup>*CIBEROBN;* <sup>4</sup>*CIBERDEM.*

**13:00 OP16** METFORMIN ALLEVIATES THE NEGATIVE EFFECTS OF THE PROINFLAMMATORY ENVIRONMENT IN BROWN ADIPOCYTES

Nuria Pescador<sup>1,2</sup>, Vera Francisco<sup>1</sup>, Carmen Escalona<sup>1</sup>, Laura Ruiz<sup>1</sup>, M. Pilar Valdecantos<sup>1</sup>, M<sup>a</sup> Jesús Obregón<sup>1</sup>, Alfonso Calle<sup>2</sup>, Ángela M. Valverde<sup>1</sup>

<sup>1</sup>*Instituto de Investigaciones Biomédicas Alberto Sols, CIBERDEM, Madrid;* <sup>2</sup>*Hospital Clínico San Carlos, CIBERDEM, Madrid.*

**13:30 LUNCH**

## 15:00 – 17:00 POSTERS SESSION

### 17:00 SESSION 4

Chair: *Angel Nadal (Universidad Miguel Hernández, Alicante)*  
*Marcelina Parrizas (IDIBAPS, Barcelona)*

### 17:00-18:30 ORAL PRESENTATIONS

#### **17:00 OP17** THE IMPACT OF PRO-INFLAMMATORY CYTOKINES ON PANCREATIC BETA-CELLS CHROMATIN DYNAMICS

Ramos-Rodríguez M.<sup>1</sup>, Raurell-Vila H.<sup>1</sup>, Juan-Mateu J.<sup>2</sup>, Turatsinze J.V.<sup>2</sup>, Piemonti L.<sup>3</sup>, Eizirik D.L.<sup>2</sup>, Pasquali L.<sup>1,4,5</sup>

<sup>1</sup>*Endocrine Regulatory Genomics, Program of Predictive and Personalized Medicine of Cancer (PMPPC), Germans Trias i Pujol University Hospital and Research Institute, Badalona;* <sup>2</sup>*ULB Center for Diabetes Research and Welbio, Medical Faculty, Université Libre de Bruxelles (ULB), Brussels, Belgium;* <sup>3</sup>*Diabetes Research Institute, IRCCS San Raffaele Scientific Institute, Milano, Italy;* <sup>4</sup>*Josep Carreras Leukaemia Research Institute, Badalona;* <sup>5</sup>*CIBERDEM, Barcelona.*

#### **17:15 OP18** PANCREATIC BETA-CELL SPECIFIC ABLATION OF INSULIN-DEGRADING ENZYME CAUSES IMPAIRED INSULIN SECRETION

Cristina M. Fernández-Díaz<sup>1</sup>, Beatriz Merino<sup>1</sup>, Pilar Ciudad<sup>1</sup>, Miguel A. de la Fuente<sup>1</sup>, Carmen D. Lobatón<sup>1</sup>, Alfredo Moreno<sup>1</sup>, Jesús Balsinde<sup>1</sup>, Malcolm A. Leissring<sup>2</sup>, Germán Perdomo<sup>3</sup> and Irene Cózar-Castellano<sup>1</sup>

<sup>1</sup>*Instituto de Biología y Genética Molecular (University of Valladolid-CSIC), Valladolid;* <sup>2</sup>*Institute for Memory Impairments and Neurological Disorders (UCI MIND), University of California-Irvine, USA;* <sup>3</sup>*Department of Health Sciences, University of Burgos, Burgos.*

#### **17:30 OP19** DIABETES ALTERS DOPAMINE NEUROTRANSMISSION AND INCREASES THE SUSCEPTIBILITY TO NIGROSTRIATAL NEURODEGENERATION IN MICE

Pérez-Taboada, I.<sup>1</sup>, Martín, E.<sup>2</sup>, Moratalla, R.<sup>2,3</sup> and Vallejo, M<sup>1</sup>

<sup>1</sup>*Instituto de Investigaciones Biomédicas Alberto Sols, CSIC/UAM, CIBERDEM;* <sup>2</sup>*Instituto Cajal, CSIC;* <sup>3</sup>*CIBERNED, Madrid.*

#### **17:45 OP20** DIFFERENTIAL EFFECTS OF CHRONIC EXPOSURE TO BISPHENOL A ON ION CHANNEL ACTIVITY AND EXPRESSION IN MICE PANCREATIC BETA-CELLS

L. Marroqui<sup>1,2</sup>, J. Martínez-Pina<sup>3</sup>, A. Hmadcha<sup>1,4</sup>, S. Soriano<sup>3</sup>, S. Villar-Pazos<sup>1,2</sup>, P. Alonso-Magdalena<sup>1,2</sup>, I. Quesada<sup>1,2</sup>, F. Martín<sup>1,4</sup>, B. Soria<sup>1,4</sup> and A. Nadal<sup>1,2</sup>

<sup>1</sup>*CIBERDEM;* <sup>2</sup>*Instituto de Bioingeniería, Universidad Miguel Hernández de Elche, Alicante;* <sup>3</sup>*Departamento de Fisiología, Genética y Microbiología, Universidad de Alicante, Alicante;* <sup>4</sup>*Department of Cell Regeneration and Advanced Therapies, Andalusian Center of Molecular Biology and Regenerative Medicine-CABIMER, Junta de Andalucía-University of Pablo Olavide-University of Seville-CSIC, Seville.*

**18:00 OP21 VITAMIN D RECEPTOR OVEREXPRESSION IN  $\beta$ -CELLS AMELIORATES DIABETES IN MICE**

Meritxell Morro<sup>1,2,3</sup>, Cristina Mallol<sup>1,2,3</sup>, Laia Vilà<sup>1,2,3</sup>, Gemma Elias<sup>1,2,3</sup>, Tura Ferré<sup>1,3</sup>, Sylvie Franckhauser<sup>1,3</sup>, Estefanía Casana<sup>1,2,3</sup>, Maria Molas<sup>1,2,3</sup>, Fàtima Bosch<sup>1,2,3</sup> and Alba Casellas<sup>1,3</sup>

<sup>1</sup>*Center of Animal Biotechnology and Gene Therapy*; <sup>2</sup>*Department of Biochemistry and Molecular Biology, Universitat Autònoma de Barcelona, 08193 Bellaterra*; <sup>3</sup>*CIBERDEM*.

**18:30 POSTER AWARDS SESSION**

**19:00 PIs MEETING**

**21:00 DINNER**

Friday, May 25<sup>th</sup>

## 9:00 SESSION 5

Chair: *Fàtima Bosch (Universidad Autónoma de Barcelona, Barcelona)*  
*Mercedes Mirasierra (Consejo Superior de Investigaciones Científicas, Madrid)*

## 9:00-9:30 STATE OF THE ART LECTURE

Mitochondrial dynamics in POMC neurons: a key nexus for metabolic health  
Marc Claret (IDIBAPS, Barcelona)

## 9:30-11:00 ORAL PRESENTATIONS

### 9:30 OP22 MODELLING HUMAN PANCREAS AGENESIS IN MICE

Irene Miguel-Escalada<sup>1,2</sup>, Miguel Ángel Maestro<sup>1,2</sup>, Vanessa Grau<sup>1,2</sup>, Jorge Ferrer<sup>1,2,3</sup>

<sup>1</sup>*Genomic Programming of Beta-cells Laboratory, Institut d'Investigacions August Pi i Sunyer (IDIBAPS), Barcelona;* <sup>2</sup>*CIBERDEM, Barcelona;* <sup>3</sup>*Department of Medicine, Imperial College London, London, United Kingdom.*

### 09:45 OP23 OBESITY-ASSOCIATED EXOSOMAL miRNAs MODULATE GLUCOSE AND LIPID METABOLISM IN MICE

C. Castaño<sup>1,2</sup>, S. Kalko<sup>1</sup>, L. Brugnara<sup>1,2</sup>, A. Novials<sup>1,2</sup>, M. Parrizas<sup>1,2</sup>

<sup>1</sup>*IDIBAPS, Barcelona;* <sup>2</sup>*CIBERDEM, Barcelona.*

### 10:00 OP24 INSULIN RECEPTOR SUBSTRATE 2 REGULATES HEPATIC WOUND HEALING BY PROMOTING FIBROBLAST GROWTH FACTOR-7 MEDIATED STOMAL-EPITHELIAL CROSSTALK AND TISSUE REMODELLING

Fátima Manzano Núñez<sup>1,2</sup>, María José Arámbul Anthony<sup>1,2</sup>, Amparo Galán Albiñana<sup>2</sup>, Aranzazu Leal Tassias<sup>2</sup>, Carlos Acosta Umazor<sup>1,2</sup>, Irene Borreda Gascó<sup>3</sup>, Antonio Herrera<sup>2</sup>, Jerónimo Forteza Vila<sup>2,3</sup>, Deborah J. Burks<sup>1,2</sup>, Luke A. Noon<sup>1,2</sup>

<sup>1</sup>*CIBERDEM;* <sup>2</sup>*Centro de Investigación Príncipe Felipe;* <sup>3</sup>*Instituto Valenciano de Patología, Universidad Católica de Valencia San Vicente Mártir.*

### 10:15 OP25 EXPANSION AND CHARACTERIZATION OF MESENCHYMAL STEM CELLS IN A CHEMICALLY DEFINED MEDIUM

Tejedo JR<sup>1,2,3</sup>, Hitos AB<sup>2</sup>, Díaz I<sup>2</sup>, Cahuana GM<sup>1,2</sup>, Martín F<sup>1,2,3</sup>, Soria B<sup>2,3,4</sup>, Bedoya FJ<sup>1,2,3</sup>

<sup>1</sup>*CABIMER - Pablo de Olavide University, Sevilla;* <sup>2</sup>*CIBERDEM;* <sup>3</sup>*RED-TERCEL, Sevilla;* <sup>4</sup>*CABIMER-Fundación Progreso y Salud, Sevilla.*

**10:30 OP26 REVISITING THE RELATIONSHIPS BETWEEN MEASURES OF GLYCAEMIC CONTROL AND HYPOGLYCAEMIA IN CONTINUOUS GLUCOSE MONITORING DATASETS**

Marga Giménez Álvarez<sup>1</sup>, Monika Reddy<sup>2</sup>, Vanessa Moscardó<sup>3</sup>, Ignacio Conget<sup>1</sup>, Nick Oliver<sup>2</sup>

<sup>1</sup>*Diabetes Unit, Endocrinology Department, ICMDiM, Hospital Clínic, IDIBAPS, CIBERDEM, Barcelona;* <sup>2</sup>*Division of Diabetes, Endocrinology and Metabolism, Imperial College London, London, UK;* <sup>3</sup>*Instituto Universitario de Automática e Informática Industrial, Universitat Politècnica de València, València.*

**11:00-11:30 Coffee break**

**11:30 German Center for Diabetes Research (DZD)**

Chair: *Eduard Montanya, Scientific Director, CIBERDEM (IDIBELL, Barcelona)*

- German Center for Diabetes Research: Structure, Research and Training Programs  
Dr. Astrid Glaser, DZD Managing Director (München, Germany)
- Clinical Multicenter Studies and Cohorts in the DZD  
Prof. Dr. h.c. Hans-Ulrich Häring, Member of the DZD Board, Medical Director of Medical Clinic IV of the University of Tübingen (Tübingen, Germany)
- Disease Mechanisms, Pathways and Beta Cell Research in the DZD  
Prof. Dr. Michele Solimena, DZD Speaker, Executive Director of the Paul Langerhans Institute Dresden (Dresden, Germany)

**13:00 CLOSING REMARKS (Eduard Montanya)**

**13:00 LUNCH**