13\textsuperscript{th} ANNUAL MEETING
and
3\textsuperscript{rd} YOUNG INVESTIGATOR SYMPOSIUM

November 9-11, 2022

Hotel Atenea Port
Mataró - BARCELONA
YOUNG INVESTIGATORS SYMPOSIUM

Wednesday, November 9th

9:00-9:15  WELCOME
Eduard Montanya
Scientific Director, CIBERDEM
Angel Nadal
Training Program Coordinator, CIBERDEM

9:15-11:15  SESSION 1

9:15  Beta cell mass: a history of mice and men
Alberto Bartolome
Instituto de Investigaciones Biomédicas "Alberto Sols", Madrid

9:45  Long non-coding RNA-regulated pathways in pancreatic beta cells: their role in diabetes pathogenesis
Izortze Santin
Instituto de Investigación Sanitaria de Biocruces, Bizkaia

10:15  LncRNA profiling in PBMCs from individuals with T1DM: A pilot study to identify novel biomarkers
Livia López Noriega
CABIMER, Sevilla

10:45  The Cannabinoid 1 receptor as a novel therapeutical target for the treatment of type 1 diabetes: at the crossroads between beta cells and immune cells
Isabel González-Mariscal
Instituto de Investigación Biomédica de Málaga (IBIMA), Málaga

11:15-11:45  COFFEE BREAK

11:45-13:45  SESSION 2

11:45  New insights of PCSK9 inhibition on endothelial dysfunction and systemic inflammation
Patrice Marques
Instituto de Investigación Sanitaria INCLIVA. Fundación Hospital Clínico Universitario de Valencia

12:15  NMR-Lipidomics of triglyceride rich lipoproteins in patients with diabetes.
Juan Moreno Vedia
Fundació Institut d’Investigació Sanitaria Pere Virgili

12:45  Lipotoxic extracellular vesicles as mediators of the intra- and extra-hepatic interactome in the progression of non-alcoholic fatty liver disease
Irma García Martinez
Instituto de Investigaciones Biomédicas "Alberto Sols", Madrid

13:15  Beneficial effect of protein phosphatase 1B inhibition against hypothalamic oxidative stress-mediated JNK activation and hepatic metabolic rewiring in mice treated intraperitoneally with olanzapine
Vitor Manuel da Silva Ferreira
Instituto de Investigaciones Biomédicas "Alberto Sols", Madrid

14:00  LUNCH
15:00-17:00 SESSION 3

15:00 Antioxidant effects of DPP-4 inhibitors in early stages of experimental diabetic retinopathy
Hugo Ramos
Fundación Hospital Universitario Vall d’Hebron - Institut de Recerca (VHIR); Hospital Universitario Vall d'Hebron

15:30 New clues to the genesis of hyperglucagonemia: Insulin-degrading enzyme
Beatriz Merino
Instituto de Biología y Genética Molecular (IBGM), Valladolid

16:00 Mitochondrial dynamics as a hub in the control of muscle inflammation
Andrea Irazoqui
Universidad de Copenhague, Copenhague (anteriormente en el IRB, Barcelona)

16:30 Insulin resistance: crosstalk between sarcopenic obesity and cognitive impairment
Andreea Ciudin
Hospital Universitari Vall d’Hebron, Barcelona

17:00-17:30 COFFEE BREAK

17:30 KEYNOTE LECTURE

Beyond neurons in the neuroendocrine control of metabolism
Cristina García Cáceres
Institute for Diabetes and Obesity, Helmholtz Diabetes Center, Helmholtz Zentrum München, German Research Center for Environmental Health (GmbH), Neuherberg, Germany; German Center for Diabetes Research (DZD), Neuherberg, Germany; Medizinische Klinik and Poliklinik IV, Klinikum der Universität, Ludwig-Maximilians-Universität München, Munich, Germany

CLOSING REMARKS
ANNUAL MEETING

Thursday, November 10th

9:00 OPENING AND WELCOME
Eduard Montanya
Scientific Director, CIBERDEM

SESSION 1

STATE OF THE ART LECTURE
What else can lipoproteins tell us about diabetes and its cardiovascular risk?
Josep Ribalta
Universitat Rovira i Virgili

ORAL PRESENTATION

9:45 OP1 Lipidomic profile and sex in subjects with diabetes mellitus. M. Barranco 1,9,10, E. Castelblanco 2, P. Quiber 1,3, O. Yanes 3,4, Joana Rossell 1,3, Minerva Granado-Casas 1,3, R. Weber 5, E. Ortega 6,7, N. Alonso 8,9, D. Mauricio 1,3,11
1 Sant Pau Biomedical Research Institute (IIB Sant Pau), Hospital de la Santa Creu i Sant Pau, Endocrinology and Nutrition, Barcelona; 2 Department of Internal Medicine, Endocrinology, Metabolism and Lipid Research Division, Washington University School of Medicine, St Louis, MO, USA; 3 CIBERDEM, Barcelona; 4 Institute of Health Research Pere Virgili (IISPV) & University Pere i Virgili, Metabolomics Platform, Reus; 5 Phenome Centre Birmingham and School of Biosciences, University of Birmingham, Bioinformatics, Birmingham, UK; 6 Institut d’Investigacions Biomèdiques August Pi i Sunyer, Hospital Clinic, Endocrinology and Nutrition, Badalona; 7 B2SLab, Departament d’Enginyeria de Sistemes, Automàtica i Informàtica Industrial, Universitat Politècnica de Catalunya, Barcelona; 8 CIBER-OBN, Madrid; 9 Institute for Health Science Research Germans Trias i Pujol (IGTP), University Hospital and Health Research Institute Germans Trias i Pujol, Endocrinology and Nutrition, Badalona; 10 CIBER-BBN, Madrid; 11 Faculty of Medicine, University of Vic (UVIC/UCC), Vic, Barcelona

10:00 OP2 Mediation effect of diabetes in the age-related metabolic and lipoprotein changes. Pere Rehues 1,2, Montse Guardiola 1,2, Joan-Carles Vallvé 1,2, Roger Mallol 2, Josep Ribalta 1,2
1 Research Unit on Lipids and Atherosclerosis, Rovira i Virgili University, IISPV, Reus; 2 CIBERDEM, Madrid; 3 La Salle, Ramon Llull University, Barcelona

10:15 OP3 Sex-divergent adaptations to a metabolic challenge in mice. Vicent Ribas 1,2, Samantha Morón Ros 1,2, Helena Mari de Nova 1, Laura Brugnara 1,2, Anna Novials 1,2, Joan-Marc Servitja 1,2
1 Pathogenesis and Prevention of Diabetes Research Group, Institut d’Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Barcelona; 2 CIBERDEM

10:30 OP4 Proinflammatory effects of PCSK9 and lipoprotein-A on polarized macrophages under diabetic conditions. Cristina Espadas 1, Ghassik Munter 1, José Tuñón 2, Jesús Egido 1, Óscar Lorenzo 1
1 Laboratory of Diabetes and Vascular Pathology. IIS-Fundación Jiménez Díaz, Universidad Autónoma, Madrid; 2 Cardiology Department. Fundación Jiménez Díaz, Universidad Autónoma, Madrid

10:45 OP5 Extra virgin olive oil polyphenols and antioxidant and inflammatory status in pre-diabetic obese patients. The APRIL study: a randomized, controlled, crossover study. Ignacio Ruiz-Garcia 1,2, Silvana-Yanina Romero-Zerbo 1,2,3, Rocío Badia 1,2, Aranzazu García-Borrego 4, María García-Fernández 5, Estrella Lara 3, Rodolfo Ortiz-Flores 1,2,3, Isabel González-Mariscal 1,2, Montserrat Gonzalo 1,2, María-José Tapia-Guerrero 1,2, Rajaa El-Bekay 1,2, Sergio Valdés 1,2, María-Isabel Covas 5, Gemma Rojo-Martínez 1,2, Gabriel Oliveira 1,2,3, Francisco-Javier Bermúdez-Silva 1,2
1 Hospital Regional de Málaga, Málaga; 2 Instituto de Investigación Biomédica de Málaga (IBIMA), Málaga; 3 Universidad de Málaga, Málaga; 4 Instituto de la Grasa - CSIC, Sevilla; 5 Nuproas HB, Stockholm, Sweden

11:15 COFFE BREAK
12:15 OP6 Genetic causes of young onset non-obese non-autoimmune diabetes. Silvia Bonàs-Guarch, Claire C Morgan, Vahid Elyasigomari, Santosh S Atanu, Diego Balboa, Veronica Erconi, Jesús Blanco, Marisol Ruiz-Adana, Pal R Njølstad, Ángel Campos-Barros, DecodeDiabetes Consortium, Torben Hansen, Rosa Martinez, Cécile Saint-Martin, Luis Castaño, Christine Bellanne-Chantelot, Jorge Ferrer.

1 Centre for Genomic Regulation, The Barcelona Institute of Science and Technology, Barcelona; 2 CIBERDEM; 3 Department of Metabolism, Digestion and Reproduction, Imperial College London, London, UK; 4 Diabetes Unit, Endocrinology and Nutrition Department, ICMOD, Hospital Clinic de Barcelona; IDIBAPS, Barcelona; 5 Endocrinology and Nutrition Department, Hospital Regional Universitario Carlos Haya, Málaga; 6 Department of Clinical Science, Center for Diabetes Research, University of Bergen, Bergen, Norway; 7 Division of Mental Health and Addiction, NORMENT, Oslo University Hospital, Oslo, Norway; 8 Institute of Medical and Molecular Genetics (INGEMM), IdiPAZ, Hospital Universitario La Paz, UAM, Madrid; 9 CIBERER, ISCIII, Madrid; 10 Novo Nordisk Foundation Center for Basic Metabolic Research, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark; 11 Biocruces Bizkaia Health Research Institute, Cruces University Hospital, University of the Basque Country UPV/EHU, Leioa, Bizkaia; 12 CIBERDEM; CIBERER, Instituto de Salud Carlos III, Madrid; 13 PRIS National Reference Center for Rare Diseases of Insulin Secretion and Insulin Sensitivity, Department of Endocrinology, Diabetology and Reproductive Endocrinology, Assistance Publique-Hôpitaux de Paris, Saint-Antoine University Hospital, Paris, France; 14 Department of Diabetology, Sorbonne Université, AP-HP, Pitié-Salpêtrière Hospital, Paris, France; 15 Department of Medical Genetics, Sorbonne Université, AP-HP, Pitié-Salpêtrière Hospital, DRUGP, Paris, France

12:20 OP7 LncRNA-encoded micropeptides in pancreatic beta cells: their potential role in T1D pathogenesis. Jon Mentxaka-Salgado, Koldo García-Extebarria, Izortze Santin.

1 Department of Biochemistry and Molecular Biology, University of the Basque Country, Leioa, Bizkaia; 2 Biocruces Bizkaia Health Research Institute, Barakaldo, Bizkaia; 3 Department of Gastrointestinal and Liver Diseases, Biodonostia Health Research Institute, San Sebastian; 4 CIBERDEM, Madrid

12:45 OP8 Insulin-degrading enzyme role on paracrine signaling in the islets of Langerhans. Beatriz Merino, Elena Casanueva-Alvarez, Alba Sanz-González, Jesús Balsinde, Germán Perdomo, Irene Cozar-Castellano.

Instituto de Biología y Genética Molecular (IBGM), Universidad de Valladolid-CSIC

13:00 OP9 Loss of β-cell identity and endoplasmic reticulum stress in human islets treated with glibenclamide. Claudia Fernández, Noelia. Téllez, Kevin Rivera, Montserrat. Nacher, Eduard. Montanya.

1 CIBERDEM; 2 Bellvitge Biomedical Research Institute, IDIBELL; 3 University of Barcelona; 4 Endocrine Unit, Hospital Universitari Bellvitge, Barcelone; 5 Faculty of Medicine, UVic-UCC; 6 Institute of health research and innovation (IRIS-CC)

13:15 OP10 Protective effects of a flavonoids-enriched diet against β-cell damage in an animal model of Type 2 Diabetes. Tamara Fernández-Marcelo, Elisa Fernández-Millán, Laura Barajas-Mascarache, Fernando Escrivá, Carmen Álvarez, Sonia Ramos, María Angeles Martin.

1 CIBERDEM, ISCIII, Madrid; 2 Department of Biochemistry and Molecular Biology, Faculty of Pharmacy, Complutense University of Madrid, Madrid; 3 Department of Metabolism and Nutrition, Institute of Food Science, Technology and Nutrition (ICTAN), Consejo Superior de Investigaciones Científicas (CSIC), Madrid

13:30 OP11 Gene therapy for maturity-onset diabetes of the young type 3 (MODY3). Estefania Casaña, V Jimenez, M Garcia, A Casellas, M Morró, A Pujol, T Ferré, V Sacristan, C Jambrina, M Perea, X León, L Vila, S Franckhauser and F Bosch.

Center of Animal Biotechnology and Gene Therapy (CBATEG), Department of Biochemistry and Molecular Biology, Universitat Autònoma de Barcelona, Bellaterra; CIBERDEM, Madrid

14:00 LUNCH
INVITED LECTURE
The actions of the mitochondrial biliverdin transporter ABCB10 on beta-cell redox promote insulin resistance
Marc Liesa
Molecular Biology Institute of Barcelona- Spanish National Research Council (IBMB-CSIC), Department of Cell Biology, Barcelona Science Park

ORAL PRESENTATION

16:45 OP12 Pharmacological inhibition of the ATP-citrate lyase alters mitochondrial function and glucose regulation. Alejandro Sola-García 1, María Ángeles Cáliz-Molina 1, Isabel Espadas-Villanueva 1, Daniel González-Morán 1, Inmaculada Pino-Pérez 1, Franz Martin 1,2, Vivian Capilla-González 1, Alejandro Martín-Montalvo 2 1 Andalusian Center for Molecular Biology and Regenerative Medicine-CABIMER, Junta de Andalucía-University of Pablo de Olavide-University of Seville-CSIC, Seville; 2 CIBERDEM, Madrid

17:00 OP13 Role of mitochondrial dynamics and mitophagy in the adaptive thermogenesis in BATGIRKO mice. Beatriz Jiménez; García G.; Marqués P.; González C.; Burillo J; Guillem C. and Benito M Diabetes and Obesity Group, Biochemistry and Molecular Biology Department; Pharmacy School, UCM

17:15 OP14 FTY720 a sphingosine phosphate derivative increases the mitochondrial function. Juan Pablo Muñoz 1,4, Elena María Goretti Diarte 1, Antonio Zorzano 2,3,4, Francisco Blanco 1,4, Josep Julve 1,4 1 Institut d’Investigacions Biomèdiques (IIB) Sant Pau, Barcelona; 2 Institute for Research in Biomedicine (IRB Barcelona), Barcelona; 3 Departament de Bioquímica i Biologia Molecular, Facultat de Biologia, Universitat de Barcelona, Barcelona; 4 CIBERDEM, Instituto de Salud Carlos III

17:30 OP15 Activation of muscle autophagy prevents sarcopenia and promotes metabolic health during aging. David Sebastián 1,2,4*, Andrea Irazoki 1,3,4, David Sala 1,3,4, Pilar Aparicio 5, Cecilia Aris 5, Esmaeil Alibakhshi 7,8,9, María Rubio-Valera 10,11, Manuel Palacin 1,3,12, Juan Castellanos 5, Luis Lores 7, Antonio Zorzano 1,3,4* 1 Institute for Research in Biomedicine (IRB Barcelona), The Barcelona Institute of Science and Technology, Barcelona; 2 Departament de Bioquímica i Fisiologia, Facultat de Farmàcia i Ciències de l’Alimentació, Universitat de Barcelona; 3 CIBERDEM, Instituto de Salud Carlos III, Madrid; 4 Departament de Bioquímica i Biomedicina Molecular, Facultat de Biologia, Universitat de Barcelona; 5 Departament of Orthopedic Surgery and Traumatology, Hospital de Sant Joan Sant Joan de Déu, Sant Boi de Llobregat, Barcelona; 6 Department of Family and Community Medicine, Hospital de Sant Boi Sant Joan de Déu, Sant Boi de Llobregat, Barcelona; 7 Pneumology Department, Hospital de Sant Joan Sant Joan de Déu, Sant Boi de Llobregat, Barcelona; 8 Physical Medicine and Rehabilitation Department, Clinical Research Development Unit, Baqiyatallah Hospital, Faculty of Medicine, Baqiyatallah University of Medical Science, Tehran, Iran; 9 Quantitative MR Imaging and Spectroscopy Group, Research Center for Molecular and Cellular Imaging, Advanced Medical Technologies and Equipment Institute, Tehran University of Medical Science, Tehran, Iran; 10 Quality and Patient Safety Unit, Hospital de Sant Boi Sant Joan de Déu, Sant Boi de Llobregat, Barcelona; 11 CIBERESP, Instituto de Salud Carlos III, Madrid; 12 CIBERER, Instituto de Salud Carlos III, Madrid

18:00 POSTER SESSION & REFRESHMENTS

19:00 Pls MEETING

21:00 DINNER
STATE OF THE ART LECTURE
Dietary flavanols as multitarget agents in the management of type 2 diabetes and its associated complications
Mª Angeles Martín Arribas
Department of Metabolism and Nutrition, Institute of Food Science and Technology and Nutrition (ICTAN), Consejo Superior de Investigaciones Científicas (CSIC), Madrid

ORAL PRESENTATION

9:30 OP16 GDF15 regulates hepatic gluconeogenesis and AMPK activation. Javier Jurado Aguilar 1,2,3, Maribel Bernard 1,2,3, Emma Barroso 1,2,3, Patricia Rada 2,4, Ángela M. Valverde 2,4, Xavier Palomer 1,2,3, Manuel Vázquez-Carrera 1,2,3.
1 Departament of Pharmacology, Toxicology and Therapeutic Chemistry, Faculty of Pharmacy and Food Sciences and Institute of Biomedicine of the University of Barcelona (IBUB), University of Barcelona, Barcelona; 2 CIBERDEM-Instituto de Salud Carlos III, Madrid; 3 Pediatric Research Institute-Hospital Sant Joan de Déu, Esplugues de Llobregat, Barcelona; 4 Instituto de Investigaciones Biomédicas Alberto Sols (CSIC/UAM), Madrid

9:45 OP17 Targeting the IRS2/FGF7-axis to promote fibrosis regression and hepatic wound healing? María José Arámbul-Anthony 1, Alicia Armero Catalá 1, Amparo Galan Albiñana 1,2, Arantxa Leal Tassias 1, Marcos Agustina Hernández 1, Angela M. Valverde 1,2,3, Deborah J. Burks 1,2, Luke A. Noon 1,2
1 Centro de Investigación Príncipe Felipe (CIPF), Valencia; 2 Instituto de Investigaciones Biomédicas Alberto Sols (CSIC-UAM), Madrid; 3 CIBERDEM

10:00 OP18 Sucnr1 deficiency alleviates fibrosis but worsens hepatic steatosis and glycogen storage in diet-induced NASH. Anna Marsal-Beltran 1,2, Ceperuelo-Mallafre V 1,2,3, Rodríguez-Castellano A 1, Calvo E 1,2, Madeira A 1,2, Núñez-Roa C 1,2, Rodríguez-Peña MM 1,2, Astiarraga B 1,2, Rada P 2,4, Pardo A 1, Valverde A 2,4, Vendrell J 1,2,3, Fernández-Valverde S 1,2
1 Research Unit. University Hospital of Tarragona Joan XXIII, Pere Virgili Health Research Institute (IISPV), Tarragona; 2 Gastroenterology Department, University Hospital Joan XXIII, Tarragona; 3 CIBERDEM, Instituto de Salud Carlos III, Madrid; 4 Rovira i Virgili University, Tarragona; 5 Alberto Sols Biomedical Research Institute (CSIC-UAM), Madrid.

10:15 OP19 Intrahepatic Expression of Fatty Acid Translocase CD36 Is Increased in Obstructive Sleep Apnea. Esther Rey 1, Elvira del Pozo-Maroto 1, Patricia Marañón 1, Carmelo García-Monzón 1, Isaac Almendros 2, Águeda González-Rodríguez 2
1 Unidad de Investigación, Hospital Universitario Santa Cristina, Instituto de Investigación Sanitaria Hospital Universitario de La Princesa, Madrid; 2 Unidad de Biofísica i Bioenginyeria, Facultat de Medicina i Ciències de la Salut, Universitat de Barcelona, CIBERES, IDIBAPS, Barcelona; 3 Instituto de Investigaciones Biomédicas "Alberto Sols" (CSIC-UAM), CIBERDEM, Madrid

10:30 POSTER AWARDS

10:45 COFFEE BREAK
11:15-13:00  SESSION 5

INVITED LECTURE
Responsible Research and Innovation
Rosina Malagrida
Living Lab de Salud, IRSI Caixa, Badalona

ORAL PRESENTATION

11:45  OP20 Transcriptomic analysis reveals that retinal neuromodulation is the main underlying mechanism of the neuroprotective effect of sitagliptin in diabetic retina. Hugo Ramos 1,2, Patricia Bogdanov 1,2, Jordi Huerta 1, Anna Deàs-Just 1, Cristina Hernández 1,2, Rafael Simó 1,2,3
1 Diabetes and Metabolism Research Unit, Vall d`Hebron Research Institute (VHIR), Barcelona; 2 CIBERDEM, Instituto de Salud Carlos III (ICSIII), Madrid; 3 Department of Medicine, Universitat Autònoma de Barcelona, Barcelona

12:00  OP21 Characterization of glycaemic patterns in type 1 diabetes without insulin and meal data: towards new analytical and predictive tools for CGM users. Juan David Hoyos Giraldo 1, Alfonso Renato Carpintero Soares 1, Alejandro José Laguna Sanz 1,2, José Luis Díez Ruano 1,2, Jorge Bondia Company 1,2.
1 Instituto de Automática e Informática Industrial, Universitat Politècnica de València; 2 CIBERDEM, Instituto de Salud Carlos III

12:15  OP22 The VISIONING project: the perfect tool for the assessment of COVID19 prognostic of diabetic patients. Núria Amigó 1,2,3,4, Lydia Cabau 1,4, Neus Rodríguez 1,2,4, Daniel Rodríguez 4, Carla Merino 1,4, Sara Samino 1,3,4, Anna Martí 1,6, Joaquim Peraire 1,2,5,6, Anna Rull 1,2,5,6, Francesc Vidal 1,2,5,6, Teresa Auguet 1,2,6, Núria Alonso 7, Maria Doladé 8, Edurne Pedrosa 9, Manel Puig 7,9, Julia G. Prado 5,9, Xavier Correig 1,2,3
1 Institut Investigació Sanitària Pere Virgili (IISPV), Tarragona; 2 Universitat Rovira i Virgili, Tarragona; 3 CIBERDEM, Instituto de Salud Carlos III (ISCIII), Madrid; 4 Biosfer Teslab, S.L. Reus; 5 CIBERINFEC, Instituto de Salud Carlos III (ISCIII), Madrid; 6 Hospital Universitari de Tarragona Joan XXIII, Tarragona; 7 Servei d’Endocrinologia i Nutrició, Hospital Germans Trias i Pujol, Badalona; 8 Servei d’Anàlisis Clínic i Bioquímica, Laboratori Clinic de la Metropolitana Nord, Hospital Germans Trias i Pujol, Badalona; 9 Institut d’Investigació Germans Trias i Pujol (IGTP), Badalona; 10 AIDS Research Institute IrsiCaixa, Badalona

12:30  OP23 Validation of circulating microRNAs in polycystic ovary syndrome (PCOS) diagnosis. María Insenser, Alejandra Quintero, Sara de Lope, Francisco Álvarez-Blasco, M. Ángeles Martínez-García, Manuel Luque-Ramírez, and Héctor F. Escobar-Morreale
Diabetes Obesity and Human Reproduction Research Group, Department of Endocrinology & Nutrition, Hospital Universitario Ramón y Cajal; Universidad de Alcalá, Instituto Ramón y Cajal de Investigación Sanitaria (IRYCIS); CIBERDEM, Madrid

12:45  OP24 Molecular disarrangements in Parkinson’s disease-related nigrostriatal neurons induced by diabetes in mice. Paula Pereira, Mario Vallejo
Instituto de Investigaciones Biomédicas Alberto Sols, CSIC/Universidad Autónoma de Madrid; CIBERDEM

13:00  CLOSING REMARKS

LUNCH