

Organizers:
Paulo J Oliveira
(Coimbra, Portugal)
Catarina R Oliveira
(Coimbra, Portugal)



Coimbra, Portugal, 22-24 May 2019



Symposium 4 | Nutrition and Hepatology

Organizer: Piero Portincasa (Bari, Italy)
Joana Espírito Santo (Coimbra, Portugal)
Armando Carvalho (Coimbra Portugal)
M Paula Macedo (Lisbon, Portugal)

Day: Thursday 23 all day and Friday 24 morning

Meeting room: Thursday 23 and Friday 24: Meeting Room S. Clara & D. Pedro, Hotel Dona Inés (Congress venue 2)

Wednesday, 22 May

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14.00-16.00 Session 1: FOIE-GRAS: Translational Focus on NAFLD & Mitochondria (I) **Joint session with Symposium 1: Mitochondrial**

Chairs: Paulo Oliveira (Coimbra, Portugal) and Carlos Palmeira (Coimbra, Portugal)

14:00-14:30 **S1-L1 | Non-alcoholic fatty liver disease - from the bedside to the bench**
Piero Portincasa (Bari, Italy)

14:30-15:00 **S1-L2 | Role of mitochondria in de novo lipogenesis and fatty liver disease**
John Jones (Coimbra, Portugal)

15:00-15:30 **S1-L3 | Alterations in the mitochondrial function and proteome in Non-Alcoholic Fatty Liver Disease**
Mariusz Wieckowski (Warsaw, Poland)

15:30-16:00 **S1-L4 | Developmental programming of NAFLD in rodents and primates**
Peter Nathanielsz (Laramie, WY, USA)

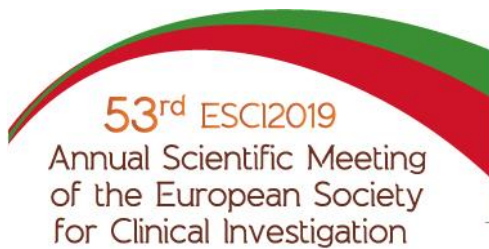
16:00-16:30 Coffee-break

16.30-18.00 Session 2: FOIE-GRAS: Translational Focus on NAFLD & Mitochondria (II) **Joint session with Symposium 1: Mitochondrial**

Chairs: Piero Portincasa (Bari, Italy) and Mariusz Wieckowski (Warsaw, Poland)

16:30-17:00 **S1-L5 | Mitochondrial ALDH2 modulation in fatty liver preservation**
Joan Rosselo-Catafau (Barcelona, Spain)

17:00-17:15 **S1-O1 | Effects of physical exercise during pregnancy on the modulation of liver mitochondrial function in an animal model of non-alcoholic fatty liver disease**
Jelena Stevanović¹, Jorge Beleza¹, Pedro Coxito¹, Manoel Rios¹, Susana Pereira^{1,2}, Carlos Palmeira², António Moreno^{2,3}, Paulo Oliveira², António Ascensão¹, José Magalhães¹
¹LaMetEx — Laboratory of Metabolism and Exercise, CIAFEL — Research Centre in Physical Activity, Health and Leisure, Faculty of Sport, University of Porto, Porto, Portugal, ²CNC — Centre for Neuroscience and Cell Biology, UC-Biotech, University of Coimbra, Coimbra, Portugal, ³Department of Life Sciences, School of Sciences and Technology, University of Coimbra, Coimbra, Portugal



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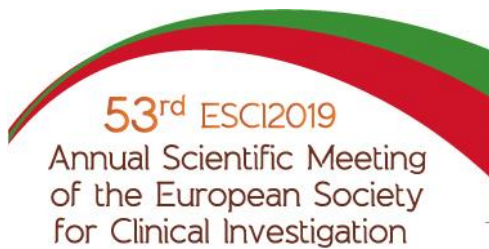
- 17:15-17:45 **S1-L6 | Hydrogen sulfide and mitochondrial function in Non-Alcoholic Fatty Liver Disease**
Carina Prip-Buus (Paris, France)
- 17:45-18:00 **S1-O2 | RIP3 Deficiency Remodels Mitochondrial Bioenergetics and Function in Experimental NAFLD**
TAWHIDUL Islam¹, Marta B. Afonso¹, Véronique Lenoir², Rui E. Castro¹, Carina Prip-Buus², Cecília M. P. Rodrigues¹
¹Imed.ulisboa, Faculty of Pharmacy, University of Lisbon, Lisbon, Portugal, ²Institut Cochin, INSERM U1016, CNRS UMR8104, Université Paris Descartes, Paris, France
- 18.00 - 19.00 Opening Ceremony
19.00 - 20.00 Opening lecture by a Key-note speaker
20.00 - 21.00 Welcome drink
21.00 - 22.00 Champions League in Biomedicine and Experimental Biology

Thursday, 23 May

08.30-10.00 **Session 3: The burden of metabolic disorders in the Society**

Chairs: Piero Portincasa (Bari, Italy) and Paula Macedo (Lisbon, Portugal)

- 08.30-08.40 **S4-L1 | Forewords: why we are here**
Piero Portincasa (Bari, Italy), Paula Macedo (Lisbon, Portugal)
- 08.40-09:05 **S4-L2 | Multiple facets of the gut-liver dialogue in dysmetabolism**
Paula Macedo (Lisbon, Portugal)
- 09:05-09:30 **S4-L3 | Can we undo our fat future?**
Gema Fruhbeck (Pamplona, Spain)
- 09.30-09:40 **S4-O1 | Targeting adipose tissue glyoxalase system with GLP-1 to improve capillarization and insulin sensitivity**
Paulo Matafome^{1,2}, Tiago Rodrigues¹, Patricia Borges¹, Catarina Carrêlo³, Laura Mar¹, Hans Eickhoff^{1,4}, Bruno Almeida⁵, Daniela Marques¹, Salomé Pires⁶, Margarida Abrantes⁶, Beatriz Martins³, Cristina Uriarte⁷, Pedro Gomes⁷, Sónia Silva^{3,8}, Raquel Seiça¹
¹Institute of Physiology and Institute of Clinical and Biomedical Research (iCBR), Faculty of Medicine, University of Coimbra (FMUC), Coimbra, Portugal, ²Instituto Politécnico de Coimbra, Coimbra Health School (ESTeSC), Coimbra, Portugal, ³iCBR, FMUC, Coimbra, Portugal, ⁴Obesity Center, Hospital de Santiago, Setúbal, Portugal, ⁵Association for the Protection of Portuguese Diabetic Patients (APDP), Lisbon, Portugal, ⁶Institute of Biophysics and iCBR, FMUC, Coimbra, Portugal, ⁷Department of Surgery, University Hospital Center of Coimbra, Coimbra, Portugal, ⁸Faculty of Pharmacy, University of Coimbra, Coimbra, Portugal
- 09.40-09:50 **S4-O2 | Steatosis in hepatocytes impairs endothelial cell function by promoting lipid accumulation and oxidative stress in a manner depending on the grade of hepatic steatosis**
Francesca Baldini¹, Mohamad Khalil¹, Nadia Serale¹, Adriana Voci¹, Piero Portincasa², Laura Vergani¹
¹Dept. of Earth, Environment and Life Sciences, University of Genoa, Genova, Italy, ²Dept. of Biomedical Sciences and Human Oncology, Medical School, University of Bari, Bari, Italy
- 09:50-10:00 **S4-O3 | Deficiency of paraoxonase-1 exacerbates high-fat diet-induced glucose intolerance in mice**
Maria João Meneses^{1,2}, Inês Sousa-Lima¹, Diego O Borges^{1,3}, Rita S Patarrão^{1,3}, João F Raposo^{1,4}, M Paula Macedo^{1,4,5}
¹CEDOC, Chronic Diseases Research Centre, NOVA Medical School|Faculdade de Ciências Médicas, Universidade NOVA de Lisboa, Lisboa, Portugal, ²ProRegeM PhD Programme, NOVA Medical School/Faculdade de Ciências Médicas, Universidade Nova de Lisboa, Lisboa, Portugal, ³Instituto Gulbenkian de Ciência, Oeiras, Portugal, ⁴APDP Diabetes Portugal, Education and Research Center (APDP-ERC), Lisboa, Portugal, ⁵Department of Medical Sciences, Universidade de Aveiro, Aveiro, Portugal



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10:00-10:30 Coffee-break

10.30-12.30 Session 4: Gastrointestinal and nutritional aspects

Chairs: Armando Carvalho (Coimbra, Portugal) and Joana Espírito Santo (Coimbra, Portugal)

10.30-10.55 **S4-L4 | Hepatic outcomes of Metabolic surgeries**

Mariana Monteiro (Porto, Portugal)

10.55-11.20 **S4-L5 | NAFLD and nutritional aspects**

Jorge Leitão (Coimbra, Portugal)

11.20-11.45 **S4-L6 | Nutrition and Mitochondria**

Hans Zischka (Munich, Germany)

11.45-11.55 **S4-O4 | Application of LC-MS-based metabolomics to identify and validate nutritional biomarkers in a cohort of Northern Irish older adults**

Gonçalo Rosas Da Silva¹, Stewart Graham², Zafer Ugur², Ali Yilmaz², Frank Kee³, Ian Young³, Jayne Woodside³, Brian Green¹

¹School of Biological Sciences, Queen's University Belfast, Belfast, United Kingdom, ²Department of Obstetrics and Gynecology, Beaumont Hospital - Royal Oak, Royal Oak, United States of America, ³School of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast, Belfast, United Kingdom

11.55-12.05 **S4-O5 | Application of 1H-NMR Metabolomics for the discovery of blood plasma biomarkers associated with adherence to a Mediterranean dietary pattern in a Northern European population**

Shirin Macias¹, Brian Green¹, Jayne Woodside¹, Stewart Graham², Ali Yilmaz²

¹Queen's University Belfast, Belfast, United Kingdom, ²Beaumont Health, Oakland, United States

12.05-12.15 **S4-O6 | The scope of liver mitochondrial hydrogen sulfide oxidation: from nutritional physiology to Non-Alcoholic Fatty Liver pathology**

Inês Mateus^{1,2}, Véronique Lenoir¹, Frédéric Bouillaud¹, Carina Prip-Buus¹

¹Institut Cochin, INSERM U1016, CNRS UMR8104, Université Paris Descartes, 75014 Paris, France, ²Early Stage Researcher at ETN "FOIE GRAS" Project funded by H2020-MSCA grant N°722619, ,

12.15-12.25 **S4-O7 | A pilot-study on lifestyle modifications in patients with fatty liver disease living in Southern Italy**

Marilena D'Ambrosio¹, Emilio Molina-Molina¹, Harshitha Shanmugam¹, Getachew Debas Belew², Leonilde Bonfrate^{1,3}, Piero Portincasa¹

¹Department Of Biomedical Sciences And Human Oncology, University Of Bari 'Aldo Moro', Bari, Italy, ²UC-Biotech, Centre for Neuroscience and Cell Biology, University of Coimbra, Cantanhede, Portugal, ³Division of Geriatrics and Gerontology, Hospital "Miulli", Acquaviva delle Fonti, Italy

12.30-14.00 Poster session 1 and lunch

14.00-16.00 Session 5: Lipids and metabolism

Chairs: Paulo Oliveira (Coimbra, Portugal) and Fabrizio Montecucco (Homburg, Germany)

14.00-14.25 **S4-L7 | Epicardic fat assessment: a clue to metabolic syndrome**

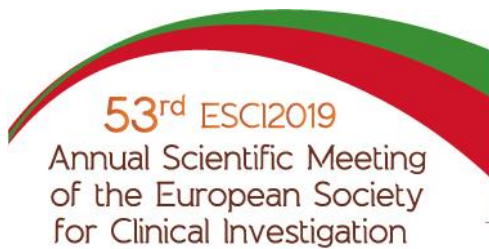
Federico Carbone (Genoa, Italy)

14.25-14.50 **S4-L8 | Clinical relevance of genetic modifiers of chronic liver injury**

Marcin Krawczyk (Homburg, Germany)

14.50-15.15 **S4-L9 | Neuroprotective effects of anthocyanins are mediated by gut microbiota**

Claudia Marques



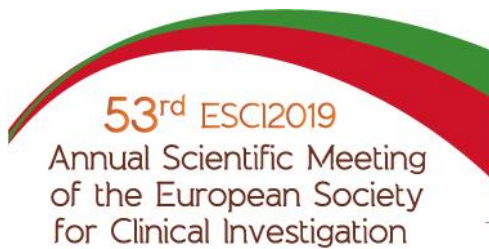
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- 15.15-15.40 **S4-L10 | Role of maternal obesity in fetal mitochondrial function in sheep model**
Susana Pereira (Coimbra, Portugal)
- 15.40-16:00 **Therapy of hypercholesterolemia, PCR and CV risk**
Aldo Bonaventura (Genoa, Italy)
- 16:00-16:30 Coffee-break
- 16.30-18.00 Session 6: Fat, HDL, iron and the liver**
Joint session with Symposium 3 (Cardiology)
Organizer: Robin Dullaart
Chairs: Piero Portincasa (Bari, Italy) and Margery Connelly (Raleigh, USA)
- 16.30-17.00 **S3-L17 | Disturbed vitamin A metabolism in NAFLD; what is the cause-consequence relationship?**
Klaas Nico Faber (Groningen, The Netherlands)
- 17.00-17.15 **S3-L18 | Hepcidin and the liver: friend or foe?**
Michele Freerk Eisenga (Groningen, The Netherlands)
- 17.15-17.30 **S3-L19 | NAFLD: the metabolic syndrome and beyond**
E. van den Berg (Groningen, The Netherlands)
- 17.30-17.40 **S3-O5 | GlycA, a novel pro-inflammatory glycoprotein biomarker predicts mortality: Results from The PREVEND study and meta-analysis**
Eke (Dineke) Gruppen^{1,2}, Setor Kunutsors^{3,4}, Lyanne Kieneker², Bert van der Vegt⁵, Margery Connelly⁶, Hans Hillege⁷, Stephan Bakker¹, Robin Dullaart²
¹Department of Internal Medicine, Division of Nephrology, University of Groningen and University Medical Center Groningen, Groningen, The Netherlands, ²Department of Internal Medicine, Division of Endocrinology, University of Groningen and University Medical Center Groningen, Groningen, The Netherlands, ³National Institute for Health Research Bristol Biomedical Research Centre, University Hospitals Bristol NHS Foundation Trust and University of Bristol, Bristol, UK, ⁴Translational Health Sciences, Bristol Medical School, Musculoskeletal Research Unit, University of Bristol, Learning & Research Building, Southmead Hospital, Bristol, UK, ⁵Department of Pathology and Medical Biology, Division of Pathology, University Medical Center Groningen, Groningen, The Netherlands, ⁶Laboratory Corporation of America® Holdings (LabCorp), Morrisville, USA, ⁷Department of Cardiology and Thorax Surgery, Division of Cardiology, University Medical Center Groningen, Groningen, The Netherlands
- 17.40-17.50 **S3-O6 | Hypercholesterolemic HDL particles lose their atheroprotective potential and become deleterious further enhancing atherosclerotic plaque burden: studies in an animal model by MRI**
Soumaya Ben-Aicha^{1,2}, Laura Casan¹, Guiomar Mendieta^{1,2,3}, Monika Arzanauskaitė¹, Manuel Gutiérrez¹, Lina Badimon^{*1,4,5}, Gemma Vilahur^{*1,4}
¹Hospital Santa Creu i Sant Pau-Research institute (ICCC Program), Barcelona, Spain ²School of Medicine, University of Barcelona (UB), Barcelona, Spain ³Cardiology Department, Hospital Clinico, Barcelona, Spain ⁴Centro de Investigación Biomédica en Red Cardiovascular (CIBERCV) Instituto de Salud Carlos III, Madrid, Spain ⁵Cardiovascular Research Chair, Universidad Autónoma Barcelona (UAB), Barcelona, Spain
- 17.50-18.00 **S3-O7 | Erythropoietin, Fibroblast Growth Factor 23, and Mortality after Renal Transplantation**
Michele F Eisenga¹, Maarten A De Jong¹, David E Leaf², Ilja M Nolte¹, Martin H De Borst¹, Stephan J Bakker¹, Carlo A Gaillard³
¹University Medical Center Groningen, Groningen, Netherlands, ²Brigham and Women's Hospital, Boston, United States of America, ³University Medical Center Utrecht, Utrecht, The Netherlands
- 18.00-19.30 Poster session 2
20.30 Congress dinner



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Friday, 24 May

08.30-10.00 **Session 7: Novel aspects of liver steatosis**

Chairs: Marcin Krawczyk (Homburg, Germany)

08.30-08.55 **S4-L12 | The potential of circulating MtDNA as a biomarker of liver dysfunction and other metabolic disorders**

Afshan Malik (London, UK)

08.55-09.20 **S4-L13 | Alterations of lipid metabolism and oxidation in NAFLD**

Amalia Gastaldelli (Pisa, Italy)

09.20-09.45 **S4-L14 | Oxidative stress in development of NAFLD**

Mariusz Wieckowski (Warsaw, Poland)

09.45-10.00 **S4-L15 | Metabolic disorders in Romania: emerging trends**

Dan L. Dumitrascu (Cluj-Napoca, Romania)

10:00-10:30 Coffee-break

10.30-12.30 **Session 8: Metabolism, gastrointestinal, liver and more**

Chairs: Giuseppe Calamita (Bari, Italy) and Afshan Malik (London, UK)

10.30-10.45 **S4-L16 | Liver and exosomes**

Bruno Costa-Silva (Lisboa, Portugal)

10.45-11.00 **S4-L17 | Aquaglyceroporins: drug targets for metabolic diseases**

Giuseppe Calamita (Bari, Italy)

11.00-11.15 **S4-L18 | Physical activity in the liver: an update from the FOIE GRAS project**

Emilio Molina (Bari, Italy)

11.15-11.25 **S4-O8 | Ghrelin is a protective factor against TNF-alpha-induced human hepatocyte cell death by apoptosis, pyroptosis and autophagy: role in obesity-associated NAFLD**

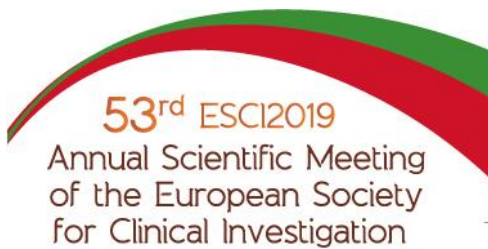
Silvia Ezquerro^{1,7}, Fátima Mocha¹, Gema Frühbeck^{1,2,7}, Rocío Guzmán-Ruiz^{6,7}, Víctor Valentí^{3,7}, Carmen Mugueta⁴, Sara Becerril^{1,7}, Victoria Catalán^{1,7}, Javier Gómez-Ambrosi^{1,7}, Camilo Silva^{2,7}, Javier Salvador^{2,7}, Inmaculada Colina⁵, María M. Malagón^{6,7}, Amaia Rodríguez^{1,7}

¹Metabolic Research Laboratory, Clínica Universidad de Navarra, idiSNA, Pamplona, Spain, ²Department of Endocrinology & Nutrition, Clínica Universidad de Navarra, Pamplona, Spain, ³Department of Surgery, Clínica Universidad de Navarra, Pamplona, Spain, ⁴Department of Biochemistry, Clínica Universidad de Navarra, Pamplona, Spain, ⁵Department of Internal Medicine, Clínica Universidad de Navarra, Pamplona, Spain, ⁶Department of Cell Biology, Physiology, and Immunology, IMIBIC, University of Córdoba, Córdoba, Spain, ⁷CIBEROBN, Instituto de Salud Carlos III, Madrid, Spain

11.25-11.35 **S4-O9 | Ultrasound evaluation in early atherosclerosis: How and when?**

Bogdan Augustin Chis¹, Ana Florica Chis², Michael Pelea¹, Daniela Fodor¹, Dan Dumitrascu¹

¹2nd Dept of Internal Medicine, "Iuliu Hatieganu" University Of Medicine and Pharmacy, Cluj-Napoca, Romania, ²Dept of Pulmonology, "Iuliu Hatieganu" University Of Medicine and Pharmacy, Cluj-Napoca, România



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- 11.35-11.45 **S4-O10 | The serum metabolic profile and lung function in a cohort of chronic obstructive pulmonary disease patients**
Ana Florica Chis¹, Carmen Monica Pop¹
¹Department Of Pneumology, "Iuliu Hațieganu" University of Medicine and Pharmacy Cluj-Napoca, Cluj-Napoca, România
- 11.45-11.55 **S4-O11 | The beneficial effects of a novel formulation of Bifidobacterium longum BB536 and Lactobacillus rhamnosus HN001 with B6 vitamin on gut microbiota and intestinal permeability in IBS patients**
Leonilde Bonfrate¹, Domenica Maria Di Palo², Giuseppe Celano², Adelin Albert³, Maria De Angelis², Marco Gobetti⁴, Emilio Molina-Molina¹, Piero Portincasa¹
¹Clinica Medica "A. Murri", Department of Biomedical Sciences & Human Oncology, University of Bari Medical School, Bari, Italy, Bari, Italy, ²Department of Soil, Plant and Food Sciences, Università degli Studi di Bari Aldo Moro, Bari, Italy, Bari, Italy, ³Department of Biostatistics, University Hospital of Liège, Belgium, Liège, Belgium, ⁴Faculty of Science and Technology, Free University of Bozen-Bolzano, Bolzano, Italy, Bolzano, Italy
- 11.55-12.05 **S4-O12 | 16p11.2 microdeletion: the most common chromosomal anomaly associated with obesity**
Joana Rosmaninho-salgado¹, Luis Miguel Pires³, Isabel M. Carreira^{2,3,4}, Joana Barbosa Melo^{2,3,4}, Pedro Louro⁷, Joaquim Sá¹, Maria Margarida Venâncio¹, Pedro Almeida¹, Sara Ribeiro¹, Jorge M Saraiva^{1,5}, Sérgio B. Sousa^{1,6}
¹Serviço de Genética Médica, Hospital Pediátrico, CHUC, Coimbra, Portugal, ²ICBR-CIMAGO - Centro de Investigação em Meio Ambiente, Genética e Oncobiologia, Faculdade de Medicina da Universidade de Coimbra, Coimbra, Portugal, ³Laboratório de Citogenética e Genómica, Faculdade de Medicina da Universidade de Coimbra, Coimbra, Portugal, ⁴CNC-IBILI, Universidade de Coimbra, Coimbra, Portugal, ⁵Clinica Universitária de Pediatria, Faculdade de Medicina da Universidade de Coimbra, Coimbra, Portugal, ⁶Instituto de Genética Médica, Faculdade de Medicina da Universidade de Coimbra, Coimbra, Portugal, ⁷Instituto Português Oncologia Lisboa, Lisboa, Portugal
- 12.05-12.15 **S4-O13 | NAFLD Awareness amongst T2DM patients – A qualitative case study at the Portuguese Diabetic Association (APDP)**
Mireia Alemany-Pagès¹, Sara Araújo³, Mariana Moura-Ramos^{4,5}, Francisco Freitas³, PhD Rogério T Ribeiro⁶, Dulce do Ó⁶, Maria Paula Macedo⁶, João Ramalho-Santos^{1,2}, Anabela Marisa Azul^{1,7}
¹CNC, Center For Neuroscience And Cell Biology, Coimbra, Portugal, ²Department of Life Sciences, University of Coimbra, Coimbra, Portugal, ³CES, Centre for Social Studies, University of Coimbra, Coimbra, Portugal, ⁴Centro Hospitalar e Universitário de Coimbra, Reproductive Medicine Unit, Coimbra, Portugal, ⁵Center for Research in Neuropsychology and Cognitive Behavioral Intervention University of Coimbra, Coimbra, Portugal, ⁶APDP, Portuguese Diabetic Association, Lisbon, Portugal, ⁷IIIUC, Institute for Interdisciplinary Research, University of Coimbra, Coimbra, Portugal
- 12.15-12.25 **S4-O14 | MC4R deficiency in a portuguese pediatric cohort study**
Joana Rosmaninho-salgado¹, Janet Pereira², Alice Mirante³, Ana Raquel Soares⁴, Sérgio B. Sousa¹
¹Medical Genetics Unit, Hospital Pediátrico, Centro Hospitalar e Universitário de Coimbra, Coimbra, Coimbra, Portugal, ²Department of Hematology, Centro Hospitalar e Universitário de Coimbra (CHUC), Coimbra, Portugal, ³Department of Paediatric Endocrinology, Diabetes and Growth, Hospital Pediátrico de Coimbra, Coimbra, Portugal ⁴ Pediatric Outpatient Clinic, Hospital Pediátrico, Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal
- 12.25-12.30 **Take Home message**
Piero Portincasa (Bari, Italy)
- 12.30-14.00 Poster session 3 and lunch
14.00-16.30 Multi-focus plenary session, ESCI Prizes and Closing Ceremony