



ERS

14th ERS LUNG SCIENCE CONFERENCE

System approaches in lung disease

10-13 March, 2016 - Estoril, Portugal

(Updated scientific programme as of March 09, 2016)

The Conference is granted 15 European CME credits (ECMEC) by the European Accreditation Council for Continuing Medical Education (EACCME).

Thursday 10 March, 2016

Opening Session

- 18:00-18:15** **Welcome and Introduction**
Bruno Crestani, ERS Conferences and Seminars Director
- 18:15-18:45** **Opening Lecture**
Chairs: Bruno Crestani and Ian Adcock
Personal 'omics profiling
Rui Chen (Stanford, USA)
- 18:45-19:00 Discussion
- 19:00-19:30** **Welcome cocktail**

Friday 11 March, 2016

Session 1: The unmet needs in lung disease: is systems medicine the answer?

Chairs: Guy Brusselle and Alen Faiz

- 08:45-09:05** **Severe asthma**
Peter Sterk (Amsterdam, The Netherlands)
- 09:05-09:20 Discussion
- 09:20-09:35** **OP1: miR-17 and -21 in intercellular communication via exosomes in allergic airway inflammation**
Sabine Bartel (Borstel, Germany)
- 09:35-09:50** **OP2: Eicosanoids in asthma: multi-omics data interpretation**
Alexander Mazein (Lyon, France)
- 09:50-10:10** **COPD**
Rosa Faner (Barcelona, Spain)
- 10:10-10:25 Discussion
- 10:25-10:50 *Coffee break*

Session 2: Methodological advances as enablers

Chairs: Craig Wheelock and Lieuwe Bos

- 10:50-11:10** **Single cell 'omics analysis**
Yan Xu (Cincinnati, USA)
- 11:10-11:25 Discussion
- 11:25-11:40** **OP3: Non-canonical WNT signaling is mediated by extracellular vesicles in pulmonary fibrosis**
Aina Martin (Munich, Germany)
- 11:40-11:55** **OP4: Vitamin D stimulates macrophage efferocytosis and encourages a proresolution phenotype**
Dhruv Parekh (Birmingham, United Kingdom)
- 11:55-12:15** **Building handprints of complex diseases: the U-BIOPRED case**
Bertrand De Meulder (Lyon, France)
- 12:15-12:30 Discussion
- 12:30-14:30** ***Lunch for all delegates and mentorship lunch for bursary recipients and their mentors***

**Session 3: Asthma and allergy**

Chairs: Jørgen Vestbo and Yanaika Shari Sabogal Piñeros

14:30-14:50 Epigenetics in asthma ontology

Irina Lehmann (Leipzig, Germany)

14:50-15:05 Discussion

15:05-15:20 OP5: RibomiR-seq reveals microRNAs fine-tune the transcriptome but profoundly alter translation in severe asthma

Rocio Martinez-Nunez (Southampton, United Kingdom)

15:20-15:35 OP6: The association between fine ambient particulate air pollution and lung cancer incidence in adventist health and smog -2 (AHSMOG-2) cohort study

Lida Gharibvand (Loma Linda, United States of America)

15:35-15:55 An integrated approach to the exposome

Valérie Siroux (Grenoble, France)

15:55-16:10 Discussion

16:10-16:40 *Coffee***16:40-18:40: Poster Session 1**

Group A – Chairs: Gunilla Westergren-Thorsson and Andras Bikov

PP101: Altered small RNA cargo in severe asthma exosomes - Ana Francisco-Garcia (Southampton, United Kingdom)**PP103: Network analysis of induced pluripotent stem cells secretome reveals its anti-fibrotic action in rat lung injury model** - Cedric Simillion (Bern, Switzerland)**PP104: Early biomarkers indicating the development of neonatal chronic lung disease defined by clinical and imaging parameters** - Kai Förster (Munich, Germany)**PP106: Defect in the translational control of cytokines leading to hyperresponsive bronchial epithelial cells in asthmatics** - Abilash Ravi (Amsterdam, Netherland)**PP107: CD163 and CCR7 as markers for macrophage polarization in patients with lung cancer** - Iwona Osinska (Warsaw, Poland)**PP108: Modeling of TGF β pathway dynamics in lung cancer cells** - Dmytro Dvornikov (Heidelberg, Germany)**PP109: Medium-throughput RNA interference assays identify phenotype regulators of lung mesenchymal cells based on proteomics profiling** - Laurent Plantier (Paris, France)**PP111: Effects of vitamin D supplementation on perioperative markers of inflammation in patients at risk of acute respiratory distress syndrome (ARDS)** - Rachel Dancer (Birmingham, United Kingdom)**PP112: The factors associated with the pulmonary hypertension and effect of pulmonary hypertension on long-term survival in bronchiectasis patients** - Serpil Gocmen Ocal (Ankara, Turkey)

Group B – Chairs: Tania Maes and Sabine Bartel

PP113: Enhanced expression of alarmins in pulmonary hypertension and fibrosis - Aleksandar Petrovic (Giessen, Germany)**PP115: Increased oxidative stress leads to telomere shortening in children with alpha-1 antitrypsin deficiency** - Sara Pastor (Valencia, Spain)**PP116: Modeling the air-blood barrier in healthy and disease state to evaluate safety and efficacy of inhaled (nano)medicines** - Remi Hendrix (Saarbrücken, Germany)**PP118: Host-environmental IL-1 β drives mutant KRAS-IKKa addiction in malignant pleural effusion** - Antonia Marazioti (Patras, Greece)**PP119: Use of a semi-automatic human-supervised procedure for quantitative histology: modulation of tumour cell dissemination in lung parenchyma** - Natacha Rocks (Liège, Belgium)**PP120: Inflammation paradox – A detailed analysis of inflammatory profile in the airway wall of mild to moderate COPD** - Mathew Eapen (Hobart, Australia)



PP121: Human Airway Trypsin-like protease: friend or foe in Idiopathic Pulmonary Fibrosis? - Awen Menou (Paris, France)

PP122: A human lung explant model of fibrogenesis for the assessment of anti-fibrotic strategies in idiopathic pulmonary fibrosis - Katy Roach (Leicester, United Kingdom)

Group C – Chairs: Peter Sterk and Leonor Gouveia

PP123: Exploring the mechanisms of granuloma formation in vivo to prevent dissemination of a respiratory Mycobacterium tuberculosis infection - Joana Da Silva Domingues (Toulouse, France)

PP124: A combination of the Wells score with Multiorgan Ultrasound to stratify patients with suspected pulmonary embolism - Argyro Chatziantoniou (Heraklion, Greece)

PP125: Global gene expression analysis of the mucociliary differentiation process of human bronchial epithelial cells at the air-liquid interface - Jeremy Parker (London, United Kingdom)

PP126: Changes of peripheral blood eosinophil activity during allergen-induced late-phase airway inflammation in asthma - Ieva Janulaityte (Kaunas, Lithuania)

PP127: Histone Deacetylase 7 mediated metabolic remodeling: a new crosslink between Pulmonary Hypertension and Cancer - Elisabetta, Gamen (Bad Nauheim, Germany)

PP128: Lung-derived prostacyclin (PGI) in endothelial dysfunction in db/db mice - Andrzej Fedorowicz (Krakow, Poland)

PP129: Sequence analysis of ROS1 fusion genes could predict transforming ability – Rica Zinsky (Germany, Wiesbaden)

PP130: Prediction of COPD- and smoking status by network-based multi-‘omics data fusion analysis - Chuan-Xing Li (Stockholm, Sweden)

PP131: Association of single nucleotide polymorphisms located in miRNA binding sites with lung function - Elise De Smet (Ghent, Belgium)

PP132: Modulation of Met signal transduction by altering a degree of receptor phosphorylation - Magdalena Szczygiel (Heidelberg, Germany)

Group D – Chairs: Ian Adcock and Audrey Joannes

PP133: Evaluation the effect of bronchoconstriction on airway cellular responses in asthma - Maria Ester Quesada del Bosque (Southampton, United Kingdom)

PP134: Irisin stimulates hyaluronic acid secretion in COPD: a new role for irisin associated with disease progression and severity - Eleni Papakonstantinou (Basel, Switzerland)

PP136: Inducible expression quantitative trait loci: A novel method to identifying genetic variants associated with corticosteroid responsiveness in COPD - Alen Faiz (Groningen, Netherlands)

PP137: Upregulation of P2X7R and downstream effects in early stages of fibrogenesis - Kathrin Barth (Dresden, Germany)

PP138: Clinical significance of Streptococcus pneumoniae co-infection during respiratory syncytial virus infections in young children - Jaelle Brealey (Brisbane, Australia)

PP139: Multi-level differential network analysis of COPD exacerbations - Guillaume Noell (Madrid, Spain)

PP140: A requirement for IKKa in lung adenocarcinoma - Malamati Vreka (Munich, Germany)

PP141: Identification of pathogenic micro RNA (miR) in BOS: a system biology approach - Michele Zorzetto (Pavia, Italy)

PP142: The estrogen-induced miR-19 downregulates Secretory Leukoprotease Inhibitor expression in monocytes - Paul Joseph McKiernan (Dublin, Ireland)

PP143: Selective TSC1 Deletion in Smooth Muscle Activates mTOR Signaling and Induces Pulmonary Hypertension - Amal Houssaini (Munich, Germany)



18:40-19:20: Early evening talk

Chairs: Jonathan Grigg and Lies Lahousse

New tools for epidemiological medical research in the digital age

Marcel Salathé (Genève, Switzerland)

From 19:40 Dinner for all delegates

Saturday 12 March, 2016

Session 4: Experimental models of disease

Chairs: David Warburton and Katy Roach

08:15-08:35 Natural experiments and large databases in Respiratory, CVD and tobacco control

Jørgen Vestbo (Manchester, United Kingdom)

08:35-08:50 Discussion

08:50-09:05 OP7: Systemic and local metabolomics profiling reveals novel insights into the progression of emphysema

Thomas Conlon (Munich, Germany)

09:05-09:20 OP8: Alpha8 integrin deficiency alters branching morphogenesis and alveolarization during mouse lung development

Tiziana Patrizia Cremona (Bern, Switzerland)

09:20-09:40 Modelling the whole lung

Jason Bates (Burlington, USA)

09:40-09:55 Discussion

09:55-10:25 *Group Picture and Coffee Break*

10:25-11:40: Young Investigator Session – The William MacNee Award

Chairs: Rachel Chambers and Bertrand De Meulder

10:25-10:40 Y11: Epigenome-wide mapping of histone modification landscape in human pulmonary arterial hypertension

Prakash Chelladurai (Bad Nauheim, Germany)

10:40-10:55 Y12: Transcriptomic profiling of Macrophages isolated from human Non-Small Cell Lung Carcinoma (NSCLC) reveals novel Macrophage subsets with distinct tumour response features

Eva Maria Garrido-Martin (Southampton, United Kingdom)

10:55-11:10 Y13: Peripheral blood myeloid-derived suppressor cells reflect disease status in IPF

Isis Enlil Fernandez (Munich, Germany)

11:10-11:25 Y14: Identifying biomarkers of loss of control/exacerbations in asthma from exhaled breath

Sinha Anirban (Amsterdam, Netherlands)

11:25-11:40 Y15 - The use of microarray analysis of gene signalling to determine heterogeneity of COPD exacerbation phenotypes

Kenneth Bolger (Dublin, Ireland)

11:40-14:30: Lunch and Poster Session 2 (*authors will present their poster from 12:30 to 14:30*)

Group A – Chairs: Lindsay Edwards and Rica Zinsky

PP201: A systems biology approach to aid identification of the mechanisms employed by BPIFA1/SPLUNC1 to restrict influenza A virus infection in the lung – Nathifa Moyo (Liverpool, United Kingdom)

PP202: Investigating SOCS-mediated regulation of STAT signalling in idiopathic pulmonary fibrosis (IPF) - Cecilia Prele (Perth, Australia)

PP203: MicroRNA profiling reveals a role for microRNA-218-5p in the pathogenesis of chronic obstructive pulmonary disease - Griet Conickx (Ghent, Belgium)



PP204: The Asthma Map: towards a community-driven reconstruction of asthma-relevant pathways and networks - Alexander Mazein (Lyon, France)

PP205: Epigenetic modifications in cord blood associated with asthma development later in children's life - Matthias Klös (Leipzig, Germany)

PP206: GM-CSF drives human lung tissue macrophages towards a more pro-inflammatory phenotype - Jessica Tilman (London, United Kingdom)

PP207: Platelet-derived Growth Factor Receptor α (PDGFR α) signaling involvement in alveolar secondary septation - Leonor Gouveia (Uppsala, Sweden)

PP208: Visualization of neonatal lung injury associated with mechanical ventilation using x-ray dark-field radiography - Prajakta Oak (Munich, Germany)

PP209: Identification of novel traffic factors involved in CFTR exit from the ER - João D. Santos (Lisbon, Portugal)

Group B – Chairs: Reinoud Gosens and Rachel Dancer

PP210: Identification of distinct biological phenotypes of ARDS by cluster analysis and association with mortality - Lieuwe Bos (Amsterdam, Netherlands)

PP211: The specific upregulation of placenta growth factor (PlGF) by matrix metalloproteinase (MMP)-12 in the pathogenesis of COPD - Hsin-Han Hou (Taipei, Taiwan)

PP212: Pleural inflammation is essential in bleomycin-induced lung toxicity - Olivier Burgy (Dijon, France)

PP213: Unsupervised gene co-expression analysis identifies a novel endotype in severe asthma - Akul Singhania (Southampton, United Kingdom)

PP214: Enhanced postnatal pulmonary injury as a consequence of exposure to moderate prenatal cigarette smoke - Prajakta Oak (Munich, Germany)

PP215: Systems approach to predict asthmatic response to allergen inhalation challenge - Scott Tebbutt (Vancouver, Canada)

PP216: An airway epithelial origin for tobacco carcinogen-induced lung adenocarcinoma - Magda Spella (Patras, Greece)

PP217: Human bronchial epithelial cell migration is dependent on the RhoA effector protein Rho-associated kinase - Fraser Milla (London, United Kingdom)

PP218: Is it possible to predict the outcome of the Whole lung lavage (WLL) in Pulmonary Alveolar Proteinosis (PAP)? - Michele Zorzetto (Pavia, Italy)

Group C – Chairs: Melanie Königshoff and Abilash Ravi

PP219: Macrophage phenotype changes within the small airway wall in smokers and Chronic Obstructive Pulmonary Disease - Mathew Eapen (Hobart, Australia)

PP220: Batf3-dependent dendritic cells control exacerbated allergic airways inflammation to house dust mite (HDM) - Laura Conejero Hall (Madrid, Spain)

PP221: Exploring mechanisms and early detection of pulmonary arterial hypertension via breath and lung vascular cells' volatolomics - Morad Nakhleh (Le Plessis Robinson, France)

PP222: Eosinophils enhance WNT-5a and TGF- β 1 genes expression in airway smooth muscle cells and promote their proliferation in asthma - Andrius Januskevicius (Kaunas, Lithuania)

PP223 - Differentiation between inflammation and hyperinflammation in the murine lung - Kathleen Reiss (Aachen, Germany)

PP224: Non-biased investigation into cardio-pulmonary bypass lung injury - Andrew Durham (London, United Kingdom)

PP225: Oxidative stress in nasal epithelial cells from patients with primary ciliary dyskinesia - Ana Reula (Valencia, Spain)

PP227: Correlation of IL-17A concentration with T regulatory cells in lung cancer microenvironment - Iwona Osinska (Warsaw, Poland)

PP228: The role of platelet-expressed C-type lectin-like receptor-2 in regulating the severity of murine lung injury - Sian Lax (Birmingham, United Kingdom)



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Group D – Chairs: Adam Giangreco and Tiziana Patricia Cremona

PP229: System biology of adrenomedullin is controlled via its cell type specific expressed receptors in the human lung – Jyotshna Mandal (Basel, Switzerland)

PP232: Osteopontin as an airway epithelial tumor promoter - Ioannis Psallidas (Oxford, United Kingdom)

PP234: Identification of novel compounds for Wnt/beta-catenin induced lung repair in COPD - Rita Costa (Munich, Germany)

PP235: Activation of FGF9 and 18 in idiopathic pulmonary fibrosis promote survival and migration and inhibit myofibroblast differentiation of human lung fibroblasts - Audrey Joannes (Paris, France)

PP236: Punching above their weight: plasmacytoid dendritic cells play a critical role in regulating rhinovirus induced gene expression pathways - John Upham (Brisbane, Australia)

PP237: A dual role for eosinophils upon viral exposure; its relevance in virus-induced loss of asthma control – Yanaika Shari Pineros Sabogal (Amsterdam, Netherlands)

PP238: Hookworm infection with Nippostrongylus brasiliensis is a MyD88-TRIF independent mouse model of emphysema - Emma Ringqvist (Stockholm, Sweden)

PP239: Potential use of β -blockers to reduce COPD exacerbations - Lies Lahousse (Ghent, Belgium)

PP240: Vitamin D deficiency is associated with and influences the severity of human and murine sepsis - Dhruv Parekh (Birmingham, United Kingdom)

14:45-16:45 **Junior session: Getting the job you want**

Chairs: Bruno Crestani and Agnes Boots

14:45-14:50

Introduction

Part 1: Prepare your CV, letter and interviews

14:50-15:05

What does the employer look for in a CV and application letter – an industry example

Paul Nicklin, Boehringer-Ingelheim, Germany

15:05-15:20

What does the employer look for in a CV and application letter – an academic example

Oliver Eickelberg, Comprehensive Pneumology Center, Germany

15:20-15:35

Performing your best in the interview situation

Inge Vestbo, KONTUR Healthcare, Denmark

15:35-15:50

Discussion

15:50-16:20

Part 2: CV feedback exercise

Liz Elvidge, Imperial College London, United Kingdom

16:20-16:45

Panel Discussion

16:45-17:30

Cocktail

19:30-20:00

Evening Pre-Dinner Talk

Chair: Bruno Crestani

IBM Watson; an advisor to medical professionals

Pascal Sempé, Paris, France

From 20:00 Gala Dinner and Award Ceremony



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Sunday 13 March, 2016

Session 5: Personalised medicine: the treatment of the future – Part 1

Chairs: Carlos Robalo Cordeiro and Rocio Martinez-Nunez

- 09:00-09:20** **Epigenetics in pulmonary hypertension**
Soni Savai Pullamsetti (Bad Nauheim, Germany)
- 09:20-09:35 Discussion
- 09:35-09:55** **Metabolomics for molecular phenotyping in respiratory disease**
Craig Wheelock (Stockholm, Sweden)
- 09:55-10:10 Discussion
- 10:10-10:30 *Coffee*

Session 5: Personalised medicine: the treatment of the future – Part 2

Chairs: Ian Adcock and Morad Nakhleh

- 10:30-10:50** **ILD and system medicine**
Oliver Eickelberg (Munich, Germany)
- 10:50-11:05 Discussion
- 11:05-11:25** **Systems pharmacology**
Lindsay Edwards (Stevenage, United Kingdom)
- 11:25-11:40 Discussion
- 11:40-12:00** **Conclusion by Bruno Crestani, *ERS Conferences and Seminars Director***