

Lung Science Conference

Mechanisms of Acute Exacerbation of Respiratory Disease

07-10 March 2019 - Estoril, Portugal

Scientific programme as of 04 March 2019

*The conference is granted **13 European CME credits** by the European Accreditation Council for Continuing Medical Education (EACCME) and **15 CME credits** by the European Board for Accreditation in Pneumology (EBAP)*

Thursday 07 March 2019

Opening Session

Chair: Rachel Chambers

- | | |
|--------------------|---|
| 18:00-18:15 | Welcome and Introduction
Rachel Chambers, ERS Conferences and Seminars Director |
| 18:15-18:45 | Opening Lecture
"Viruses as a critical trigger in the development of acute exacerbations of asthma" – Sebastian Johnston (London, United Kingdom) |
| 18:45-19:00 | Discussion |
| 19:00-19:30 | Welcome "cheese and wine" cocktail |

Friday 08 March 2019

Session 1: Triggers of acute exacerbation (part a)

Chairs: Sebastian Johnston and Rocio Teresa Martinez-Nunez

- | | |
|--------------------|---|
| 08:45-09:05 | Pollutant induced acute exacerbations of asthma and COPD
Guy Brusselle (Ghent, Belgium) |
| 09:05-09:20 | Discussion |
| 09:20-09:35 | OP01 – Enhanced in vivo mucosal interferon and chemokine responses to a single stranded RNA analogue (R848) in participants with asthma
Akhilesh Jha (London, United Kingdom) |
| 09:35-09:55 | Immune mechanisms and inflammation in pulmonary fibrosis and acute exacerbation
Antje Prasse (Hannover, Germany) |
| 09:55-10:10 | Discussion |
| 10:10-10:25 | OP02 – Novel cellular effects of ultrafine particulate matter from an underground railway station uncovered through RNAseq
Matthew Loxham (Southampton, United Kingdom) |
| 10:25-10:50 | Coffee break |

Session 1: Triggers of acute exacerbation (part b)

Chairs: Toby Maher and Sally Yunsun Kim

- 10:50-11:05** **OP03 – Mesenchymal stromal cell exosomes prevent and revert experimental pulmonary fibrosis through systemic modulation of monocyte phenotypes**
Nahal Mansouri (Boston, USA)
- 11:05-11:25** **The gut-lung axis in acute exacerbation of airways disease**
Niki D.J. Ubags, Epalinges, Switzerland
- 11:25-11:40** Discussion
- 11:40-11:55** **OP04 – TRIM33 regulates TGF- β 1 secretion and epithelial mesenchymal transition in pulmonary fibrosis**
Pierre-Marie Boutanquoi (Dijon, France)
- 11:55-14:00** Lunch for all delegates and mentorship lunch for bursary recipients and their mentors

Session 2: Microbiome and acute exacerbation

Chairs: Rachel Chambers and Akhilesh Jha

- 14:00-14:20** **Development and homeostasis of a healthy microbiome in the human respiratory tract**
Debby Bogaert (Edinburgh, United Kingdom)
- 14:20-14:35** Discussion
- 14:35-14:50** **OP05 – A novel ex-vivo approach to study lung injury and repair**
Sally Yunsun Kim (London, United Kingdom)
- 14:50-15:10** **The contribution of the microbiome and fungome to acute exacerbation in fibrotic lung disease**
Philip Molyneaux (London, United Kingdom)
- 15:10-15:25** Discussion
- 15:25-15:45** **Microbiome in cystic fibrosis exacerbations**
Marcus Mall (Berlin, Germany)
- 15:45-16:00** Discussion
- 16:00-16:15** *Coffee break*

16:15-18:15 Poster Session 1

Group A - Chairs: Thomas Marichal and Elisabetta Caiazzo

- PP101 - Microbiota profile of Non-small Cell Lung Cancer (NSCLC): the study of a large cohort** - Susana Alves Seixas, Porto, Portugal
- PP102 - Investigation of the epithelial-mesenchymal trophic unit in idiopathic pulmonary fibrosis** - Franco Conforti, Southampton, United Kingdom
- PP103 - Cigarette smoke impairs fatty acid binding protein 5-mediated resolution of inflammation in COPD exacerbations** - Fabienne Gally, Denver, USA
- PP104 - Adhesion to airway smooth muscle cells increase eosinophils viability in acute allergic asthma** - Andrius Januskevicius, Kaunas, Lithuania

PP105 - Prognosis of glucocorticoid response in patients with acute exacerbation of COPD using macrophage migration inhibitory factor - Aliaksei Kadushkin, Minsk, Belarus

PP106 - House dust mite (HDM)-induced “asthma” phenotypes differ in 4 mouse strains - link to the microbiome? - Joni Lund, Borstel, Germany

PP107 - IL-1 β is overexpressed in asthma epithelium and drives neutrophilia and inflammation in an asthma exacerbation mouse model - Irma Mahmutovic Persson, Lund, Sweden

PP108 - Role of extracellular HSP27 in idiopathic pulmonary fibrosis (IPF) - Lenny Pommerolle, Dijon, France

PP109 - Relevant murine model to study the development of COPD pathogenesis in smokers with viral infections - Martin Wolff, Borstel, Germany

Group B - Chairs: Gunilla Westergren-Thorssen and Yanaika Shari Sabogal Piñeros

PP110 - The role of miR-155 in a mouse model of TDI-induced asthma - Evy Blomme, Ghent, Belgium

PP111 - Validating immunoproteasome activity as a potential biomarker in non-invasive samples from COPD patients - Sophie Hardy, Munich, Germany

PP112 - Sputum protein profiling identifies a key role for neutrophil extracellular traps in exacerbations of bronchiectasis and treatment response - Holly Rachael Keir, Dundee, United Kingdom

PP113 - Because age matters – A comparative multi-omics analysis of young and old mice in the Bleomycin-induced lung fibrosis model - Stephan Klee, Biberach, Germany

PP114 - Patterns of self-reactive Abs in asthma-COPD overlap syndrome (ACOS) - Anna Konishcheva, Moscow, Russian Fed.

PP115 - Intraepithelial mast cells in different asthma phenotypes are associated with less symptoms and improved wound healing responses - Cecilia Andersson, Lund, Sweden

PP116 - Sphingosine kinase/sphingosine-1-phosphate pathway contributes to airway hyper-responsiveness in cigarette smoke exposed mice - Fiorentina Roviezzo, Naples, Italy

PP117 - Neurotensin alleviates airway inflammation in murine model of hapten-induced asthma - Ewelina Russjan, Warsaw, Poland

PP118 - Effect of short-time smoking cessation on rhinovirus-induced innate immune responses in an airway epithelial culture model - Ying Wang, Leiden, Netherlands

Group C - Chairs: Mohammed Sorif Uddin and Anienke van der Veen

PP119 - Effect of cigarette smoke on immunoproteasome function during virus infection - Jie Chen, Munichen, Germany

PP120 - Effect of submaximal exercise and diesel exposure on lung inflammation and lung function in mice - Tatjana Decaestecker, Leuven, Belgium

PP121 - Gene expression analysis of polyIC triggered Th2-polarized primary human airway epithelium - Johanna Christine Ehlers, Borstel, Germany

PP122 - Oxidative stress attenuates TLR3 responsiveness and impairs anti-viral mechanisms in bronchial epithelial cells from COPD and asthma patients - Mandy Menzel, Lund, Sweden

PP123 - Investigating the role of the G-proteins Gq and G11 in airway smooth muscle cell TGF β activation in asthma - Robert James Middlewick, Nottingham, United Kingdom

PP124 - Role of immunoproteasomes in fibrotic remodeling - Johannes Nowak, Munich, Germany

PP125 - Influenza A virus impairs antimicrobial molecules production in vitro in lung epithelial cells and in murine lung infection - Jean-Michel Sallenave, Paris, France

PP126 - Dynamics of IFN- β responses during respiratory viral infection: insights for therapeutic strategies - Cosma Mirella Spalluto, Southampton, United Kingdom

PP127 - Inflammasomes' activation in alveolar macrophages and peripheral blood mononuclear cells in fibrotic Interstitial Lung Diseases – Eliza Tsitoura, Herakleion, Greece

[Group D - Chairs: Ken Bracke and Nahal Mansouri](#)

PP128 - House dust mite impair IFN- β expression in response to viral stimuli and skews towards MLKL-mediated necroptosis in bronchial epithelial cells - Samuel Cerps, Lund, Sweden

PP129 - The influence of cigarette smoke exposure on the lung and gut microbiome composition in mice - Draginja Kovacevic, Borstel, Germany

PP130 - Effects of IQOS on macrophage viability and function - Shanon Malela, Tours, France

PP131 - Neutrophil gelatinase-associated lipocalin and IL-6 – markers predictors for exacerbations in Asthma- COPD overlap, compared to COPD and Asthma - Miroslav Mihaylov, Sofia, Bulgaria

PP132 - Rhinovirus-induced IL-33 is overexpressed in asthmatic bronchial smooth muscle cells via TLR3 and activation of TAK1 - Sangeetha Ramu, Lund, Sweden

PP133 - COPD-like lung inflammation activates the PD-1 immune checkpoint in mice - Felix Ritzmann, Homburg, Germany

PP134 - Variation in lung functions and airway inflammatory markers of asthmatics during menstrual cycle - Kushani Atukorala, Nugegoda, Sri Lanka

PP135 - Strain-dependent effects of Nontypeable Haemophilus influenzae (NTHi) on human macrophage function - Jodie Ackland, Southampton, United Kingdom

[Dinner for all delegates](#)

Saturday 09 March 2019

Session 3: Pathophysiology of acute exacerbation (part 1)

Chairs: Ken Bracke and Niki D.J. Ubags

09:00-09:20	Host DNA released by NETosis promotes rhinovirus-induced type-2 allergic asthma exacerbation Thomas Marichal (Liège, Belgium)
09:20-09:35	Discussion
09:35-09:55	The microbiome in bronchiectasis James Chalmers (Dundee, United Kingdom)
09:55-10:10	Discussion
10:10-10:25	OP07 – Unraveling the role of miR-223-3p in the regulation of

airway inflammation in asthma and COPD

Mirjam P. Roffel (Groningen, Netherlands)

10:25-10:40 **OP08 – Let7c is reduced in IPF BAL cells relative to other f-ILDs and is associated with disease progression and survival in fibrotic lung diseases**
Eliza Tsitoura (Herakleion, Greece)

10:40-11:00 Group Picture and Coffee Break

11:00-12:15 **Young Investigator Session – The William MacNee Award**

Chairs: Louise Donnelly and Rory Morty

11:00-11:15 **YI01 – Development of pulmonary fibrosis in conditional Nedd4-2 deficient mice**
Julia Duerr (Berlin, Germany)

11:15-11:30 **YI02 – Induction of IL-20 cytokines during viral exacerbations of chronic obstructive pulmonary disease**
Mélina Le Roux (Lille, France)

11:30-11:45 **YI03 – Anti-IL5 in mild asthma alters rhinovirus-induced macrophage, B cell and neutrophil responses**
Yanaika Shari Sabogal Piñeros (Amsterdam, Netherlands)

11:45-12:00 **YI04 – Resistive breathing aggravates pulmonary inflammation and emphysema in experimental models of chronic obstructive pulmonary disease**
Dimitrios Toumpanakis (Athens, Greece)

12:00-12:15 **YI05 – Role of necroptosis in the pathogenesis of COPD**
Hannelore Van Eeckhoutte (Ghent, Belgium)

12:15-14:45 **Lunch and Poster Session 2**

Authors will present their poster from 12:45 to 14:45. Lunch is served until 14:00.

Group E - Chairs: Debby Bogaert and Martin Wolff

PP201 - Myeloid cell recruitment represents a convergent pathway for early inflammation in mice expressing mutant surfactant protein-C isoforms - Michael Beers, Philadelphia, USA

PP202 - Longitudinal in vivo μ CT for characterization of acute exacerbations in a pulmonary fibrosis mouse model - Kaat Dekoster, Leuven, Belgium

PP203 - Neutrophil-derived microvesicles are internalised by lung epithelial cells and induce inflammatory activation - Merete B. Long, Sheffield, United Kingdom

PP204 - Pharmacological blockade of IGF1R reduces allergic airway inflammation in a house dust mite murine model of asthma - Elvira Alfaro-Arnedo, Logroño, Spain

PP206 - Short-term effects of urban air pollution on human airway epithelium - Jovile Raudoniute, Vilnius, Lithuania

PP207 - Interferon response genes in nasal epithelium to RV16 challenge in asthma patients links to viral clearance and common cold scores - Abilash Ravi, Amsterdam, Netherlands

PP208 - Post-transcriptional dysregulation as a novel mechanism underlying non-responsive severe asthma - Jennifer Rynne, London, United Kingdom

PP209 - Interleukin 17 receptor E (IL-17RE) mediates Poly(inosinic-cytidylic) acid-induced inflammation in a mouse model of allergic lung inflammation - Giovanna Vella, Homburg, Germany

PP210 - The vascular-parenchymal crosstalk regulates lung fibrosis through BMPR2 and CTGF signaling - Toyoshi Yanagihara, Hamilton, Canada

[Group F - Chairs: Marcus Mall and Irma Mahmutovic Persson](#)

PP211 - Surfactant protein SP-D to the rescue of NETosis and NET-induced lung surfactant inactivation - Raquel Arroyo Rodriguez, Madrid, Spain

PP212 - Lung exosomal miRNAs discriminate between healthy ex-smokers and COPD - Cosma Mirella Spalluto Southampton, United Kingdom

PP213 -Allergic sensitization is oriented by CD73 enzyme - Elisabetta Caiazzo, Naples, Italy

PP214 - STAT-3 is activated in COPD airway epithelial cells - François Carlier, Brussels, Belgium

PP215 - Lung-resident natural killer (NK) cells in COPD - Tom Wilkinson, Southampton, United Kingdom

PP216 - Assessment of platelet to lymphocyte ratio and neutrophil to lymphocyte ratio as biomarkers of steroid resistance in patients with COPD - Aliaksei Kadushkin, Minsk, Belarus

PP217 - Azithromycin modulates viral-induced asthma exacerbation by targeting the innate immune response - Thi Hiep Nguyen, Newcastle, Australia

PP218 - Bacterial colonization at stable disease influences exacerbation severity in COPD - Wei Tew, South San Francisco, USA

PP219 - Dysfunctional macrophage polarization in murine COPD exacerbation - Anienke van der Veen, Groningen, Netherlands

PP220 - Role of the immunoproteasome during of bronchial epithelial cell differentiation - Xinyuan Wang, München, Germany

[Group G - Chairs: Darcy Wagner and Matthew Loxham](#)

PP221 - Preclinical efficacy of GPR4 antagonist in a short-term mouse emphysema-exacerbation model - Annalisa Addante, Wuppertal, Germany

PP222 - Examining the long-range immunologic consequences of lung inflammation - Rossana Azzoni, Manchester, United Kingdom

PP223 - Interleukin-33: a double-edged sword in mast cell responses to rhinovirus infection - Chiara Banas, Southampton, United Kingdom

PP224 - Airway Microbiota diversity and composition correlates with severity of Chronic Obstructive Pulmonary Disease (COPD) - Sara Dias, Aveiro, Portugal

PP225 - Targeting CXCR4 as a therapeutic strategy to improve outcomes in a mouse model of early chronic obstructive pulmonary disease (COPD) - Isabelle Dupin, Bordeaux, France

PP226 - An ex vivo model to study response of human COPD and non-COPD small airways to infections and therapeutic interventions - Dmytro Dvornikov, Heidelberg, Germany

PP227 - The role of allergen-activated eosinophils in lung structural cells activation in asthma - Ieva Janulaityte, Kaunas, Lithuania

PP228 - The skin microbiome drives immune maturation and exacerbation of both skin and airway inflammation - Niki D.J. Ubags, Epalinges, Switzerland

PP229 - Comprehensive analysis of miRNA-mRNA-lncRNA networks in non-smoking and smoking patients with COPD - Qian Zhang, Changzhou, China

Group H - Chairs: Marc Kästle and Draginja Kovacevic

PP230 - GSTT1 and GSTM1 null polymorphisms in bronchial asthma - Margarida Castro, Lisbon, Portugal

PP231 - Viral-stimulus production of CCL5 and β -defensin are impaired by house dust mite exposures in bronchial epithelial cells from asthmatics - Samuel Cerps, Lund, Sweden

PP232 - Do eosinophils contribute to oxidative stress in mild asthma? - Linsey E. S. de Groot, Amsterdam, Netherlands

PP233 - Maternal e-nicotine exposure induces sex-dependent intergenerational changes in Drosophila melanogaster model - Natalia El-Merhie, Research Center Borstel - Leibniz Lung Center, Germany

PP234 - Short term model of COPD acute exacerbation combining cigarette smoke inhalation and Influenza A virus infection in mice - Maximiliano Ruben Ferrero, Rio de Janeiro, Brazil

PP235 - Intranasal probiotic Lactobacillus rhamnosus GG prevents respiratory exacerbation in a mouse model of birch pollen allergic asthma - Astrid Fremau, Leuven, Belgium

PP236 - Plasma surfactant protein-D (SP-D) as a predictor of COPD severe acute exacerbation (SAE) - Kateryna Gashynova, Dnipro, Ukraine

PP237 - IL-4, IL-8, IL-13, IL-17, IL-33 serum levels changes in acute allergic asthma model - Virginija Kalinauskaitė-Žukauskė, Kaunas, Lithuania

PP238 - RNA degradation is a deficient antiviral mechanism in the asthmatic airway epithelium - Rocio Teresa Martinez-Nunez, London, United Kingdom

PP239 - Epithelium-derived anti-microbial peptides improve the function of macrophages - Wioletta Skronska-Wasek, Biberach/Riss, Germany

14:50-16:50 **Early-Career delegates session: How to advance your career**
Chairs: Sabine Bartel and Pieter Hiemstra

14:50-14:55 Introduction (Sabine Bartel - Netherlands)

14:55-15:10 Tenure tracks and junior research groups- The Lund University Model
(Gunilla Westergren-Thorssen - Sweden)

15:10-15:25	Experiences from a junior research group leader (Darcy Wagner - Sweden)
15:25-15:40	Discussion with both speakers
15:40-15:55	Successful entry paths into industry (Mohammed Sorif Uddin - Germany)
15:55-16:10	Tips from a successful industry applicant (Marc Kästle - Germany)
16:10- 16:25	Discussion with both speakers
16:25-16:50	Panel discussion and networking event

19:00-19:30 **Evening Pre-dinner talk**
Chair: [Chris Brightling](#)
“The human superorganism: How microbes shape who we are”
Alice Prince (New York, USA)

[From 20:00 Gala Dinner and Award Ceremony](#)

Sunday 10 March 2019

Session 4: Pathophysiology of acute exacerbation (part 2)

Chairs: James Chalmers and Joni Lund

08:45-09:05 **Cellular mechanisms underlying steroid refractory asthma**
Philip Hansbro (Newcastle, Australia)

09:05-09:20	Discussion
09:20-09:40	Mechanisms of AE in COPD
	Chris Brightling (Leicester, United Kingdom)
09:40-09:55	Discussion
09:55-10:15	Effect of microbial communities on antimicrobial drug efficacy and host inflammation in Cystic Fibrosis
	Aur�lie Crabb� (Ghent, Belgium)
10:15-10:30	Discussion
10:30-10:45	<i>Coffee break</i>
Session 5: Treatment/management/prevention of acute exacerbation	
Chairs: Antonio Spanevello and Philip Molyneaux	
10:45-11:05	Management of COPD exacerbations
	Nicolas Roche (Paris, France)
11:05-11:20	Discussion
11:20-11:40	Harnessing the microbiome to combat inflammation-a hot topic or a credible future?
	Liam O'Mahony (Cork, Ireland)
11:40-11:55	Discussion
11:55-12:10	Conclusion by Rachel Chambers, ERS Conferences and Seminars Director