

CPC – INSERM Summer Retreat 2013 Helmholtz Research School “Lung Biology and Disease”



Tours
17th-19th September 2013

Program

Monday, September 16 – “Accueil-Welcome of the German attendees”

6:00 pm Arrival of CPC/DZL guests (BEST WESTERN Central Hotel, for seniors, and Apparthotel Adagio, for PhD students/postdocs), Tours

7:30 pm *Dinner in the Restaurant “Restaurant l’Univers”*

Tuesday, September 17 – “Centre de Congrès Vinci”

8:30 am *Arrival of the French PhD students/postdocs and senior scientists*

9:00-9:30 am **Welcome and Introduction**

Michel Aubier Head of Pneumology Department - Bichat Hospital Medical School, Inserm U700, Paris

Oliver Eickelberg Chairman, Comprehensive Pneumology Center, Ludwig-Maximilians-University and Helmholtz Zentrum München, Munich

Mustapha Si-Tahar Head of the CEPR, Inserm U1100-EA6305, Tours

Marina Pretolani Head of the Inserm U700, Bichat Hospital Medical School, Paris

9:30-11:00 am **Session 1: Asthma and allergy**

Chairpersons: Susanne Krauss-Etschmann (Munich) and Clémentine Schilte (Paris)

9:30-9:45 am The role of Th17 in (severe) asthma- investigated in an *in vitro* differentiated Th17 cell culture system (Mark Kästle, CPC, Munich)

9:45-10:00 am Interaction between bronchial epithelium and airway smooth muscle in asthma (Gabrielle Carvalho, Inserm U1045, Bordeaux)

10:00-10:15 am Development of a murine model to study the effects of maternal smoking on offspring asthma predisposition (Petra Nathan, CPC, Munich)

10:15-10:30 am CCL17 production by dendritic cells is required for NOD1-mediated exacerbation of allergic asthma (Saliha Ait Yahia, Inserm U1019, Lille)

10:30-10:45 am SEC14L3 is de-regulated in murine experimental asthma via miRNA-mediated down-regulation of CREB (Sabine Bartel, CPC, Munich)

10:45-11:00 am *In vitro* effect of inhaled glucocorticoids on the virus-induced activation of bronchial epithelial cells from asthmatic children (Ania Carsin, Inserm U1067, Marseille)

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

- 11:30-1:00 pm** **Session 2: COPD/Emphysema**
Chairpersons: Jorge Boczkowski (Créteil) and Korbinian Ballweg (Munich)
- 11:30-11:45 am Non-canonical Wnt signaling in COPD (Hoeke Baarsma, CPC, Munich)
- 11:45-12:00 am p53 and modulation of macrophage activation in emphysema (Sandra Chrusciel, Inserm U955, Créteil)
- 12:00-12:15 pm Proteomic profiling of alveolar epithelial cells exposed to cigarette smoke extract (Alessandra Mossina, CPC, Munich)
- 12:15-12:30 pm Calcium signaling in ALI-cultured epithelial cells from patients with COPD (Aurélie Petit, Inserm U1046, Montpellier)
- 12:30-12:45 pm The capacity of TGF- β 1 to counter-regulate tobacco smoke-induced barrier dysfunction in the bronchial epithelium (Andrea Forkert, CPC, Munich)
- 12:45-1:00 pm Implication of interleukin-10 in the development of COPD induced by cigarette smoke exposure in mice (Gaëlle Remy, Inserm U1019, Lille)
- 1:00-2:15 pm** *Lunch buffet in the Centre de Congrès Vinci*
- 2:15-3:30 pm** ***Poster session around the coffee corner and Meeting of French-German Scientific Committee***
- 3:30-5:00 pm** **Session 3: Lung Inflammation**
Chairpersons: Silke Meiners (Munich) and French PhD or post-doc
- 3:30-3:45 pm Absence of CARM1 modifies Muc5AC regulation in mouse distal airways (Jie Jia, CPC, Munich)
- 3:45-4:00 pm Role of autophagy in the response to metal nanoparticles (Vanessa Cohignac, Inserm U955, Créteil)
- 4:00-4:15 pm Implication of alveolar macrophage functions during carbon nanotube elicited chronic lung inflammation (Nunja Habel, CPC, Munich)
- 4:15-4:30 pm Kallikrein-related peptidase 12 stimulates angiogenesis through a PDGF B-dependent paracrine mechanism (Thomas Kryza, Inserm U1100, Tours)
- 4:30-4:45 pm Cross-talk of immune cells with differentiating epithelial cells (Katharina Dietz, CPC, Munich)
- 4:45-5:00 pm ATP release and purinergic signaling in NLRP3 inflammasome activation (Aurélie Gombault, CNRS U7355, Orléans)
- 5:00-5:30 pm** *Coffee break*
- 5:30-6:15 pm **Senior scientist conference: Lung imaging** (Alain Le Pape, Inserm U1100-EA6305, Tours)
Chairman: Oliver Eickelberg (Munich)
- 6:45 pm *Departure to the dinner place by shuttle bus*
- 7:30 pm** ***Dinner (Restaurant “La Cave de Montlouis”, Montlouis-sur-Loire – about 20 min from Tours)***

Wednesday, September 18 – “Centre de Congrès Vinci”

9:00-10:30 am

Session 4: Tissue repair and remodeling

Chairpersons: Melanie Königshoff (Munich) and French PhD or post-doc

- 9:00-9:15 am Towards the development of a biohybrid lung (Michael Pflaum, DZL, Hannover)
- 9:15-9:30 am Implication of the Wnt pathway in airway epithelium repair (Ainhoa Callejo, Inserm U903, Reims)
- 9:30-9:45 am The role of Wnt/beta-catenin signalling for lung repair in an *ex vivo* tissue culture model (Franziska Uhl, CPC, Munich)
- 9:45-10:00 am Decreased ANO1 expression and activity is involved in dysregulated Cystic Fibrosis bronchial epithelial repair (Manon Ruffin, Inserm U938, Paris)
- 10:00-10:15 am Pathogenic relevance of antibodies interfering with the activity of proteinase 3: implications for ANCA-associated vasculitis (Lisa Hinkofer, CPC, Munich)
- 10:15-10:30 am M2 macrophage polarization and role during lung epithelium injury and repair *in vivo* (Rania Dagher, Inserm U700, Paris)

10:30-11:00 am

Coffee break

11:00-12:30 am

Session 5: Fibrotic lung diseases

Chairpersons: Bruno Crestani (Paris) and Emma Gbandi (Munich)

- 11:00-11:15 am Proteasome function in lung fibrosis (Nora Pfister, CPC, Munich)
- 11:15-11:30 am Non-apoptotic functions of BAX proteins in pulmonary fibrosis (Stéphanie Brayère, Inserm U700, Paris)
- 11:30-11:45 am The role of aberrant fibroblast invasion in fibrotic lung disease (Bettina Oehrle, CPC, Munich)
- 11:45-12:00 am Regulation of TGF- β 1-driven fibroblast differentiation during human lung fibrosis: emerging roles of cathepsin B and cystatin C (Mariana Kasabova, Inserm U1100, Tours)
- 12:00-12:15 pm Immunoproteasome expression in pulmonary fibrosis (Ilona Keller, CPC, Munich)
- 12:15-12:30 pm Type II transmembrane serine protease, Matriptase, is a mediator of pulmonary fibrosis (Olivier Bardou, Inserm U700, Paris)
- 12:30-12:45 pm Biomarker in pulmonary fibrosis (Isis Fernandez, CPC, Munich)

12:45-2:00 pm

Lunch buffet in the Centre des Congrès Vinci

2:00-3:30 pm

Poster session around the coffee corner

3:30-5:00 pm

Session 6: Pulmonary hypertension

Chairpersons: Tobias Stöger (Munich) and Valérie Amsellem (Créteil)

- 3:30-3:45 pm Agonist-induced vasoconstriction in TRPC deficient mouse vessels (Diana Koch, CPC, Munich)
- 3:45-4:00 pm Connexins in pulmonary circulation and pulmonary hypertension (Nafiisha Khoryrattee, Inserm U1045, Bordeaux)
- 4:00-4:15 pm Delineation of RASSF1A-Hippo signaling in pulmonary hypertension (Swati Dabral, DZL, Giessen)
- 4:15-4:30 pm The role of pericytes in pulmonary arterial hypertension (Nicolas Ricard, Inserm U999, Le Plessis Robinson)
- 4:30-4:45 pm Assessment of regional pulmonary ventilation using retrospective stacking of dynamic 2D-MRI (Julien Dinkel, DZL, Heidelberg)
- 4:45-5:00 pm Pharmacological inhibition and genetic deletion of telomerase protect against pulmonary hypertension in mice (Nathalie Mouraret, Inserm U999, Créteil)

5:00-5:30 am

Coffee break and Group Picture

5:30-6:15 pm

Senior scientist conference: Role of TRPC channels in lung homeostasis and disease (Thomas Gudermann, CPC, Munich)

Chairman: Marc Humbert (Le Plessis Robinson)

7:00 pm

Apéritif, then dinner in « La salle de réception», Hôtel de Ville de Tours

Thursday, September 19 – “Centre de Congrès Vinci”

9:00-10:00 am **Short session 7: Cancer and Aging**

Chairpersons: Anne Hilgendorff (Munich) and Gabrielle Carvalho (Bordeaux)

- 9:00-9:15 am Impact of interleukin-22 in murine models of cancer (Cornelia Ochs, CPC, Munich)
- 9:15-9:30 am Nanos-3: a new biomarker in non-small cell lung cancer? (Simon Grelet, Inserm U903, Reims)
- 9:30-9:45 am Nanoparticle-based targeted delivery of proteasome inhibitors for the treatment of lung cancer (Deniz Bölükbas, CPC, Munich)
- 9:45-10:00 am Proteasome function in the aging lungs (Anne Caniard, CPC, Munich)

10:00-10:30 am **Short session 8: Lung Transplantation**

Chairpersons: Antoine Magnan (Nantes) and Wioletta Skronska-Wasek (Munich)

- 10:00-10:15 am Using an *in vitro* model of bronchial epithelium model to investigate the impact of allogeneic context (Mallory Pain, U915, Nantes)
- 10:15-10:30 am C-Kit expression identifies more mast cells than precursors in bronchiolitis obliterans (Maria Giannakouli, CPC, Munich)

10:30-11:00 am *Coffee break*

11:00-11:30 am **Short session 9: Infection/Cystic fibrosis**

Chairpersons: Ali Önder Yildirim (Munich) and French PhD or post-doc

- 11:00-11:15 am Development of a lung infection model in a CFTR-deficient pig (Reuben Ramphal, Inserm U1100, Tours)
- 11:15-11:30 am Differentiation of human induced Pluripotent Stem (iPS) cells into CFTR expressing epithelial cells (Ralf Haller, DZL, Hannover)

11:30-12:30 am **Short session 10: Epidemiology and Epigenetics**

Chairpersons: Isabella Annesi (Paris) and Nicole Strobl (Munich)

- 11:30-11:45 am A longitudinal analysis of allergic and non-allergic asthma in a population-based survey. Results from the European Community Respiratory Health Survey (Jay Pirkash, Inserm U700, Paris)
- 11:45-12:00 am 6-year patterns of dispensed asthma medication in 2,853 aging asthmatics women (Margaux Sanchez, Inserm U1018, Villejuif)
- 12:15-12:30 am Oral tolerance in the development of asthma and allergies in children of the EDEN Study (The PAALM Project) (Nour Baiz, Inserm U707, Paris)

12:30-12:45 am The role of microRNAs in normal and aberrant late lung development and experimental bronchopulmonary dysplasia (Jordi Ruiz Camp, UGMLC, Giessen)

12:45 pm *Lunch buffet in the Centre des Congrès Vinci*

From 13:30 pm Departure of all participants

Poster sessions

Tuesday, September 17

2:15-3:30 pm

Poster # 1 to 27

Asthma/Epidemiology

- 1) IL-17 is critical for airway hyperresponsiveness in a House Dust Mite exposure model of allergic asthma (Julie Chesne, Inserm U915, Nantes)
- 2) Airway surface dehydration confers susceptibility to allergic airway inflammation *in vivo* (Sandra Christochowitz, DZL, Heidelberg)
- 3) B cell profile in lung of asthmatic mice (Faouzi Braza, Inserm U915, Nantes)
- 4) Ciliary beating analysis in chronic respiratory diseases (Kamel Khelloufi, Inserm U1067, Marseille)
- 5) Expression and role of transglutaminase 2 in subepithelial fibrogenesis in asthma (Garthiga Arumugam, Inserm U700, Paris)
- 6) Genetic influences on serum cytokines in asthma (Murali Sarguru, CPC, Munich)
- 7) The search for early biomarkers of childhood asthma and its clinical course: the German Centre for Lung Research (Pia Eichmüller, CPC, Munich)
- 8) Household use of cleaning sprays and asthma activity in elderly women from the French E3N cohort (Annabelle Bédard, Inserm U1018, Villejuif)
- 9) Respiratory effects of air pollution modulated by stress (Cailiang Zhou, Inserm U707, EPAR, Paris)
- 10) Health effects of atmospheric pollution in Beyrouth (Myriam M'Rad, Inserm U707, EPAR, Paris)
- 11) Respiratory health effects of wildfires in Europe (Youssef Hassani, Inserm U707, EPAR, Paris)

COPD/emphysema

- 12) Interleukin-22-dependent signaling & COPD (Antoine Guillon, Inserm U1100, Tours)
- 13) Identifying novel markers of mesenchymal cell subtypes (Katharina Heinzelmann, CPC, Munich)
- 14) Macrophage MMP-12 as a molecular target in COPD (Rodolphe Gravier, Inserm U1100, Tours)
- 15) The effect of cigarette smoke on mitochondrial protein quality control by the ubiquitin proteasome system (Korbinian Ballweg, CPC, Munich)

- 16) PGE2 and physiopathology of emphysema (Jean-Marie Gagliolo, Inserm U955, Créteil)
- 17) Wnt/Frizzled signalling in COPD and emphysema (Wioletta Skronska-Wasek, CPC, Munich)
- 18) Impact of Chronic obstructive pulmonary disease and of smoking on the protease inhibitor TFPI-2 expressed by epithelial and cancer cells (Aurelia Barusco, Inserm U1100, Tours)
- 19) Characterization of alveolar epithelial cell phenotypes during primary culture (Kathrin Mutze, CPC, Munich)
- 20) Pulmonary emphysema in cystic fibrosis detected by densitometry on chest multidetector computed tomography (MDCT) (Katharina Ronstedt, DZL, Heidelberg)
- 21) Determining the long-term influence of smoking cessation on emphysema and airway dimensions in COPD (Mila Garbeva, DZL, Heidelberg)

Pulmonary fibrosis

- 22) Oncogenes as a link of idiopathic pulmonary fibrosis and lung cancer (Carola Braun, CPC, Munich)
- 23) Fibroblast-Growth Factors (FGFs) modulate the phenotype of lung fibroblasts during pulmonary fibrosis (Audrey Joannes, Inserm U700, Paris)
- 24) Role of macrophages in pulmonary fibrosis (Birgitta Heckl, CPC, Munich)
- 25) Regulation of WISP1 in lung fibrosis (Stephan Klee, CPC, Munich)
- 26) Effects of resveratrol on the treatment of bleomycin-induced lung fibrosis in mice (Nikica Mise, CPC, Munich)
- 27) Wnt-ECM interactions in chronic lung disease (Sarah Vierkotten, CPC, Munich)

Wednesday, September 18

2:00-3:30 pm

Poster # 28 to 54

Pulmonary hypertension

- 28) MIF/CD74 signaling pathway contributes to the endothelial pro-inflammatory phenotype in in Idiopathic Pulmonary Hypertension (Morane Le Hiress, Inserm U999, Le Plessis Robinson)
- 29) Role of IL- β in experimental pulmonary hypertension (Aurélien Parpaleix, Inserm U995, Créteil)
- 30) Endothelial to mesenchymal transition in pulmonary hypertension (Benoit Ranchoux, Inserm U999, Le Plessis Robinson)
- 31) Analysis of TRPC function in precapillary pulmonary arterial smooth muscle cells (Katharina Hofmann, CPC, Munich)
- 32) Effects of NO donors on hypoxic pulmonary hypertension in wild-type and SAD mice (Shariq Abid, Inserm U995, Créteil)
- 33) NMDA receptor in pulmonary hypertension: a new therapeutic target? (Sébastien Dumas, Inserm U999, Le Plessis Robinson)
- 34) Targeting the Calpain/Calpastatin System to Protect against Hypoxia-Induced Pulmonary Hypertension in Mice (Feng Wan, Inserm U995, Créteil)
- 35) CCR5 Receptor Is a New Therapeutic Target in Pulmonary Hypertension (Valérie Amsellem, Inserm U995, Créteil)
- 36) Rapamycin Reverses the Proliferative Phenotype of Pulmonary-Artery Smooth Muscle Cells in Experimental Pulmonary Hypertension (Amal Houssaini, Inserm U995, Créteil)

Lung transplantation

- 37) MMP-12 And MMP-13 function in dendritic cells: *in vitro* findings and impact in a murine model of bronchiolitis obliterans (Juliane Bartmann, CPC, Munich)
- 38) Understand and predict chronic lung allograft dysfunction (Pierre Royer, Inserm U915, Nantes)
- 39) Immunophenotyping of lung transplanted recipients (Nicole Strobl, CPC, Munich)

Lung injury and repair

- 40) Role of CARM1 in regulation of lung epithelial cell repair and regeneration (Rim Sarker, CPC, Munich)
- 41) Influence of microRNAs on the T-cell response in the resolution of acute lung injury (Stephanie Hinske, CPC, Munich)

- 42) Treatment of hyperoxia-induced lung injury by promoting the recovery of the extracellular matrix by inhibiting matrix remodelling enzymes (Ivana Mizikova, DZL, Giessen)

Lung Cancer

- 43) Zyxin regulation of cell-cell junctions in lung cancer progression (Emma Gbandi, CPC, Munich)
- 44) *Ex-vivo* models for combined radiotherapy and systemic therapy of lung cancer (Venu Pamidiboina, CPC, Munich)

Inflammation/Infection

- 45) Role of autophagy in the response to carbon nanotubes (Marion Landry, Inserm U995, Créteil)
- 46) Role of the calcium channel TRPV4 in lung inflammation (Clémence Henry, Inserm U1100, Tours)
- 47) Identification of a novel protease family dysregulated in lung diseases: the kallikrein-related peptidase family (Fabien Gueugnon, Inserm U1100, Tours)
- 48) LL-37, a human antimicrobial peptide is a reversible competitive inhibitor of cathepsin L (Pierre-Marie Andraut, Inserm U1100, Tours)
- 49) Relative contribution of IL-1 α , IL-1 β and TNF to the host response to *Mycobacterium tuberculosis* and attenuated *M. bovis*, BCG (Noria Segueni, CNRS U7355, Orléans)
- 50) Airway analysis in aligned MDCT and microCT images (Oliver Weinheimer, DZL, Heidelberg)
- 51) Immunoproteasome subunits LMP2 and LMP7 differentially contribute to alveolar macrophage polarization (Shanze Chen, CPC, Munich)

Lung development and aging

- 52) Regulation of endothelial cell senescence and inflammation responses by alpha1-antitrypsin (Sabine Wrenger, DZL, Hannover)
- 53) The role of hydrogen sulfide in normal and aberrant late lung development (Alicia Madurga Hernández, DZL, Giessen)

Stem cells/epithelial cells

- 54) Differentiation of human induced pluripotent stem cells (iPSCs) into airway epithelial cells (Saskia Ulrich, DZL, Hannover)

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