

Welcome to the 21st Annual Retreat
of the
International Graduate Programme
Molecular Biology and Medicine of the Lung



Rauischholzhausen, Germany
August 26-28, 2025



MBML
MOLECULAR BIOLOGY
& MEDICINE OF THE LUNG



Deutsches Zentrum für
Lungenforschung



**CARDIO
PULMONARY
INSTITUTE**



UGMLC
UNIVERSITIES OF
GIESSEN & MARBURG
LUNG CENTER

TUESDAY, 26.08.2025

Up to 09:30

Arrival at Rauschholzhausen Castle, Registration

09:30 - 09:45

Welcome and Introduction: Elie El Agha and Werner Seeger

09:45 - 10:45

The Opening Lecture

JOSEPH LOSCALZO

Harvard Medical School, Boston, MA, U.S.A.

“TBA”

10:45 - 12:15

Student Presentations – Block A

PULMONARY HYPERTENSION

12:15 -13:45

Room check-in, followed by lunch

13:45 - 14:45

The Editor’s Lecture

ANDREW J HALAYKO

Editor-In-Chief, *American Journal of Respiratory Cell and Molecular Biology*

University of Manitoba, Winnipeg, Manitoba, Canada

“TBA”

14:45 - 15:30

Student Presentations – Block B

HYPOXIA AND OXYGEN SENSING

15:30 - 17:00

Poster session, with coffee and snacks

17:00 – 17:45

Student Presentations - Block C

LUNG PROGENITOR CELLS AND REGENERATION

17:45 - 18:45

The Ethics in Science and Medicine Lecture

REV. FR. PABLO REQUENA

Pontifical University of the Holy Cross, Rome, Italy

“Navigating medical assistance in dying: Between medical ethics and catholic thought”

18:45 - end

Dinner and open bar

WEDNESDAY, 27.08.2025

07:30 - 09:00

Breakfast

09:00 - 10:00

ANA L MORA

The Ohio State University, Columbus, OH, U.S.A.

“Aging and mitochondrial dysfunction at the spotlight of lung fibrosis”

10:00 - 11:30

Student Presentations - Block D

LUNG FIBROSIS

11:30 - 12:00

Coffee and snacks

12:00 - 13:00

ANTOINE-EMMANUEL SALIBA

University of Würzburg, Würzburg, Germany

“Unveiling host-pathogen interactions in time and space at single-cell resolution”

13:00 - 14:00

Lunch

14:00 - 14:45

Student Presentations – Block E

ACUTE RESPIRATORY DISTRESS SYNDROME

14:45 - 16:15

Group photograph (all *Annual Retreat* participants) followed by coffee pick-up, leading to the...
“Meet-the-Professor” sessions

16:15 - 17:15

JENNIFER M S SUCRE

Vanderbilt University School of Medicine, Nashville, TN, U.S.A.

“TBA”

17:15 - 18:00

Student Presentations – Block F

LUNG DEVELOPMENT AND BRONCHOPULMONARY DYSPLASIA

18:00 - 19:15

Breather (18:00-18:15) followed by *The Nobel Evening Lecture*

JULES HOFFMANN

Recipient of the 2011 Nobel Prize in Physiology or Medicine

University of Strasbourg, Strasbourg, France

“From innate to adaptive immunity: Contributions of studies in *Drosophila* to our present understanding of immune defenses in eucaryotes”

19:15 - end

Dinner, open bar, and entertainment

THURSDAY, 28.08.2025

07:30 - 09:00

Breakfast

09:00 - 10:00

FRANCESCA POLVERINO

Baylor College of Medicine, Houston, TX, U.S.A.

“Integration of multiomics to dissect COPD pathogenesis”

10:00 - 11:00

Student Presentations - Block G

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

11:00 - 11:30

Coffee and snacks

11:30 - 12:30

The Industry Lecture

MARTIN R STAMPFLI

CSL Behring, Bern, Switzerland

“TBA”

12:30 - 13:30

Student Presentations – Block H

LUNG CANCER

13:30 - 14:00

Presentation of MBML coursework certificates and poster prizes

Formal closing of the Retreat: Elie El Agha and Werner Seeger

14:00 - 15:00

Room check-out and lunch

15:00

Bus Departure from Rauschholzhausen to Giessen

Meeting Point: Parking Lot of the Castle (14:50)

A) PULMONARY HYPERTENSION

Tuesday, August 26th, at 10:45

Chairs: Bhavika B. Katariya and Ashutosh Tripathy

10:45 - 11:00: [Johannes Lorenz Berg](#) (Guest speaker, Medical University of Graz, Graz, Austria)
"Beyond the scaffold: ECM changes during pulmonary vascular remodeling"

11:00 - 11:15: [Simon Bousseau](#) (Guest speaker, National Jewish Health, Denver, CO, USA)
"17 β -Estradiol enhances right ventricle angiogenesis and endothelial cell fatty acid oxidation in PAH in a carnitine palmitoyltransferase 1-dependent manner"

11:15 - 11:30: [Anis Čilić](#) (PI: Norbert Weissmann)
"The role of adenylate kinase 4 in pulmonary hypertension"

11:30 - 11:45: [Vanessa Nebel](#) (PI: Norbert Weissmann)
"Notch transcription factor RBPJ modulates smooth muscle cell function in pulmonary hypertension"

11:45 - 12:00: [Aileen Schmidt](#) (PI: Ruth Olmer, DZL BREATH Campus Hannover)
"In vitro modelling of heritable pulmonary arterial hypertension with induced pluripotent stem cell-derived smooth muscle cells"

12:00 - 12:15: [Leila Sotoodeh Atefi](#) (PI: Saverio Bellusci)
"Revealing the heterogeneity of newly formed Acta2⁺ myofibroblasts in hypoxia-induced pulmonary hypertension"

B) HYPOXIA AND OXYGEN SENSING

Tuesday, August 26th, at 14:45

Chairs: Hanieh Anari Beigidloo and Efthymios Fousekis-Papakonstantinou

14:45 - 15:00: [Sandipan Jash](#) (PI: Natascha Sommer)
"Cause and consequences of cytochrome c oxidase (COX) remodelling in lung disease"

15:00 - 15:15: [Muchen Li](#) (PI: Norbert Weissmann & Natascha Sommer)
"The role of Uqcrh in acute and chronic oxygen sensing in pulmonary vasculature"

15:15 - 15:30: [Ornella Yamdjeu Tchokondou](#) (PI: Norbert Weissmann)
"O₂-sensing in hypoxic pulmonary vasoconstriction - Deciphering the molecular mechanisms with focus on voltage-dependent K⁺ channels"

C) LUNG PROGENITOR CELLS AND REGENERATION

Tuesday, August 26th, at 17:00

Chairs: Stephanie Stephan and Zahra Moazezi Tehrankhah

17:00 - 17:15: [Alejandro Egea Zorrilla](#) (PI: Ana Pardo-Saganta)

“A profibrotic Notch signal derived from alveolar epithelial cells is essential for the development of pulmonary fibrosis”

17:15 - 17:30: [Afaq Mushtaq](#) (PI: Margarida M. Barroso & Susanne Herold)

“Establishing an aged bronchioalveolar organoid model to study infection progression”

17:30 - 17:45: [Mahtab Shahriari Felordi](#) (PI: Elie El Agha)

“Repair-supportive mesenchymal cells (RSMCs) modulate epithelial WNT signaling during airway regeneration”

D) LUNG FIBROSIS

Wednesday, August 27th, at 10:00

Chairs: Muchen Li and Laura-Marie Twardowski

10:00 - 10:15: [Aysan Ezaddoustdar](#) (PI: Malgorzata Wygrecka)

“Epiregulin promotes expansion of aberrant airway epithelial cells, driving epithelial-mesenchymal miscommunication in lung fibrosis”

10:15 - 10:30: [Sarah Holton](#) (*Guest speaker, University of Washington, Seattle, WA, USA*)

“Characterization of pulmonary myeloid populations in patients with early interstitial lung disease using spatial transcriptomics”

10:30 - 10:45: [Daniel Kalina](#) (PI: Malgorzata Wygrecka)

“Characterization of the bleomycin-induced pulmonary fibrosis model in rats”

10:45 - 11:00: [Bhavika B. Katariya](#) (PI: Poornima Mahavadi)

“Antisense oligonucleotide silencing of fused in sarcoma (FUS): A novel therapeutic intervention for idiopathic pulmonary fibrosis”

11:00 - 11:15: [Dongzhu Li](#) (PI: Ana Pardo-Saganta)

“Implication of clonal hematopoiesis of indeterminate potential to the pathophysiology of idiopathic pulmonary fibrosis”

11:15 - 11:30: [Mahsa Zabihi](#) (PI: Elie El Agha)

“Role of lipofibroblasts in the development and resolution of pulmonary fibrosis”

E) ACUTE RESPIRATORY DISTRESS SYNDROME

Wednesday, August 27th, at 14:00

Chairs: Mahtab Shahriari Felordi and Derrick Opoku

14:00 - 14:15: [Isabell Valerie Burhorst](#) (PI: Bernd Schmeck & Anna Lena Jung)

“Pro-coagulant extracellular vesicles mediate smoking-induced pulmo-vascular inflammation”

14:15 - 14:30: [Juliana Falivene](#) (PI: Wolfgang Kübler, *DZL-Associated Site Charité* Berlin)

“SNAT2 as a key regulator of alveolar epithelial cell homeostasis in acute lung injury”

14:30 - 14:45: [Victoria Kehinde Ogungbemi-Alt](#) (PI: Ulrich Matt & Susanne Herold)

“Controlling plasticity of alveolar macrophages for cell-based therapy in lung injury”

F) LUNG DEVELOPMENT AND BRONCHOPULMONARY DYSPLASIA

Wednesday, August 27th, at 17:15

Chairs: Victoria Kehinde Ogungbemi-Alt and Henrike Treis

17:15 - 17:30: [Martha Candoni](#) (PI: Norbert Weissmann & Natascha Sommer)

“The role of inducible nitric oxide synthase (iNOS) in the hyperoxia-induced mouse model of bronchopulmonary dysplasia”

17:30 - 17:45: [Sara D’Agostino](#) (PI: Ivana Mižik, *DZL TLRC Campus* Heidelberg)

“The roles of distinct alveolar epithelial type 2 (AT2) cell subpopulations in normal and aberrant lung development”

17:45 - 18:00: [Stephanie Stephan](#) (PI: Miguel A. Alejandro Alcázar)

“Investigating the macrophage-alveolar epithelial type II cells interplay in hyperoxia-induced neonatal lung injury”

G) CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND AGING

Thursday, August 28th, at 10:00

Chairs: Isabell Valerie Burhorst and Ornella Yamdjeu Tchokonde

10:00 - 10:15: [Gowtham Boosarpu](#) (PI: Bernd Schmeck & Mareike Lehmann)
"Cell-intrinsic mechanisms of lung regeneration and resilience over the lifespan"

10:15 - 10:30: [Amine Chahin](#) (PI: Mareike Lehmann)
"The heterogeneity of cellular lung ageing as a therapeutic target – on the way to lung regeneration"

10:30 - 10:45: [Efthymios Fousekis-Papakonstantinou](#) (PI: Mareike Lehmann)
"Aging-induced extracellular vesicles from lung cells carry a specific SASP"

10:45 - 11:00: [Henrike Treis](#) (PI: Norbert Weissmann & Stefan Hadzic)
"Impaired HO-1-mediated defense in alveolar epithelium aggravates cigarette smoke-induced injury"

H) LUNG CANCER

Thursday, August 28th, at 12:30

Chairs: Muchen Li and Fatemeh Zarei

12:30 - 12:45: [Ann-Kathrin Daum](#) (PI: Sonja Loges, *DZL TLRC Campus Heidelberg*)
"Advanced Tumor Models to Uncover Stromal Drivers of Lung Cancer Progression"

12:45 - 13:00: [Siavash Mansouri](#) (PI: Rajkumar Savai, *Guest speaker*)
"Mapping the spatial metabolomics of the IRG1/itaconate axis: A key regulator of the lung tumor microenvironment through the pentose phosphate pathway"

13:00 - 13:15: [Jamal Nabhanizadeh](#) (PI: Rajkumar Savai & Norbert Weissmann)
"Spatial profiling reveals distinct microenvironment signatures and cellular plasticity in fibrosis-associated lung cancer"

13:15 - 13:30: [Jia-qi Wang](#) (PI: Silke Meiners, *DZL ARCN Campus Borstel*)
"The immunoproteasome as a prognostic biomarker for NSCLC progression"

Speaker Introductions and Speaker Session Chairs

ANDREW J HALAYKO by Aysan Ezaddoustdar

JULES HOFFMANN by Gowtham Boosarpu

JOSEPH LOSCALZO by Jamal Nabhanizadeh

ANA L MORA by Alejandro Egea Zorrilla

FRANCESCA POLVERINO by Anis Čilić

REV. FR. PABLO REQUENA by Vanessa Nebel

ANTOINE-EMMANUEL SALIBA by Mahsa Zabihi

MARTIN R STAMPFLI by Daniel Kalina

JENNIFER M S SUCRE by Leila Sotoodeh Atefi

Poster Presentations

Students: Please hang posters during lunch (12:15-13:45) prior to the poster session.

Poster board number	Presenter (Tuesday, 26 th August 2025, 15:15-16:45)
1	Hanieh Anari Beigdiloo (PI: Soni Savai Pullamsetti) "Chromatin organization of immune cells in PH"
2	Zahra Moazezi Tehrankhah (PI: Ulrich Matt) "Generation of human alveolar macrophages from induced pluripotent stem cells – Optimization and functional validation"
3	Derrick Opoku (PI: Norbert Weissmann & Marija Gredic) "Exploring the impact of dual use of electronic and combustible cigarettes on the onset of emphysema and pulmonary hypertension in mice"
4	Alisa Riediger (PI: Thomas M Conlon & Ali Önder Yildirim, <i>DZL CPC-M Campus Munich</i>) Immuno-toxicological mechanisms driving COPD pathogenesis
5	Ashutosh Tripathy (PI: Ana Pardo-Saganta) "Understanding the AT1 cell in lung homeostasis, injury and repair"
6	Laura-Marie Twardowski (PI: Mareike Lehmann) "Extracellular vesicle-mediated interorgan communication in idiopathic pulmonary fibrosis"
7	Fatemeh Zarei (PI: Bernd Schmeck & Wilhelm Bertrams) "Legionella virulence factors in an intracellular and intercellular context"

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