



 **RespirERA**  
IHU Côte d'Azur

# AI in the next world of **THORACIC PATHOLOGY**

6-7 OCTOBER 2026  
LE SAINT PAUL HOTEL, NICE, FRANCE

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## **A CENTER OF EXCELLENCE IN RESPIRATORY HEALTH**

The IHU RespirERA, founded in Nice in 2023, is a pioneering university hospital research institute in the fight against age and environment related respiratory diseases. Its main objective is to transform medical practices through a personalized approach that takes into account the impact of the environment and the unique biological characteristics of each patient.

The IHU is committed to revolutionizing the diagnosis, treatment, and prevention of chronic respiratory diseases and lung cancer. By combining advances in biology, artificial intelligence, and precision medicine, it offers tailor-made solutions to improve patient care.

## **A HOLISTIC APPROACH**

Based in Nice, the IHU RespirERA uses the PACA region as a “living laboratory” to explore the impact of aging and environmental factors on respiratory health. The IHU benefits from state-of-the-art infrastructure, including 14 research laboratories, a renowned pulmonology department, and an artificial intelligence center collaborating with INRIA. These resources enable it to explore crucial issues such as population aging and the impact of environmental factors, particularly pollution, on respiratory health.

The institute adopts an integrated and multidisciplinary strategy, mobilizing biomarkers of aging and the environment, biotechnologies, and multi-omic data analysis. This synergy promotes major advances in research, reducing the need for invasive diagnostics and developing treatments tailored to each patient.

## **A COMMITMENT TO SHARING KNOWLEDGE**

IHU RespirERA is also committed to sharing its advances by involving students, healthcare professionals, industry partners, and patients themselves. This close collaboration ensures that the progress made is widely applied to achieve lasting improvements in health outcomes.

By placing innovation, personalization, and collaboration at the heart of its activities, the IHU RespirERA is a key player in responding to current and future challenges in respiratory diseases.

# Event Presentation

## AI in the New World of Thoracic Pathology

Organized by IHU RespirERA, this international congress is an excellence gathering dedicated to the fusion of Artificial Intelligence and Thoracic Pathology. Held in Nice, this exclusive event brings together world-leading experts to explore how AI is reshaping tissue analysis, diagnostic workflows, and biomarker interpretation.

### THE SCIENTIFIC MISSION

From fundamental research to concrete clinical applications, the program covers the full spectrum of innovation:

- Whole-slide image analysis & automated lesion classification.
- Prediction of therapeutic responses.
- Decision-support tools for lung and mediastinal diseases.

### WORLD-CLASS EXPERTISE

Speakers from internationally recognized institutions will share their insights on the future of diagnostics:

- From IHU RespirERA: Nicholas Ayache, Hervé Delingette, Marius Ilié, Guylène Rignol, François Ghiringhelli, and Prof. Paul Hofman.
- International Guest Speakers: John Le Quesne, Jan H. von der Thüsen, Albrecht Stenzinger, Philippe Joubert, Fernando Lopez-Rios, Denis Horgan, Danni Jonigk, Mihaela Aldea and Umberto Malapelle.

Join us to foster knowledge exchange and support the integration of AI into the patient-care pathway.

# Scientific Program

October 6<sup>th</sup>

8:00 AM  
8:15 AM

**Welcome Coffee** & Booth exhibition

8:15 AM  
8:30 AM

## Introduction

*Paul Hofman (IHU RespirERA, France)*

## Session I

*Chairpersons: Albrecht Stenzinger & Fernando Lopez-Rios*

8:30 AM  
9:00 AM

### **Inria (Sophia Antipolis, France) as a Founder Member of the IHU RespirERA**

*Nicholas Ayache (IHU RespirERA, France)*

9:00 AM  
9:30 AM

### **AI-assisted Lung Cancer Classification and Grading**

*Jan H von der Thusen (Rotterdam, Netherlands)*

9:30 AM  
10:00 AM

### **Lung cancer biomarker testing: practical tips for AI implementation**

*Fernando Lopez-Rios (Madrid, Spain)*

10:00 AM  
10:30 AM

**Coffee Break** & Booth exhibition

10:30 AM  
11:00 AM

### **Self-supervised AI methods for Diagnosis and Discovery in Lung Cancer**

*John Le Quesne (Glasgow, UK)*

11:00 AM  
11:30 PM

### **Patient Selection for Therapy in Lung Cancer based on Whole Slide Image Analysis**

*Hervé Delingette (IHU RespirERA, France)*

11:30 AM  
12:00 PM

### **Lung Pathology in the AI Era: Where Do We Stand?**

*Marius Ilié (IHU RespirERA, France)*

12:00 PM  
2:00 PM

**Lunch Break** & Booth exhibition

## Session II

*Chairpersons: Mihaela Aldea & Philippe Joubert*

2:00 PM  
2:30 PM

### **Application of AI in LungCancer: Development of Predictive and Prognostic Biomarkers**

*Philippe Joubert (Quebec, Canada)*

2:30 PM  
3:00 PM

### **Deep Learning-Based Assessment of PD-L1 Expression in NSCLC predicts outcome for patients treated with Anti-PD-1 Immunotherapy**

*François Ghiringhelli (IHU RespirERA, France)*

3:00 PM  
3:30 PM

### **AI and KRAS Mutation Assessment in Lung Cancer, Current Situation**

*Guyène Rignol (IHU RespirERA, France)*

3:30 PM  
4:00 PM

### **Clouds Across the New Dawn for Clinical, Diagnostic and Biological Data**

*Denis Horgan (Brussels, Belgium)*

# Scientific Program

October 7<sup>th</sup>

## Session III

Chairpersons: Georges Dagher & Danni Jonigk

8:30 AM  
9:00 AM

**Welcome Coffee** & Booth exhibition

9:00 AM  
9:30 AM

**AI in Liquid Biopsy: A New Quantum Leap**

*Umberto Malapelle (Naples, Italy)*

9:30 AM  
10:00 AM

**Role of IA for molecular tumour board in thoracic oncology**

*Mihaela Aldea (Institut Gustave Roussy, Villejuif, France)*

10:00 AM  
10:15 AM

**Coffee Break** & Booth exhibition

10:15 AM  
10:45 AM

**AI tools in Lung Pathology: A new revolution is coming**

*Danni Jonigk (Hanover, Germany)*

10:45 AM  
11:15 AM

**Predictors of Immune Response in NSCLC using AI tools**

*Albrecht Stenzinger (Heidelberg, Germany)*

11:15 AM  
11:45 AM

**Computational Pathology and Lung cancer. Today and Tomorrow**

*Paul Hofman (IHU RespirERA, France)*

11:45 AM  
12:45 PM

**Round Table: the Future of AI in Thoracic Pathology, where are we ?**

*All speakers*

12:45 PM  
1:00 PM

**Conclusion**

*Mihaela Aldea, Albrecht Stenzinger, Fernando Lopez-Rios, Paul Hofman*

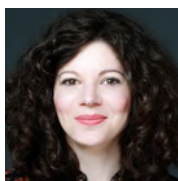
# Chairpersons



## **Albrecht STENZINGER**

Albrecht Stenzinger is Professor of Molecular Tumor Pathology, Vice Chair of the Institute of Pathology (IPH), as well as the Director of the IPH Center for Molecular Pathology (CMP) and Section Head for Molecular Diagnostics and Biomarker Development at the Institute of Pathology, University Hospital Heidelberg, Germany. Dr. Stenzinger is holding an MD degree from the University of Giessen, completed his residency and fellowship training in pathology at the Charité University Hospital, Berlin

and the University Hospital Heidelberg. He is a board-certified surgical pathologist, molecular pathologist, and senior attending. Dr. Stenzinger received postdoctoral training at the University of Heidelberg and Massachusetts General Hospital/Harvard Medical School, USA. He has broad expertise in molecular pathology as well as molecular diagnostics and works in the field of translational research and genetics of solid tumors.



## **Mihaela ALDEA**

Dr. Aldea serves as Assistant Professor at Paris Saclay University and Medical Oncologist in the Thoracic Cancer and Precision Medicine Group at Gustave Roussy, Villejuif, France. Her research interests focus on liquid biopsy, tumor biomarkers, AI applications and RET+ lung cancer. She leads the RET MAP international registry for lung cancer patients with RET fusions and she is the lead author of the first ESMO guidelines for the application of AI biomarkers for routine use. Dr. Aldea

served on the IASLC Communication Committee, and currently contributes to its Education Committee. She is also a recipient of the L'Oréal UNESCO for Women in Science Award and of the IASLC Young Investigator Award.



## **Fernando LOPEZ-RIOS**

Fernando Lopez-Rios is the Chief of the Molecular Diagnostics Service at Hospital Universitario 12 de Octubre (Madrid) and Professor of Pathology at Universidad Complutense (Madrid). Dr Lopez-Rios has also been the Director of the Therapeutic Targets Laboratory at "HM Hospitales" (Spain) and a visiting researcher at Memorial Sloan Kettering Cancer Center (New York). His main clinical and research expertise is in cancer biomarker testing, with a special interest in lung

cancer and mesothelioma. He is the 2023 recipient of the Mary J. Matthews Pathology & Transitional Research Award and the Chair of the IASLC Pathology Committee.

# Speakers



## **Nicholas AYACHE**

Nicholas Ayache is a Research Director at Inria at Université Côte d'Azur and a member of the French Academy of Sciences and Academy of Surgery. A Civil Engineer, he holds a PhD and Habilitation from Université Paris-Sud and has held academic positions at MIT, Harvard, and the Collège de France, where he occupied the annual chair in Computer Science and Digital Sciences. A pioneer of medical image analysis, image-guided therapy, and surgical simulation, he played a key role in

developing the concept of the "digital patient" by combining geometric, physical, and statistical models of the human body. His current research focuses on artificial intelligence for diagnosis, prognosis, and personalized patient care using medical imaging and multimodal data. Co-founder of the Medical Image Analysis journal and the MICCAI conference, he has published over 400 scientific papers, contributed to several landmark books, and co-founded seven companies in digital health.



## **Hervé DELINGETTE**

Hervé Delingette is a Research Director at Inria in the Epione team at Université Côte d'Azur. An expert in medical image analysis, computational physiology, and machine learning, he develops personalized digital models to support clinical decision-making. Trained as an engineer and PhD graduate of École Centrale Paris, he has pursued an international research career. He holds a chair at the 3IA Côte d'Azur Institute and leads AI-for-health projects at the

interface of imaging, biology, and clinical practice. Within the RespirERA institute, he develops innovative digital tools for respiratory diseases, with a particular focus on lung cancer and precision medicine, and has authored numerous publications in leading medical imaging journals and conferences.



## **François GHIRINGHELLI**

He is Professor of Medical Oncology at the University of Burgundy, Director of the UMR INSERM 1231, and head of the team "Cancer and adaptive immune response". He is Head of the Department of Oncology and Director of the early clinical trial unit. He did a doctorate in immunology at the University of Burgundy and a post-doctoral degree in the laboratory of Laurence Zitvogel at the Gustave Roussy institute. He participated in the discovery of the process of immunological cell

death. His research team now works in the field of tumor immunology. The team is currently focusing on the biology of T cells and innate lymphoid cells in the field of cancer. They especially foster on the effect of chemotherapy on the immune response. In particular, they have discovered how 5-fluorouracil modulates the immune response during the treatment of colon cancer by inducing the production of interleukin 1B. This work is currently being translated into clinical trials. They recently discovered the effect of cisplatin on the generation of tertiary lymphoid structures and the capacity of MAPK targeting to reverse resistance to chemoimmunotherapy.

# Speakers



## **Paul HOFMAN**

Paul Hofman is Professor in Pathology at the Université Côte d'Azur, Nice, France. He is the Director of the IHU RespirERA and of the FHU OncoAge2. He is the Head of the Team 4 at the Inserm U1081 (IRCAN, Institute for Cancer and Aging, in Nice), and of the Nice Hospital Biobank and Director of the MSc Biobanks and Complex Data Management at University Côte d'Azur.



## **Denis HORGAN**

Denis Horgan is the Executive Director of the European Alliance for Personalised Medicine (EAPM). Horgan has extensive expertise in health policy and issue advocacy. Before working with the EAPM, he worked with several other organizations and in the European Parliament on a broad array of health issues and in international NGOs on health development projects in Afghanistan, Mexico and Palestine. Over the course of his career, Horgan has developed public affairs initiatives in

the areas of advocacy, social marketing, policy support and launch, policy development and media relations. As a senior policy affairs manager, he has actively been involved in coalition building, grassroots advocacy, conference development and development of policy platforms to support access to reimbursement and treatment at the political level and with institutions and bodies.



## **Marius ILIÉ**

Marius ILIÉ, MD-PhD, is Professor of Pathology and Head of the Laboratory of Clinical and Experimental Pathology, University Côte d'Azur and Nice University Hospital. His expertise includes thoracic pathology, molecular pathology, and the development of prognostic and predictive biomarkers in lung cancer. He has authored more than 195 peer-reviewed publications (h-index 48). He is the Director of the European Master's in Molecular Pathology and the MD-PhD dual training program at Université Côte d'Azur.

# Speakers



## **Danny JONIGK**

Danny Jonigk is Director and Chair of the Institute of Pathology at University Hospital RWTH Aachen, where he works to bring diagnostic pathology and translational life-science research as closely together as possible. His clinical and scientific focus is on the lung and thorax, and he leads the German Referral Center for Pulmonary Pathology. With over 360 scientific publications, he has a strong record of innovative research. As the first pathologist to receive an ERC Consolidator Grant,

he collaborates extensively with national and international partners from academia and industry. His translational work integrates classical pathology with compartment-specific morphological, optical, and molecular analyses to advance diagnostics and clinical applications—exemplified by his contributions to COVID-19 research and the HIMALAYA project, the first clinical use of non-destructive organ analysis to improve imaging and histopathological quality. He has consistently promoted interdisciplinary collaboration, including as a founding PI of the German Center for Lung Research, as an advisor during the COVID-19 pandemic, and through his role in establishing the Human Organ Atlas project.



## **Philippe JOUBERT**

Philippe Joubert is a thoracic pathologist and researcher at the Quebec-Laval University Institute of Cardiology and Pneumology. He completed his scientific training at the University of Montreal (MSc) and McGill University (PhD), as well as training in diagnostic and molecular pathology at Laval University and postdoctoral clinical training in thoracic pathology at Memorial Sloan-Kettering Cancer Center. He holds a Canada Research Chair in Lung Oncology and leads a team of

10 people, including 6 graduate students, a computational biologist, 2 research professionals, and a data manager. His research program focuses on the identification of predictive and prognostic biomarkers in lung oncology. He is co-director of the IUCPQ Biobank and co-chair of the molecular pathology working group of the staging committee of the International Association for the Study of Lung Cancer (IASLC).



## **John LE QUESNE**

John Le Quesne, Professor of Molecular Pathology at the University of Glasgow, combines AI and quantitative pathology to decode thoracic malignancies. He leads a research group at the CRUK Scotland Institute, whose work focuses on the meaning and value of tumour morphology, with particular emphasis on the use of self-supervised AI methods for pathology image interpretation, the use of data-rich multiomic 'spatial biology' microscopy images, and the therapeutic targeting of mRNA

translation in cancer. Trained in biochemistry (Cambridge), RNA biology (PhD, Leicester), and medicine (London & Cambridge), he brings computational and clinical expertise to AI-powered biomarker discovery in lung cancer and mesothelioma. His research bridges deep learning, large language models, spatial biology, and precision oncology to improve diagnostics and therapeutics.

# Speakers



## **Umberto MALAPELLE**

Associate Professor in School of Medicine, University of Naples Federico II. Currently is the Chair of Predictive Molecular Pathology Laboratory, Department of Public Health of University Federico II of Naples and serves as President of the International Society of Liquid Biopsy and Editor in Chief of The Journal of Liquid Biopsy. His main research interest is in the field of genomic biomarkers validation and testing for

predictive information in the field of lung cancer, metastatic colorectal cancer, melanoma and gastrointestinal stromal tumor. Moreover, he has developed skills in tailoring Next Generation Assays for several different applications with a special focus on the simultaneous detection of clinically relevant alterations (i.e., EGFR mutations, ALK traslocation, PD-L1 expression) in the routine setting including handling of different sample types, such as tissues and/or liquid biopsy specimens.



## **Guylène RIGNOL**

Guylène Rignol is a scientist with extensive expertise in implementing biomarker assays in clinical trials. She spent eight years working on bone-related diseases before joining Paul Hofman's team to pursue a PhD in clinical research. As part of the Next-Generation Therapies in Lung Cancer team, she specialized in KRAS-mutated non-small cell lung cancers (NSCLC), gaining in-depth knowledge of NSCLC clinical-pathological characterization. After collecting and consolidating data

from over 600 KRAS-mutated NSCLC cases, she now aims to explore the relationships between clinical features, molecular pathology, and targetable protein markers. With an integrative pathology perspective, she aspires to analyze large and complex datasets, paving the way for artificial intelligence-driven algorithms in lung oncology research.



## **Jan VON DER THUSEN**

Jan is a thoracic pathologist who received his medical training in the UK at the Universities of Cambridge (Trinity College) and London (Imperial College), and his specialist training at Leiden University Medical Centre in The Netherlands. He has worked at the Academic Medical Centre in Amsterdam (The Netherlands), and the Royal Brompton & Harefield NHS Foundation Trust (London, UK). He currently works as lead thoracic pathologist, associate professor, deputy head of

department, and molecular diagnostics liaison at the department of Pathology and Clinical Bioinformatics of the Erasmus Medical Centre in Rotterdam (The Netherlands). His research interests include the pathology of neoplastic and non-neoplastic thoracic diseases, including mediastinal tumours and mesothelioma, with a focus on personalising treatments through integrated and computational pathology.



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**Registration**



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