

Emerging investigators highlight

The American Journal of Respiratory and Critical Care Medicine thanks all authors in this issue for submitting their stellar work to the Journal. As part of our appreciation, the editors would like to highlight the following emerging investigators who worked on articles in this issue.



Kostas A. Papavassiliou, BS, MD, PhD, earned his BS from Harvard University in Cambridge, Massachusetts. He completed his MD and PhD degrees at the University of Athens Medical School in Athens, Greece. Currently, he is completing his respiratory medicine residency at the First University Department of Respiratory Medicine, Sotiria Chest Hospital, in Athens, Greece. He is actively involved in the diagnosis and management of patients with lung cancer. His research focuses on deciphering the molecular mechanisms that drive non-small cell lung cancer and small cell lung cancer subtypes, exploring resistance to targeted therapy and immunotherapy and identifying potential predictive biomarkers and therapeutic targets. He now works on understanding the contribution of the tumor microenvironment to the progression of lung adenocarcinoma.

Cracking the Code of Immunotherapy Resistance in Small Cell Lung Cancer: Molecular Insights and Emerging Solutions

<https://doi.org/10.1093/ajrccm/aamaf124>



Ruyang Zhang, BMed, PhD, is a professor of Epidemiology and Biostatistics at Nanjing Medical University (China) and holds an

appointment as an affiliate research scientist at the Harvard T. H. Chan School of Public Health. Dr Zhang obtained his BMed in Preventive Medicine (with a focus on biostatistics) and his PhD in Epidemiology and Biostatistics from Nanjing Medical University. He subsequently engaged in 2 years of postdoctoral research in statistical genetics at the Harvard T. H. Chan School of Public Health under the supervision of Professor David C. Christiani. Dr Zhang's research interests are centered on elucidating gene-gene and gene-environment interactions in the pathogenesis and prognosis of complex respiratory diseases (including lung cancer and acute respiratory distress syndrome), developing robust risk or prognostic prediction models, and advancing clinical trial methodologies.

A Trans-Omics Gene-Smoking Interaction Study of Lung Cancer Based on Consortium Data

<https://doi.org/10.1093/ajrccm/aamaf097>



Daryl Cheng, MBBS, BSc, is a specialty registrar in respiratory medicine and a PhD candidate at University College London. He graduated from the GKT School of Medicine in 2015. In 2017, he was awarded an Academic Clinical Fellowship in Respiratory Medicine from the National Institute of Health and Care Research. In 2023, he was awarded a Clinical Research Training Fellowship from the International Alliance for Cancer Early Detection. His research aims to investigate imaging approaches for improving risk stratification in lung cancer screening programs by better understanding non-lung cancer risks of morbidity and mortality. He is interested in statistical methods for risk prediction and disease progression modeling.

Expanded Detection of Using Lobar Traction Bronchiolectasis in Lung Cancer Screening Early Fibrotic Phenotypes

<https://doi.org/10.1093/ajrccm/aamag104>



Fanchen Meng, MD, is a medical doctor and PhD student in oncology at the Affiliated Cancer Hospital of Nanjing Medical University in Nanjing, China. He works in the Department of Thoracic Surgery and conducts experimental research at the Collaborative Innovation Center for Cancer Personalized Medicine and the China International Cooperation Center for Environment and Human Health. His research focuses on the early evolution of thoracic malignancies, with particular interest in how regional microenvironmental factors shape lineage plasticity and malignant progression. By integrating clinical cohorts with single-cell and spatial transcriptomic analyses and experimental models, his work aims to identify actionable early drivers of aggressive disease and to inform future strategies for risk stratification and early intervention.

Hypoxic Niche Drives Lineage Imbalance and Early Tumorigenesis in EGFR-Mutant Lung Cancer

<https://doi.org/10.1093/ajrccm/aamag150>



Joseph Castlen, MD, is a pediatric pulmonology fellow and Kirschstein-NRSA postdoctoral fellow at Indiana University in Indianapolis, Indiana. He began his research into the overlap between primary ciliary dyskinesia (PCD) and airway hyperreactivity while completing residency at Indiana University. His research interests include PCD, high-risk asthma, and environmental factors contributing to pediatric pulmonary outcomes. His prospective clinical research aims to establish the prevalence of bronchial hyperresponsiveness in people with PCD, while his translational project aims to determine the role of airway antigen stasis in the activation of IL-33 and possible development of an asthma-like phenotype in PCD.

Asthma and Inhaled Corticosteroids in Primary Ciliary Dyskinesia (PCD): A Consensus from the Minneapolis PCD Meeting

<https://doi.org/10.1093/ajrccm/aamag093>



Francesco Foppiano Florez-Estrada, M.Sc., is a Ph.D. candidate and research associate at Dr. von Hauner Children's Hospital, LMU Klinikum, in the Department of Allergy in Munich, Germany. He holds a Master's degree in Biochemistry and Molecular Biology from Universidad Peruana Cayetano Heredia in Lima, Peru, and an M.Sc. in Epidemiology from Ludwig Maximilian University of Munich, where he is currently pursuing his Ph.D. in Medical Research. His research focuses on molecular epidemiology approaches to better understand the development and progression of childhood asthma and allergic diseases, with an emphasis on longitudinal study designs, early-life risk factors, and the integration of multi-omic data.

Early Neutrophil and Persistent Eosinophil-Associated Gene Signature in Childhood Asthma

<https://doi.org/10.1093/ajrccm/aamag142>



Stephanie A. Robinson, PhD, is a behavioral scientist and health services researcher at the VA Bedford Healthcare System's Center for Health Optimization and Implementation Research and an assistant professor of Medicine in the Pulmonary Center at Boston University Chobanian and Avedisian School of Medicine. She earned her PhD in Social Developmental Psychology and completed a postdoctoral fellowship in Health Services Research. Her research integrates digital health and implementation science to advance behavior change and expand access to evidence-based interventions, including pulmonary rehabilitation, for chronic conditions such as chronic obstructive pulmonary disease.

Pulmonary Rehabilitation Is Associated with Increased 1-Year Survival in Stable Chronic Obstructive Pulmonary Disease

<https://doi.org/10.1093/ajrccm/aamag101>



Shota Fujimoto, MD, is a pulmonologist and physician-scientist in Japan. He graduated from the Jikei University School of Medicine and completed his training in internal medicine and pulmonology at the Jikei University Hospital and the National Center for Global Health and Medicine in Japan. He conducted exosome/extracellular vesicle (EV) research under the mentorship of Dr Yu Fujita in the Division of Respiratory Medicine at the Jikei University School of Medicine. His work has focused on the roles of EVs in chronic obstructive pulmonary disease and other respiratory disorders, particularly their therapeutic potential in lung injury, regeneration, and intercellular communication.

Extracellular Vesicle Cargo from Lipofibroblasts Mitigates Chronic Obstructive Pulmonary Disease by Alveolar Type II Cell Restoration

<https://doi.org/10.1093/ajrccm/aamag025>



Hyungjin Kim, MD, PhD, is a clinical associate professor in the Thoracic Division of the Department of Radiology at Seoul National University Hospital, Seoul National University College of Medicine, Republic of Korea. He earned his MD and PhD at Seoul National University and completed residency and thoracic radiology fellowship training at the same institution. His research focuses on artificial intelligence and quantitative imaging in lung cancer and interstitial lung disease, particularly in the context of computed tomography screening and risk stratification. Through large-scale clinical datasets and open-source deep-learning models, his work aims to improve prognostication and enable more personalized management of thoracic diseases.

Standalone Prognostication of Idiopathic Pulmonary Fibrosis Using Attention-Based Deep Learning

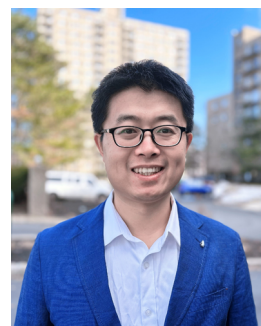
<https://doi.org/10.1093/ajrccm/aamag098>



Ram P. Naikawadi, PhD, is a biomedical scientist and specialist in the Department of Medicine at the University of California, San Francisco. He earned his PhD in Pharmacology from the University of Illinois at Chicago. His research investigates the molecular and cellular mechanisms driving chronic lung diseases, with a focus on pulmonary fibrosis and telomere-mediated lung dysfunction. His work has clarified the role of telomere dysfunction in alveolar epithelial cells and its contribution to idiopathic pulmonary fibrosis. Using molecular, animal, and translational approaches, he seeks to advance strategies to target profibrotic pathways and improve therapeutic interventions for chronic lung diseases.

Cellular Profiling Identifies an Early Profibrotic Alveolar Type 2 Cell Signature in Lung Fibrosis

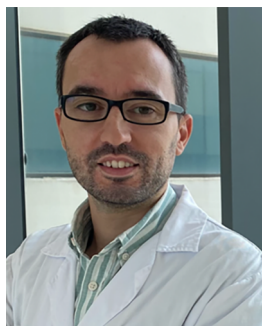
<https://doi.org/10.1093/ajrccm/aamag044>



Caiqi Zhao, PhD, is a research scientist in the Department of Pediatrics at Massachusetts General Hospital. He earned his PhD at the Institut Pasteur of Shanghai, Chinese Academy of Sciences. His research, from his PhD training to the present, has focused on the mechanisms of airway epithelial damage during lung infections. Recently, he led a project investigating the molecular basis of age-related susceptibility to respiratory syncytial virus (RSV) infection employing a combination of patient lung samples, primary human bronchial epithelial cells, and animal models. His long-term goal is to understand how environmental insults drive long-lasting changes in lung epithelial function and airway structure to identify new therapeutic strategies for lung diseases.

Infant RSV Infection Disrupts B2 Adrenergic Airway Relaxation via Epithelial CXCL11

<https://doi.org/10.1093/ajrccm/aamag087>



Raúl Méndez, MD, PhD, is a pulmonologist and principal investigator of the Respiratory Infections Research Group at the Health Research Institute La Fe (IIS La Fe) and University and Polytechnic Hospital La Fe in Valencia, Spain. He received his medical degree from the University of Valencia and earned his PhD from the University of Barcelona. His research focuses on respiratory infections, particularly community-acquired pneumonia and bronchiectasis. His work integrates clinical and translational research to better understand host response, endothelial injury, microbiologic etiology, and biomarker-guided risk stratification, with the goal of improving prognostic assessment and personalized management strategies.

The Long-Term Pneumonia Mortality Index: An International Multicenter Derivation and Validation Study for Patients with Community-Acquired Pneumonia

<https://doi.org/10.1093/ajrccm/aamag060>



Stuti Agarwal, MSc, PhD, is an instructor in the Division of Pulmonary, Allergy and Critical Care Medicine at the Stanford School of Medicine. With nearly a decade of research in pulmonary hypertension, she studies molecular mechanisms of endothelial injury in pulmonary arterial hypertension (PAH). Her research at the University of Kansas Medical Center focused on oxidative stress mechanisms in endothelial cell function in HIV-PAH. At Stanford, her research focuses on how carboxylesterase 1 (CES1) loss drives metabolic reprogramming and dysfunction in pulmonary endothelial cells, the role of lipid accumulation and lipid-mediated mechanisms in endothelial cell death, and potential therapeutic targets for PAH.

CES1 Deficiency Is Associated with Metabolic Reprogramming and Endothelial Dysfunction in Pulmonary Arterial Hypertension

<https://doi.org/10.1093/ajrccm/aamag077>