

BRACCO FELLOWSHIPS - EDUCATION IN RESEARCH

Project 5:

Functional pulmonary imaging of airway disease: analysis (visual and software-based) of current projects (preclinical imaging, translational feasibility studies and clinical trials on cystic fibrosis and COPD)

NAME OF INSTITUTION: Diagnostic and Interventional Radiology, University Hospital; and Translational Lung Research Center, German Center of Lung Research DZL, Heidelberg/GERMANY

RESEARCH GROUP AND ITS MISSION:

Junior Research Group Structural and Functional Airway Imaging, Section Pulmonary Imaging Development, validation and translation of functional imaging methodologies of the lung based on CT, incl. micro CT, proton MRI and the respective software tools for quantitative image analysis and imaging biomarkers.

OBJECTIVES:

- To understand the importance of imaging biomarkers in airways disease
- To learn to perform and interpret functional imaging studies of the lung (CT, MRI) incl. lung perfusion
- To learn about software tools for quantitative image analysis (CT, MRI)
- To become familiar with writing scientific publications

APPLICANT'S DUTIES:

- Preparing imaging studies for reading and software analysis
- Evaluation and scoring of extent/severity of airway disease (visual, software-based)
- Software-based analysis of airways, emphysema, vascular volume, lung perfusion etc.
- Interpretation of clinical data
- Statistical evaluation
- Manuscript drafting

APPLICANT'S BENEFITS:

- Participation based on own scientific outcomes of the project with presentations at national and international congresses, and scientific publications in international journals

Project Leader: Mark O. Wielpütz

Members: Patricia Leutz-Schmidt, Philipp Konietzke, Willi Wagner, Bertram Jobst