

BRACCO FELLOWSHIPS EDUCATION IN RESEARCH ENROLMENT FORM

Name of Institution: Department of Diagnostic and Interventional Radiology, Heidelberg University Hospital

City and Country of Institution: Heidelberg, Germany

RESEARCH GROUP

Brief description of the research group and of its mission:

Quantitative image analysis of colorectal cancer patients' CT scans. Identifying imaging biomarkers with prognostic value. Assessing the role of body composition, radiomics analysis, and artificial intelligence-based analysis. Investigating the utility and performance of cutting-edge software tools.

All scans are respective clinical data in our database (ColoCare Study; ClinicalTrials.gov ID: NCT02328677). Ethics approval is already in place (S-134/2016). Respective hardware and software are available.

TITLE OF PROPOSED RESEARCH PROJECT

Quantitative image analysis of baseline and follow-up CT scans of colorectal cancer patients

OBJECTIVES

- To understand the basic concept of radiomics analysis
- To learn to perform the main steps of radiomics analysis from image postprocessing to prediction model building
- To master the basics of 3D Slicer software
- To become familiar with writing scientific publications

APPLICANT'S DUTIES

- Preparing imaging studies for software analysis
- Segmentation of CT scans
- Extraction of radiomics features
- Statistical evaluation
- Manuscript drafting

APPLICANT'S BENEFITS

- Participation based on own scientific outcomes of the project with presentations at national and international congresses, and publications of scientific papers in international journals
- Project Leader: Bettina Katalin Budai
- Members: Tobias Nonnenmacher, Philipp Mayer, Biljana Gigić