

# **BRACCO FELLOWSHIPS EDUCATION IN RESEARCH ENROLMENT FORM**

**Name of Institution:** Institute of Diagnostic and Interventional Radiology,  
University Hospital Zurich

**City and Country of Institution:** Zurich, Switzerland

## **RESEARCH GROUP**

Brief description of the research group and of its mission:

The fellow will have the opportunity to join an innovative, well-established and interdisciplinary research team specialized in cardiovascular imaging with Photon-Counting Detector CT. The inherent spectral capabilities of Photon-Counting Detector CT allow for new ways of data processing. Thus, based on contrast-enhanced scans, reconstruction of virtual noncontrast images may obviate the need for true noncontrast scans or virtual noncalcium images, virtually subtracting calcified plaques from the coronaries may enable a more precise stenosis quantification. The applicant is given the chance to collaborate on research projects to create evidence for the implementation of these techniques into routine clinical practice. Ethics committee approval is available and numerous scans have already been acquired. The ultimate goal of this fellowship is a participation in an original research article as author or co-author.

## **TITLE OF PROPOSED RESEARCH PROJECT:**

**New Ways of Cardiac Imaging with Photon-Counting Detector CT**

## **OBJECTIVES**

- Evaluate images reconstructed with advanced data processing techniques and assess their incremental benefit
- Optimize patient comfort, valorize contrast material administration, and reduce radiation dose during cardiac scans
- Author or co-author of an original publication published in a peer-reviewed journal

## **APPLICANT'S DUTIES**

- Data acquisition with photon-counting detector CT

- Image reconstruction and analysis
- Clinical correlation
- Data interpretation
- Help in preparing a manuscript

### **APPLICANT'S BENEFITS**

- Participation on scientific outcomes of the project i.e. presentations to congresses or publications of papers.
  - Collaboration in research projects with Photon-Counting Detector CT
  - Joining a well-established research group
  - Structured daily clinical teaching in our institute
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- Project Leader: Prof. Dr. med. H. Alkadhi, MPH, EBCR, FESER
  - Members: PD Dr. med. M. Eberhard, Dr. med. V. Mergen