

## JOB OFFER: RESEARCH Associate

<b>Jobtitle:</b>	(Senior) Research Associate in Medical Imaging
<b>Responsible to:</b>	Pr. Loic Boussel, (CREATIS-UCBL-HCL)
<b>Accountable to:</b>	Pr. Philippe Douek, (CREATIS-UCBL-HCL)
<b>Employer:</b>	<b>Lyon University/Philips Medical</b>
<b>Grade:</b>	(Senior) Research Associate (Grade 7 or 8)
<b>Salary Scale:</b>	Grade 7 -, Grade 8 - per annum
<b>Start:</b>	As soon as possible

**This post is initially for a period of 48 months.**

**Application by email to:** [philippe.douek@creatis.insa-lyon.fr](mailto:philippe.douek@creatis.insa-lyon.fr) and [loic.boussel@chu-lyon.fr](mailto:loic.boussel@chu-lyon.fr)

### Job description:

In the framework of the SPCCT European project (Spectral Photon Counting Computed Tomography) a 2-years position in the field of biomedical imaging is open. The post holder will work as part of a multidisciplinary medical and technical research team and will interact and work under the guidance of other more senior staff; the primary responsibility will be to:

- develop and evaluate novel data analysis algorithms on spectral x-ray data
- facilitate pre-clinical and clinical implementation of novel technology.
- assist with pre- clinical and clinical studies (e.g. facilitating data transfer and adherence to quality standards, analysis of results and reporting).
- lead publications and presentations at local and international conferences.

The post-holder will be based in the CERMEP (CERMEP-Imaging of living organisms (biological and medical imaging platform dedicated to clinical and fundamental research)). The position offers considerable scope for personal development, offers a range of staff training and development courses that will be available to the successful candidate and may lead to a permanent position in the medical industry.

### Person Specification:

SPCCT research Associate position requires an individual who is professional, self-learner, with can-do approach, team player and with good communication skills. In this role, you will be part of an international and multidisciplinary research team that is developing a new spectral photon counting CT system (SPCCT).

Examples of current analysis development linked to clinical research projects are listed below:

- Visualization of SPCCT
- Implementation in available research platforms of locally developed algorithms that Characterize and Improve Quantification of spectral CT Biomarkers for Evaluation of Disease Progression and Treatment.
- Analysis of spectral CT data for clinical and preclinical applications

Anticipated projects include:

- Evaluation of novel material decomposition schemes for spectral CT imaging

### Responsibilities:

- Participate to the research project activity (review project definition for appropriateness, advise on best ways to use the scanner, results consolidation) for all activities using the SPCCT system.
- Develop and validate novel algorithms applicable to SPCCT, and dual energy CT, pre-clinical and clinical research studies.
- Ensure effective communication between the multiple international partners in academia and industry (Philips) for the timely completion of research projects wherein those partners are using the SPCCT system.
- Manage all the data being generated by the system, research databases, system configuration, updates, and data manipulation, including images transferred/stored in the PACS or other archival systems
- Assist in developing new tools and algorithms for analyzing, viewing and processing spectral CT data.
- Work with the SPCCT research operator to assure smooth daily operation of the system and sometimes execute scanning for the research projects
- Participate in publications of results, including manuscript writing.
- Explore and propose and potentially lead new research opportunities for the system.
- Present the SPCCT Project and research results at workshops and conferences.

### Requirements:

- Good first degree in physics, engineering or computer science or equivalent (2:1 or higher).
- Experience with programming in Matlab / C++/Python
- Experience with coordinating research projects.
- Experience with Image processing/analysis and statistical data analysis.
- Ability to occasionally assist the research operator in daily scanner operations.
- Fluent in English both verbal and written.
- Period: 2 years starting from January 2021 that can be renewed during 4 years. Multiple advantages for people interested in an academic career.

### Experience in one or more of the following areas are an advantage:

- Prior experience in operating medical devices such as CT in a research environment
- Participation in multi-site research programs.
- Comfortable with the need to perform complex mathematical derivations.
- Proven ability for independent research as demonstrated by publications and presentations.
- Familiarity with a major statistical software package, e.g. SPSS.
- Experience with co-supervision of students, trainees or junior staff members
- Scientific interests: computer science (medical image processing), good understanding of X-rays, Image acquisition, Sensors, 3D reconstruction, material decomposition, Image processing.
- French communication skills both verbal and written

### Other essential characteristics and aptitudes:

- Careful and systematic approach to research including data analysis, data archiving and research record keeping.
- Good communication skills, ability to express scientific ideas clearly.
- Ability to organize its own time and work according to planned deadlines.
- Ability to work independently but as a team member as well.
- Good interpersonal skills.
- Ability to maintain the required levels of confidentiality.

### Confidentiality:

The post holder is required to uphold and maintain the security of all information systems he or she has access to, and to ensure the absolute confidentiality of all patient details at all times.