

“Investigation of Algorithms for Quality Improvement and Tomography Capabilities in X-ray imaging systems”

Position: Researcher at Universidad Carlos III de Madrid. University degree, Master's degree or PhD.

Contract duration: 1 year, renewable

Gross salary: Bachelor/Master: 20.000-22.000 euros/year; PhD: 26.000-27.000 euros/year.

Start: Immediate incorporation

The vacancy is open until a suitable candidate has been found.

Project Description

The candidate will work in a line of research carried out by the Bioengineering Group at Carlos III University (BiiG), with wide experience in imaging focused the advance in radiology systems focusing on improving the image quality, reducing the radiation doses received by the patient and bringing tomography to situations in which a CT scanner is unavailable for different reasons, such as reduced patient mobility (i.e. during surgery, or ICU), high cost (developing countries, rural areas) or space limitations (i.e. in an ambulance). It is an investigation with clear transfer to the industry, since it counts with the participation of the collaboration by the company SEDECAL S.A., among the leaders in X-ray imaging systems worldwide. The company SEDECAL, which is interested in incorporating these new techniques to its new generation of radiological equipment, participates with personal and resources.

In order to face this important technological challenge with the difficulties of working with real systems, we have a multidisciplinary team including the Hospital Gregorio Marañón and the Hospital Clínico Veterinario: radiologists to keep the clinical focus in mind, engineers with wide experience in X-ray imaging, reconstruction and optimization.

The candidate will be in charge of the development of image processing and reconstruction algorithms, incorporating machine learning techniques, optimized through parallel processing to achieve near real-time performance. This research project is carried out in collaboration with the ARCOS research group from the Computer Science and Engineering Department of the Universidad Carlos III de Madrid.

Profile and Requirements

Applicants should have Bachelor's or Master's Degree in Telecommunications or Biomedical Engineering, Mathematics, Informatics or Physics with good programming skills.

Specific requirements:

- Experience in imaging processing.
- Experience in machine learning \ deep learning.
- Good English level (at least at reading, since most of the documents will be in English).

Application

Application must contain: letter of motivation, detailed curriculum vitae and transcripts of B.Sc./M.Sc. degrees (with grades). To apply, please send the required documents with subject “AIRAD candidate” to: monica.abella@uc3m.es.

