Multiple Positions in Advanced Musculoskeletal MR Imaging and Image Analysis

Program of Advanced Musculoskeletal Imaging, Cleveland Clinic
Biomedical Engineering Alliance, Case Western Reserve University and Cleveland Clinic
Cleveland, Ohio

Advanced musculoskeletal imaging is an open and emerging field with a huge patient population base and high clinical impact. The Program of Advanced Musculoskeletal Imaging (PAMI) at Cleveland Clinic (CC) is an cross-institutional program with support from Lerner Research Institute, Imaging Institute, and Orthopaedic and Rheumatological Institute at Cleveland Clinic, and the Biomedical Engineering Alliance of Case Western Reserve University and Cleveland Clinic. PAMI has been built upon outstanding resources for imaging research, and nationally top-ranked clinical care and research in orthopaedics and rheumatology. The mission of PAMI is to advance musculoskeletal imaging, in particular advanced quantitative imaging, in healthcare for orthopaedics and rheumatology through novel technology development, rapid clinic translational and education.

PAMI is looking for highly-motivated candidates for positions including post-doctoral (PhD or MD) research fellows, research scientists, and software engineers. Positions in the following areas are available:

1. Developing novel pulse sequences and novel MR reconstruction/acceleration techniques for MSK MRI including ultra-high field (7T) MSK proton and multi-nuclear imaging and spectroscopy;
2. Developing novel image processing and analysis tools including radiomics and deep learning-based techniques for medical image analysis including MR and CT;
3. Clinical applications of advanced imaging techniques to MSK diseases including arthritis, sports injury, sarcopenia and back pain;
4. Clinical radiology studies, working with our clinical staff (12 MSK-dedicated radiologists) directed toward impactful improvement of radiologic diagnosis and/or therapy.

Successful candidates will join a multidisciplinary and dynamic team with rich resources and strong support for a successful career development, and will have access to research dedicated whole body 3T and 7T MR scanners, extremity Cone Beam CT (CBCT), and other clinical MR, PET-MR, CT systems, high performance computing resources with GPUs, as well as unique large patient outcome databases.

Requirements:

**Postdoctoral fellows and research scientists:** A PhD degree in physics, biomedical engineering, electrical engineering, computer science, biochemistry or related field, or an MD degree (training in radiology preferred). Strong research experience in medical imaging. Strong communication skills in written and verbal English. Experience in MR pulse sequence programming or advanced image processing algorithm development is a plus.

**Software engineers:** A BS or MS degree in computer science, electrical engineering, biomedical engineering, or related field. Strong programming skills. Strong communication skills in written and verbal English. Experience in imaging and image processing is a plus.

Applicants should email a CV, along with a brief letter outlining their research background and interests and a list of 2-3 references to Xiaojuan Li, PhD: lix6@ccf.org and Carl Winalski, MD: winalsc@ccf.org

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