Postdoc, Project Scientist, Faculty, and PhD student Positions – Human MRI data acquisition

Cedars-Sinai Medical Center, affiliated with the UCLA, is a world-leading hospital and is currently ranked #2 nationally on the Best Hospitals Honor Roll (Introduction to Cedars-Sinai). BIRI is one of the leading MRI research groups with a central focus on developing and applying novel imaging technologies to today’s most pressing translational research and clinical questions. BIRI has been constantly growing into a team of 70 onsite personnel including research and clinician-scientists, technical and support staff, postdoctoral scientists, and doctoral students. BIRI has two full-time on-site MRI scientists from Siemens.

BIRI Research Core Facility houses a state-of-the-art 3T whole-body scanner (Siemens MAGNETOM Vida), a whole-body PET/MR system (Siemens Biograph mMR), and Bruker BioSpin 9.4T small animal scanner, all dedicated to research. Our research and clinician scientists collaborate closely with physicians to synergistically bring together technical and clinical expertise in areas such as cardiology, neurology, and oncology imaging.

The candidates will join an interdisciplinary research program led by Dr. Hui Han and work in an exciting new growing field in MRI. You will focus on data collection using a new hardware platform (a completed novel human body imaging coil with integrated B0 shimming at 3T). Acquired data will be used for publishing new findings related to various imaging applications throughout the human body. Our novel MR hardware imaging platform enables data acquisition in new ways previously impossible. The candidate will work synergistically with the MR Hardware team led by Dr. Hui Han who is the Director of MR Engineering. (MR Engineering | Cedars-Sinai). Dr. Han is known as the developer of “iPRES” MR coils, an impactful technology for combining B0 shimming and RF detection into a single array. The MRI Laboratory comprises a large space in the iconic Pacific Design Center in West Hollywood and a secondary lab space in Imaging Core Facility.

Desirable background and skills mainly include comprehensive experiences in data acquisition with human MRI scanners:
- Hands-on scanner experience with data collection.
- Data collection on MRI scanners at 3T or 1.5T, preferably human body and abdomen imaging (e.g., heart, liver, prostate, pelvic, breast, and etc).
- Desirable experiences with using some of advanced MRI sequence (e.g., DWI, MRS, SSFP, T2* mapping, etc)
- The role will acquire data from human healthy volunteers and/or patients to validate novel MR hardware technology

Hands-on experiences with the acquisition of MRI data are essential. Other desirable skills may include image processing, understanding MRI physics, pulse sequence development, or image reconstruction. The candidate should have a strong motivation to publish with a proven track record. Experiences in hardware development are not required. Pulse sequence development and/or MRI reconstruction is a plus. You will work on improving image quality and accuracy throughout the human body using advanced MRI techniques such as diffusion, spectroscopic, susceptibility, and functional imaging. You will also work on applications of these techniques to various clinical applications in oncology and cardiology. These advanced techniques provide information beyond macroscopic applications on tissue microstructure, metabolism, and function, offering unique information associated with various pathological states. The candidate will benefit from a world-leading research group full of MR physicists and engineers in pulse sequence development, image reconstruction, motion correction, and artificial intelligence.

The projects are well funded by NIH under a collaboration effort with world-renowned scientists. Ongoing projects are highly supported and anticipated by major MRI vendors as it advances the field by solving major limitations of high-field MRI scanners. Dr. Han currently serves as the Vice Chair of the ISMRM MR Engineering Study Group and will rotate to the chair next year. He is also the Vice President of the Overseas Chinese Society for Magnetic Resonance in Medicine (OCSMRM) and will rotate to the President next year. The OCSMRM is the largest society for researchers of Chinese origin in the field of magnetic resonance in medicine around the globe.

Positions available range from postdoc, project scientist, to junior faculty positions. Depending on candidate’s qualifications, a generous compensation package will be provided. The research area holds multiple new research opportunities. Ambitious young scientists are especially encouraged to apply as the positions can lead to independent faculty position with institutional support.

Interested applicants, please contact Dr. Han with including a resume and a brief description of interest:
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