

MRI Senior Research Associate

Simon Fraser University

Simon Fraser University's ImageTech Lab is recruiting an MRI Senior Research Associate to join our team. ImageTech is a new medical imaging research facility embedded in Surrey Memorial Hospital, a large tertiary care hospital in Metro Vancouver. We are a start up facility with growing capacity. We support researchers from several departments across SFU, as well as collaborators from Fraser Health, BC Cancer Agency, UBC and more. The vision for ImageTech is Impact – we conduct translational research that brings research advances to clinical care.

ImageTech is a state of the art imaging center with a focus on neuroimaging expertise. The facility houses a research-dedicated 3T Philips Ingenia scanner, a 275 channel CTF Magnetoencephalography (MEG) and MEG/MRI compatible EEG.

The MRI Senior Research Associate will advance SFU's vision to be Canada's leading engaged university by planning, leading and executing the delivery of MR Research at SFU's ImageTech Lab. We are looking for an experienced MR physicist who can lead the methods component of our research group while engaging with a range of researchers, industry partners and clinical experts to support their applications. We are looking for a dynamic individual who can contribute to growing the facility and is excited to share their MR expertise with our community. This is an excellent growth opportunity for a talented MR physicist interested in expanding their expertise with new techniques and applications. The MRI Senior Research Associate will develop and implement new research study protocols and identify and pursue new funding opportunities to support the operation or infrastructure of the ImageTech Lab. The MRI Senior Research Associate provides technical support to projects and will collaborate with the MRI Technologists and research teams to optimize MRI sequences and develop custom tailored sequences for a range of research projects. The MRI Senior Research Associate will work with the Clinical Scientist to liaise with other MR research centers and the MR system manufacturer. In addition, the MRI Senior Research Associate will stay abreast of the latest in MRI technology and connect with facility users to plan system upgrades, maintenance and equipment needs. These activities will lead to advances in MR research and MR research capacity at SFU's ImageTech Lab to support a range of research projects from internal SFU researchers and external researchers.

The MRI Senior Research Associate will be the senior MR physicist in the facility and will serve as the MRI Safety Expert for the facility per the Calamante 2016 MRI Safety International Consensus document. As the MRI Safety expert, this role includes collaborating with the MRI Technologists to develop and regularly review SOPs, communicate SOP updates with all stakeholders of the facility, as well as conduct evaluations of the degree of successful implementation and effectiveness of the SOPs. In addition, the MRI Senior Research Associate will be delegated some safety responsibilities from the Research Director to ensure and prioritize the safety of participants and researchers.

Qualified applicants must have earned a Doctoral degree in MR physics, biomedical engineering or related field and have the ability to develop pulse sequences for a range of MR research applications. Applicants should have a minimum of 3 years relevant work experience in leading, managing or supervising role at a research lab conducting imaging research with human subjects. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given

priority. This is a full time position but may require variable hours to support lab activities. Expected salary range is \$75,000 - \$90,000 aligned with experience and qualifications. Salary is negotiable.

To apply for this position please review the full job description and qualifications (<https://www.sfu.ca/research/facilities/imagetech-lab>) and submit a cover letter detailing experiences and interest in the position, a CV and the name of three references to the ImageTech Lab Scientific Director (imagetech_dir@sfu.ca). Applications close November 15 2020.

Simon Fraser University is an institution whose strength is based on our shared commitments to diversity, equity, and inclusion. Diversity is an underlying principle of our Strategic Vision, which pledges SFU to “foster a culture of inclusion and mutual respect, celebrating the diversity reflected among its students, faculty, staff, and our community.” SFU is committed to ensuring that no individual is denied access to employment opportunities for reasons unrelated to ability or qualifications. Consistent with this principle, SFU will advance the interests of underrepresented members of the work force, specifically Indigenous peoples, persons with disabilities, racialized persons, and women; embrace gender and sexual diversity; ensure that equal opportunity is afforded to all who seek employment at the University; and treat all employees equitably. Candidates that belong to underrepresented groups are particularly encouraged to apply.

SIMON FRASER UNIVERSITY
JOB DESCRIPTION

Position Title: MRI Senior Research Associate
Department: VP Research/SFU's ImageTech Lab
Reports to: Director, ImageTech

POSITION SUMMARY

The MRI Senior Research Associate advances SFU's vision to be Canada's leading engaged university by planning, leading and executing the delivery of MR Research at SFU's ImageTech Lab. The MRI Senior Research Associate supports the Scientific Director in establishing and maintaining safe operation of the MR research facility at Surrey Memorial Hospital. The role develops and implements new research study protocols, identifies and pursues new funding opportunities to support the operation or infrastructure of the ImageTech Lab. All these activities must lead to advances in MR research and MR research capacity at SFU's ImageTech Lab to support a range of research projects from internal SFU researchers and external researchers (Fraser Health, BC Cancer, Industry partners, and others). Key deliverables for this role include the number of active MR research projects ongoing in the lab, the record of MR safety in the lab, and the number of HQP trained in MR methods, research coordination and data analysis in the lab.

The role of MRI Senior Research Associate is a staff position and therefore does not include planning or conducting one's own research studies, however the candidate may request a reduction from full time to part time in order to hold a research appointment with FHA, SFU, or another university, which would allow them to conduct research in the facility in the equivalent manner as other external researchers conducting research at ImageTech.

DUTIES AND RESPONSIBILITIES

1. Leads MRI Safety by:

- Developing and regularly reviewing SOPs.
- Overseeing and gathering feedback from the MRI Safety Officer.
- Reviewing proposed studies for participant safety.
- Establishing working relationships with Surrey Memorial Hospital and Philips to respond immediately to safety concerns.
- Evaluating and approving requests from MRI study personnel for Site Access to ImageTech
- Supporting the ImageTech Research Director/Scientific Director in ensuring all MR examinations are conducted safely.
- Serving as the site's MRI Safety Expert:
 - Providing technical expertise needed to respond to protect people and MR equipment in emergency situations.
 - Advising on engineering and scientific aspects of the safe use of the MRI system.
 - Provides safety advice on the modification of MRI protocols or the scanning of participants with potential contraindications to MRI
 - Aids in the selection, procurement, and installation of all MR related equipment as well as on the quality control programs
 - Aids in testing such as acceptance testing and testing following any major maintenance or repair procedure
 - Remains up to date on the latest safety guidelines in MRI.
- Serving as the acting Research/Scientific Director when the RD/SC is unavailable, with responsibility for overseeing safe MR exams and being available/accessible to the operators of the MR system.

2. Enables MRI Research at ImageTech by:

- Conducting technical development to expand the research capabilities of ImageTech's MRI facility for all potential researchers.
- Liaising with interested groups to encourage development of research studies at ImageTech.
- Supporting and advising study personnel on development of appropriate MRI protocols by providing and sharing relevant expertise and soliciting input internally from the Philips Clinical Scientist and MR Technologists.
- Training and overseeing MRI Research Coordinators from each study to ensure proper protocols are followed for participant recruitment, screening and experience.
- Providing templates for research ethics wording that is appropriate to MRI studies, and revising to keep up to date with changes in ethics guidance.
- Overseeing MR Technologists by developing work plans and setting training requirements, reviewing certifications, and providing feedback to Supervisor.
- Developing and overseeing training programs for MRI Level 1 and Level 2a/2b personnel, and overseeing onboarding protocols for new MR Technologists at ImageTech.
- Supporting data analysis through expert knowledge of software such as SPM, FSL, Freesurfer and training students in MR data analysis.

3. Grows MRI Research Capacity at ImageTech by:

- Pursuing external funding to develop ImageTech MRI research capacity (operating funding or infrastructure).

- Identifying needs for hardware/software upgrades on the MRI and all related equipment.
- Identifying, evaluating, developing, and closing opportunities for new MRI research studies.
- Supporting MRI lab tours for researchers, industry partners and students.
- Contributing to the teaching of MRI based labs for related SFU courses.
- Managing and meeting research activity targets.
- Identifying challenges to growth.

4. Contributes to the overall operation of the ImageTech Lab facility by:

- Participating in monthly protocol review meetings to review proposed research studies and provide feedback on the participant experience and use of lab facilities.
- Participating in weekly operations meetings to address challenges, questions or concerns about issues related to lab operation.
- Developing safety training protocols for the lab with the MR Technologist and MR Safety Officer.
- Ensuring MRI SOPs and procedures are implemented and functioning effectively, regularly reviewing MR training protocols.
- Working constructively with Operations Manager, Head of MEG and other lab personnel on development of procedures that suit all user groups.
- Organizing and delivering annual MRI In-Service training.
- Conducting regular MR meetings to identify and discuss operations, safety, and logistical issues related to MR.
- Reporting regularly to the RD/SD and Operations Manager on project status, new initiatives or opportunities, and/or operational barriers.
- Assisting with Fraser Health and/or Surrey Memorial Hospital access requests to MR areas of ImageTech and supervising maintenance and contract workers in Zone 3 or 4 as needed.

5. Manages MRI equipment and delivery of MRI research services by:

- Reviewing QC and procedural logs to identify needs for corrective actions or improvements
- Participating in hiring determinations for MR Technologists
- Identifying suitable training and professional development activities for MR Technologists
- Directing and prioritizing the day-to-day work of MR Technologists
- Advising the RD/SD and Operational Manager regarding needs and adequacy of service agreements and maintenance plans for the MRI and related equipment

IMPACT OF DECISION MAKING

The MRI Senior Research Associate at ImageTech is responsible for:

- Meeting lab targets for establishing and managing a slate of active research projects for the MRI facility from across a range of SFU and external researchers including academic, clinical, industry, nonprofit or government partners.
- Evaluating and providing recommendations on service agreements for MRI system and related components.
- Supporting the lab's pursuit of external funding sources/agencies for MRI-related expansions or upgrades.
- Collaborating on pursuit of external funding sources to support ImageTech's overall upgrades, expansions and growth.
- Collaborating and encouraging development of new projects to meet ImageTech's annual targets for new projects and new stakeholder relationships.
- Ensuring that contract deliverables are achieved and effectively managed for ImageTech clients (researchers).
- Expanding the MRI research capacity by developing new scanning protocols for stakeholder applications.
- Ensuring that the University's and the ImageTech Core Facility's reputation and brand is protected and enhanced.
- Supporting training of highly qualified personnel (HQP) in MRI safety, methods, research coordination, and data analysis.

RELATIONSHIPS

Establishes and maintains relationships and alliances. Maintains effective communication. Shares information and readily determines to whom to go for relevant information. Seeks assistance and feedback in the problem solving process. Partners with others to achieve expectations.

Supervisory

This position does not have any direct reports.

Primary Working Relationships

Internal Connections – Office of the Vice President Research at SFU, ImageTech Steering Committee, SFU's ImageTech staff, study team personnel working at ImageTech as Lab Users.

External Connections – Staff and executive at Fraser Health, BC Cancer, and other ImageTech partners. SFU and external researchers including academic, clinical, industry, nonprofit or government partners. Represents SFU's ImageTech Lab at various external meetings and events with stakeholders.

QUALIFICATIONS

PhD in MR Physics, engineering or other related discipline and five years of relevant work experience in a leading, managing or supervising role at a research lab conducting imaging research with human subject research.

- Excellent interpersonal, communication (oral, written, presentation), and relationship management skills. Ability to facilitate collaboration between diverse internal and external stakeholders.
- Excellent project management skills.
- Excellent organizational, problem-solving, and analytical skills.
- Experience working in an MR research facility with a minimum MR Level 2 training or MR operator experience.
- Publication record in MR research with a demonstrated contribution to the field.
- Experience with research ethics and research protocol development for human subjects research.
- Experience with participant recruitment and experience in conducting adult neuroimaging.
- Demonstrated understanding of MR safety protocols.
- Ability to work in a team environment and collaborate with diverse team members.
- Ability to travel locally, regionally and nationally for meetings.
- Ability to work flexible hours to support research projects.