

# Postdoctoral Fellowship – TRUSTSPHERE – Data Sharing

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## Posting expiry

Until position is filled

## Job summary

The BC Children’s Hospital Research Institute (BCCHR) is seeking a full-time postdoctoral fellow, for an appointment of 2 years, to take a significant role within a new TRUSTSPHERE project.

The TRUSTSPHERE project at BC Children’s Hospital (BCCH), will develop and validate an integrated digital trust platform that will simplify research participation and data collection in a way that will transform patient care and health research. This digital trust platform will contribute a multi-disciplinary framework to provide health researchers with a digital toolset, which has comprehensive data integration and allows patients and families to donate data and participate in research. We will start this work with an example project to better understand patient care in families who have children with Type 1 diabetes.

We are looking for a highly motivated, self-driven, and engaged candidate with experience and interest in developing systems for data sharing. The successful candidate will help tag, extract, transform, link, and store data from multiple sources for use in the proposed project. They will also integrate data sources for use in clinical settings, but also ensure usability in research settings (applying methods from e.g., computer science and/or health informatics fields)

**The position is available to a PhD trained individual** with a desire to embrace the complexity of clinical research and to build technology-based solutions to increase researchers’ access to patient donated data, with the ultimate aim of improving the safety and quality of patients’ care. The successful candidate will need to demonstrate technical expertise in software engineering and applications of data exchange standards, be able to collaborate with clinicians, patients, academic researchers, and industry partners, and have a keen interest in exploring advanced data sharing implementation strategies.

## Organizational status

TRUSTSPHERE is a collaboration between three University of British Columbia departments: Pediatrics; Anesthesiology, Pharmacology & Therapeutics; and Medical Genetics. The Principal Investigator is Dr Shazhan Amed, who is based on the BC Children’s Hospital campus. The Postdoctoral Fellow will receive supervision and guidance from lead supervisor Dr Matthias Görges, in the Digital Health Innovation Lab, and co-supervision from Dr Wyeth Wasserman, in the Centre for Molecular Medicine and Therapeutics. The Digital Health Innovation Lab is developing a supportive environment in which engineers, computer scientists, health informaticians, and clinicians work side-by-side on joint projects. This allows these specialists to learn from each other and to use ideas and techniques that are outside the conventional methods available in their own discipline. Our lab can offer exceptional opportunities for highly-qualified personnel from diverse academic disciplines to train in a real-world environment where their innovations will be applied. Our location on the BCCH campus allows immediate access to clinical environments. Fellows benefit from working directly with health care professionals and key stakeholders at BCCH.

Through their involvement in an industry-led consortium project, the Fellow will have the opportunity to network with local small- and medium-sized enterprises and multiple stakeholders including health authorities and the BC government, strengthen their project management skills, become experts in agile design and the regulatory frameworks required for medical software design. These are transferable skills, from which the Fellows will benefit in their future careers, whether in academia or industry. Careteam Technologies and Smile CDR will support the Fellow’s by enabling them to develop leadership and communication skills as an integral part of the project team.

At BCCH, Fellows will spend time with clinical trainees in the endocrinology clinic to understand the clinical problems first hand. Interdisciplinary collaboration will be key: they will develop a technical solution, collaborate



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with clinicians to ensure clinical relevance, and apply their knowledge to develop data sharing solutions ready for clinical implementation. All Fellows will attend regular team meetings to share their findings and solve problems collaboratively, and will participate in BCCHR seminars, work-in-progress talks, and research day events.

## Work performed

Primary activities will include

1. Defining requirements for patient-provided data collection from personal devices (e.g. smartphones, wearables) and medical devices (e.g., continuous glucose monitoring systems, insulin pumps, etc.)
2. Identifying mechanisms to guide the development of data visualizations for candidate variables that are considered for sharing, while balancing requirements from both the participant's perspective (e.g. data characteristics such as privacy concerns) and researcher's perspective (e.g. utility, availability, volume, and sensitivity of data)
3. Guiding the development and validation of interfaces to extract data from such sources and devices, to map variables into standardized terminologies, and to create the tools that transform data into harmonized data formats
4. Defining requirements for a results-sharing platform, to be integrated into a mobile research application, with the aim of increasing research participation and family engagement

In addition, the Postdoctoral Fellow will be involved in

- Drafting final reports and project deliverables, such as ethics proposals, results, and sharing data integration and analysis source code.
- Disseminate their results in appropriate forums. Fellows will be first authors of journal papers (in both the engineering/computer science and healthcare domains) and present their work at scientific conferences, where they can extend their professional networks.
- Identifying and pursuing secondary research projects and research funding; mentoring junior trainees and co-supervising staff in their contributions to the project.
- Collaborating with other research personnel, clinical collaborators and industry partners.

## Qualifications

The successful candidate should be able to demonstrate evidence of:

- Strong knowledge of data-sharing mechanisms in healthcare (including standards such as ICD, HL7, SNOMED), including medical device interoperability
- Experience with software development for (critical) healthcare systems and evaluation of such applications
- Experience in applications of data sharing, including strategies to overcome real-world problems, such as the application of data ontologies and API development; experience with healthcare data would be desirable.
- A doctoral degree in a relevant discipline, e.g., Health Informatics, Computer Science, Data Science.
- A strong publication record, and excellent technical communication and interpersonal skills; knowledge of research processes, including the conduct of clinical studies; detail-oriented as well as high-level conceptual, analytical, and critical appraisal skills.
- Ability to work independently, and solve technical and methodological problems that arise during the course of the research; be comfortable with change, and be adaptable as the project evolves; able to thrive in a collaborative team environment and work effectively with research personnel, clinicians, patients, and industry partners.
- Personal motivation and self-management; able to take responsibility for meeting deadlines within timelines that are partially dictated by industry partners and clinicians; must exhibit a high level of professionalism, judgement, ethical conduct, discretion and diplomacy.



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## Contact

Apply by email to Matthias Görge ([mgorges@bcchr.ubc.ca](mailto:mgorges@bcchr.ubc.ca)), sending a curriculum vitae with all relevant employment and academic experience; 1-2 writing samples (publications) or a thesis chapter; names of three references; and a cover letter, noting research experience and interest in the position. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority.

Equity and diversity are essential to academic excellence. An open and diverse community fosters the inclusion of voices that have been underrepresented or discouraged. We encourage applications from members of groups that have been marginalized on any grounds enumerated under the BC Human Rights Code, including sex, sexual orientation, gender identity or expression, racialization, disability, political belief, religion, marital or family status, age, and/or status as a First Nation, Metis, Inuit, or Indigenous person.

## Funding

This fellowship is supported by MITACS and Smile CDR, and the selected candidate will receive CAD \$50,000/year plus benefits.

## Further Information

<https://www.digitalsupercluster.ca/programs/precision-health/trustsphere/>



careteam

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smile<sup>CDR</sup>



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