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## Postdoctoral Fellow – Enhancing Child Development and Participation with Brain-Computer Interface Technology

This appointment has a term length of 1 year with the opportunity of extension for up to three years and offers a benefits package found at [Postdoctoral Fellows Benefits](#).

**Location** - Work primarily takes place at North Campus Edmonton

### Working for the University of Alberta

The University of Alberta acknowledges that we are located on Treaty 6 territory, and respects the histories, languages and cultures of First Nations, Métis, Inuit and all First Peoples of Canada, whose presence continues to enrich our vibrant community.

The University of Alberta is teeming with change makers, community builders, and world shapers who lead with purpose each and every day. We are home to more than 40,000 students in 200+ undergraduate and 500+ graduate programs, over 13,000 faculty and staff, 260,000 alumni worldwide and have been recognized as one of Canada's Greenest Employers for over a decade.

Your work will have a meaningful influence on a fascinating cross section of people—from our students and stakeholders, to our renowned researchers and innovators who are quite literally curing diseases, making discoveries and generating solutions that make the world healthier, safer, stronger, and more just.

### About the Assistive Technology Labs and the Imagination Centre Brain-Computer Interface (BCI) Program

This position is in the Faculty of Rehabilitation Medicine. It will be jointly held between the AAT Lab and Imagination Centre Brain-Computer Interface (BCI) Program.

The [AAT-Lab](#) is directed by Dr. Kim Adams in the Faculty of Rehabilitation Medicine of the University of Alberta. The AAT Lab studies the role of assistive technology (AT) for engaging children with significant physical impairments in learning and play. The AAT Lab's clinical research stream supports the evaluation and implementation of AT and assistive robots for children to engage in play and learning. The AAT Lab's technical research is focused on developing new hybrid BCI paradigms, robotic controls, and robotic interface designs.

Based out of the Glenrose Rehabilitation Hospital, the [Imagination Centre BCI Program](#) works to cultivate the advancement and adoption of patient-and family-centred BCI technology by partnering with patients, families, and innovators.

### About the Postdoctoral Fellowship

This position offers the opportunity to contribute to **innovative research in child development and participation through BCI technology**. We seek candidates who are passionate about clinical

implementation of non-invasive BCIs for neurodiverse children and youth. This interdisciplinary patient and family-centred research involves medicine, rehabilitation, and engineering faculties, aiming to enhance participation and development through play, mobility, and communication for people with neurological impairments.

A background in rehabilitation sciences, neuroscience, or developmental psychology is preferred. Successful candidates will have strong communication, collaboration, and coordination skills to work effectively with patients, families, researchers, clinicians, and industry partners and contribute successfully to this intersectoral research.

Participating in the learning of undergraduate and graduate students and research assistants is a key responsibility. Successful candidates will work with their supervisor to develop a learning and development plan and attend professional development training in research ethics, integrity, and project management. Formal training will be provided in:

- Biomedical data collection and signal processing (e.g., electroencephalography)
- Patient Oriented Research strategies
- Equity, Diversity, and Inclusion
- Entrepreneurship
- Safety

The successful candidate will also have opportunities for learning and collaboration with interdisciplinary BCI experts through the BCI-CAN Network.

### **Duties**

- Evaluate the impact of non-invasive BCI technology on play, mobility, and communication for neurodiverse children and youth.
- Design experiments, data collection protocols, and administrative approvals. Oversee participant recruitment, data collection, and data analysis.
- Mentor graduate and undergraduate students, fostering a collaborative and productive research environment.
- Write research grant and scholarship applications. Prepare academic manuscripts and project reports.
- Foster collaboration and knowledge sharing with partners, academic community, and industry stakeholders.
- Create patient and provider-facing education and training materials to support BCI technology use.

### **Minimum Qualifications**

- PhD in Rehabilitation Sciences, Neuroscience, Developmental Psychology, Kinesiology, or another related field.
- Strong interest and experience in interdisciplinary and translational research with health scientists, healthcare systems, and industry.

- Keen interest and/or experience in non-invasive brain-computer interfaces, assistive technologies, powered mobility, neurofeedback, or related neurotechnology.
- Expertise in clinical research methodologies
- Excellent English verbal and written communication skills.
- Demonstrated ability to conduct scholarly work, prepare grant applications and publications, meet deadlines, and manage research projects.
- Self-motivated and self-directed with the ability to work independently and collaboratively with multiple investigators.
- Experience supervising undergraduate and/or graduate trainees.
- Commitment to equity, diversity, and inclusion in research.

### **Preferred Qualifications**

- Passion for supporting children with developmental disabilities and their families.
- Strong interest and/or experience in patient-oriented research.
- Experience working with neurodiverse populations.
- Proficiency in biomedical data collection and signal processing (e.g., EEG).
- Ability to develop and implement educational materials for patients and providers.
- Experience in mentoring and supervising undergraduate and graduate students.
- Familiarity with quantitative and qualitative analysis.
- Interest in entrepreneurship and innovation in the field of BCIs.

### **Application Instructions**

Please submit the following online through the [University of Alberta Careers website](#) as .pdf documents:

- Cover Letter
- Curriculum Vitae
- List of Publications
- References
- Transcripts - to be uploaded under "other" and all in a single PDF document

*At the University of Alberta, we are committed to creating an inclusive and accessible hiring process for all candidates. If you require accommodations to participate in the interview process, please let us know at the time of booking your interview and we will make every effort to accommodate your needs.*

All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. If suitable Canadian citizens or permanent residents cannot be found, other individuals will be considered.

**We thank all applicants for their interest; however, only those individuals selected for an interview will be contacted.**

*The University of Alberta is committed to an equitable, diverse, and inclusive workforce. We welcome applications from all qualified persons. We encourage women; First Nations, Métis and Inuit persons; members of visible minority groups; persons with disabilities; persons of any sexual orientation or gender identity and expression; and all those who may contribute to the further diversification of ideas and the University to apply.*