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## Postdoctoral Position in Magnetic Field Mapping for MRI

Dr. Alonso-Ortiz (NeuroPoly Lab: <https://neuro.polymtl.ca/>, Polytechnique Montréal) is seeking candidates for a Postdoctoral Fellow to work on MRI-based magnetic field mapping. Many MRI techniques, such as fMRI, DTI, and  $T_2^*$  mapping are highly sensitive to  $\Delta B_0$  inhomogeneities.  $\Delta B_0$ -related artifacts can be minimized through the use of advanced shimming techniques, such as dynamic shimming, if the  $\Delta B_0$  field distribution is known. Different approaches to measuring the  $\Delta B_0$  field have been proposed over the years. This project would aim to develop innovative solutions to tackle the acquisition and processing challenges associated with generating accurate  $\Delta B_0$  maps and to develop tools that will allow researchers to quantify the magnetic field distribution in the brain and spinal cord region at 3 T and 7 T. The immediate position is a two-year term with a possible extension.

### Eligibility:

- **Educational Qualification:** Ph.D. in Physics, Medical Physics, Biomedical Engineering, Electrical Engineering, or related disciplines.
- **Software Skills:** MATLAB, Python, C++, image processing with software tools (e.g. FSL, MINC toolkit), version control systems (ex: GitHub)
- **Selection Criteria:** We are looking for self-motivated candidates who are comfortable working in a collaborative environment. Candidates with a strong interest in MRI/MR physics and image processing, with a strong publication record and excellent communication skills are desired. Experience in pulse sequence programming and the ability to communicate in French are assets.

### About us:

NeuroPoly is a research laboratory that specializes in neuroimaging. We develop advanced MRI image acquisition and analysis methods for brain and spinal cord imaging at 3 T and 7 T. The NeuroPoly lab is a strong proponent for open-science and many of the image analysis tools that we develop are distributed as open-source software (<https://github.com/neuropoly>). The NeuroPoly lab has access to a 3 T Prisma (Siemens) scanner located at the Unité de Neuroimagerie Fonctionnelle (<https://unf-montreal.ca/>) and a 7 T Terra (Siemens) scanner located at the McConnell Brain Imaging Center (<https://www.mcgill.ca/bic/>). Additional information about our facilities are available on our website (<https://neuro.polymtl.ca/>).

### How to apply:

Please send a cover letter, CV, and the contact information of two references to Dr. Alonso-Ortiz ([eva.alonso-ortiz@polymtl.ca](mailto:eva.alonso-ortiz@polymtl.ca)). The position and review process will be open until filled.

Polytechnique Montréal is deeply committed to employment equity, diversity and inclusion. Accordingly, we encourage women, members of visible and ethnic minorities, indigenous individuals, and persons with disabilities to apply.