

Fellowships with the Calgary Comprehensive Epilepsy Program

Clinical Epilepsy, EEG, Epilepsy Surgery

The Calgary Comprehensive Epilepsy Program (CEP) is one of the premiere epilepsy centres in Canada. It services a local population of almost 1.3 million people and routinely receives referrals from local, provincial, and national neurology clinics.

The core faculty includes seven adult epileptologists, three paediatric epileptologists, and two epilepsy surgeons. Outpatient clinics are offered both at the Foothills Medical Centre (FMC) and South Health Campus (SHC). Inpatient services involve four dedicated Seizure Monitoring Unit beds at the FMC and two at SHC. The SHC also has one ambulatory day monitoring EEG bed. In addition, the CEP benefits from allied health professionals whose work focuses on Epilepsy in the areas of Clinical Psychology, Psychiatry, Neuropsychology, Neuroimaging and Nursing.

Through the unique expertise of our faculty, and the breadth and depth of clinical and research exposure we have an established track record of training national and international fellows who have successfully graduated to academic and community positions across the globe.

Training

We offer standardised 1- and 2-year programs for all fellows. Fellowships are typically divided into either pure clinical or clinical-research tracks. Clinical Fellowships are typically combined EEG/Presurgical Evaluation/Clinical Epilepsy. However, pure EEG fellowships can be considered under special circumstances.

For pure clinical fellowships, rotations are offered in repeated two-week blocks. During the two-week outpatient blocks, fellows are expected to participate in 5 full-day epilepsy clinics (where they will be involved in managing complex and medication-resistant people with epilepsy) and commit to 5 full-days of reading outpatient and routine inpatient EEG (~15-20 recordings per day). The two-week inpatient block will involve evaluation and management of all Seizure Monitoring Unit patients who represent diagnostic and therapeutic challenges including surgical cases. Fellows will obtain experience with video-telemetry EEG as well as non-invasive investigations including SPECT and PET. Furthermore, the fellow will participate on the inpatient epilepsy consultation service, assist in the management of patients with status epilepticus admitted to the Intensive Care Unit, and read and interpret all continuous EEG recordings.

For clinical-research tracks, rotations will be divided into three rotating two-week blocks. The overall arrangement is similar to the pure clinical track with the exception that an extra two-week block of protected research time is included. It is expected that clinical-research fellows will commit to a two-year training period.

Additionally, all fellows will participate in a dedicated one-month paediatric epilepsy rotation at the Alberta Children's Hospital and, while on service, are expected to present cases at the weekly Calgary Comprehensive Epilepsy Program Epilepsy Surgery Rounds.

Educational activities, both didactic and clinical, include a monthly epilepsy journal club and research presentation, two one-hour EEG Educational Rounds per month, weekly fellow-led lectures and a review of selected articles taken from the national Canadian Society of Clinical Neurophysiologists (CSCN) EEG reading syllabus, weekly Department of Clinical Neuroscience Grand Rounds, and a monthly journal club.

Committee

The Dr. Colin Josephson and Dr. Shaily Singh are the Education co-directors of the Calgary Comprehensive Epilepsy Program.

Research

Dr. Yahya Agha-Khani has research interests that entail clinical epilepsy, intracranial and stereotactic electroencephalography, and EEG signal processing. In particular, he currently he is currently involved in studies of high frequency oscillation and EEG-fMRI.

Dr. Paolo Federico works on specialised neuroimaging that includes the study of cortical and subcortical circuits underlying the generation of interictal discharges, functional MRI analysis of the pre-ictal state, language and motor reorganization in focal epilepsy, and seizure-related structural brain changes. He also has an interest in advanced EEG analytical techniques, including the study of high frequency oscillations in humans and animal models of epilepsy.

Dr. Colin Josephson performs research exploring the utility of large, linked electronic health records as a means of studying epidemiology and outcomes in epilepsy. He is further interested in the applications of 'big data' on the methodology, development, and implementation of diagnostic and therapeutic predictive models. Along with Dr. Samuel Wiebe, he also performs epidemiological and outcomes research using the Calgary Comprehensive Epilepsy Program prospective cohort of patients with epilepsy.

Dr. Neelan Pillay has participated as principal investigator in many epilepsy clinical drug trials and has a continuing interest in functional imaging.

Dr. Samuel Wiebe is the current president of the International Leagues Against Epilepsy (ILAE) and holds the Hopewell Professorship of Clinical Neurosciences Research. He is involved in research to determine minimal clinically important changes in quality of life after epilepsy surgery, as well as development of tools to assess disease severity and disability, and satisfaction with treatment in epilepsy. He is leading the use of large

health care data to create clinical prediction tools in epilepsy and the systematic development of data platforms for the Calgary Epilepsy Program.

Dr. Shaily Singh has research interests that include intracranial and stereotactic electroencephalography and non-invasive imaging.

Current Fellows and Alumni

Stroke has some listed; we can list too if there is interest.

Publications

Dr. Yahya Agha-Khani: [https://www.ncbi.nlm.nih.gov/pubmed/?term=\(yahya+agha-khani\)+OR+\(yahya+aghakhani\)](https://www.ncbi.nlm.nih.gov/pubmed/?term=(yahya+agha-khani)+OR+(yahya+aghakhani))

Dr. Paolo Federico: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Paolo+Federico>

Dr. Colin Josephson:

<https://www.ncbi.nlm.nih.gov/pubmed/?term=Colin+Josephson+OR+Colin+Bruce+Josephson>

Dr. Neelan Pillay: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Neelan+Pillay>

Dr. Samuel Wiebe: <https://www.ncbi.nlm.nih.gov/pubmed/?term=samuel+wiebe>

Dr. Shaily Singh: <https://www.ncbi.nlm.nih.gov/pubmed/?term=shaily+singh>

How to apply

Eligibility: Completion or board eligibility to write the Royal College Examination (or American Board) in Neurology OR, certification in Neurology from an authorized Board in another country. Successful completion of a test of English language proficiency, if training was obtained in a non-English speaking country.

Applications: Please send electronic versions of your CV, three letters of recommendation, and a letter of intent to the Program Director, Dr. Colin Josephson: cjoseph@ucalgary.ca

Contact

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