RESEARCH SCHOLAR PROGRAM 2017
SUPERVISOR/PROJECT INFORMATION FORM

Due on or before October 21 2016. Forms received after this date will not be posted on the website.

SUPERVISOR INFORMATION

Supervisor Name: Nathan Kolla

Mailing Address: CAMH, 250 College Street, Toronto, Ontario, M5T 1R8

Telephone Number: (416) 535-8501 ext. 34248

Email Address: nathan.kolla@camh.ca

Degree (MD, PhD, MD/PhD): MD/PhD

Academic Rank: Assistant Professor

Field of Research: Neuroimaging of Personality Disorders, Impulsivity, and Aggression

Graduate School Appointment (IMS, IHPME etc..): IMS
Please note that you must be appointed to the SGS in order to be a supervisor in the Scholar Program

Research Institute Affiliation (if applicable): N/A

Allocation of student contact time (# of hours per week you are available to the student for any concerns or to review progress): 2

PROJECT INFORMATION

Project Title: Investigating the Endocannabinoid System in Antisocial and Borderline Personality Disorder with Persistent Violence

Project Description (max 500 words): Borderline personality disorder (BPD) and antisocial personality disorder (ASPD) are common and serious psychiatric illnesses linked to persistent violent behavior. Between 8-10% of individuals with BPD die from self-inflicted violence, and 85% of people with ASPD inflict violence on others. Anxiety, impulsivity, and poor stress management are well-known risk factors for persistent violence in BPD and ASPD. Yet, we know very little about the brain chemistry of these conditions or how brain changes associated with anxiety, impulsivity, and stress may predispose to violence in BPD and ASPD. There are currently no medical treatments that specifically target violence in BPD or ASPD. We believe that high amounts of a brain chemical called fatty acid amide hydrolase (FAAH) may contribute to persistent violence in BPD and ASPD. Animals with high FAAH levels are more anxious and impulsive, and stress has been shown to increase FAAH in the brains of rodents. Moreover, brain chemicals related to FAAH are different in BPD and ASPD, and brain levels of FAAH are higher in people who have died from self-inflicted violence. This project will measure brain FAAH level in BPD and ASPD using a state-of-the-art brain imaging technique called positron emission tomography (PET). We believe that persistent violence in ASPD and BPD may be related to high FAAH level in certain brain regions, especially in patients who are overly anxious, impulsive, or have poor stress coping mechanisms. We aim to measure FAAH level in BPD and ASPD patients with persistent violence and healthy people who have never been violent. We expect that ASPD and BPD patients with persistent violence will have higher levels of brain FAAH. These anticipated findings could provide the impetus for developing new treatments that reduce violence in ASPD and BPD by lowering brain FAAH levels.

If human subjects are involved, has Ethics been obtained?

☒YES ☐NO ☐Application Submitted ☐N/A

Do you expect this work will be published within 20 months?

☒YES ☐NO ☐Uncertain

Student's Roles / Responsibilities (Please be as specific as possible) Please indicate who will serve as the student's direct report. (PI, PDF, PhD student, technician etc…): The student will work alongside the research analyst who is currently leading the study. The student will also receive regular face-to-face supervision from the PI to answer any additional questions the student may have about the project and will receive mentorship and advice about a career as a physician who may want to become involved in research activities. Specific duties will involve recruiting subjects and controls, conducting telephone interview screens, administering paper and pencil psychological tests, assisting the research analyst during the PET scans and learning how to analyze imaging data. There may also be an opportunity to assist in the writing of manuscripts based on these findings.