



## RESEARCH SCHOLAR PROGRAM – 2018

### SUPERVISOR & PROJECT INFORMATION FORM

Please complete and return, via email only ([crems.programs@utoronto.ca](mailto:crems.programs@utoronto.ca)) by **November 3<sup>rd</sup> 2017** (forms received after this date will not be posted).

#### Supervisor Information

**Names:** Drs Eric Campos and Peter Kannu (co-supervision)

**Email:** [eric.campos@sickkids.ca](mailto:eric.campos@sickkids.ca) (main contact)

#### **Degree:**

PhD [EC]

MB, ChB, PhD, DCH, FRACP [PK]

#### **SGS Appointment** (IMS, IHPME, LMP etc.):

Molecular Genetics [EC]

Pediatrics [PK]

#### **Academic Rank:**

Scientist/Assistant Professor [EC]

Staff Physician/Associate Scientist/

Assistant Professor [PK]

#### **Field of Research:**

genetics & chromatin biology

**Research Institution Affiliation** (if applicable): Hospital for Sick Children

**Allocation of student contact time** (number of hours per week YOU are available to the student for any concerns or to review progress): 2.5

hrs/wk each [EC and PK]

### **Project Information**

**Title:** Biological consequence of novel mutations in the TONSL histone chaperone and DNA repair protein.

**Description** (max 500 words):

TONSL-MMS22L was identified a few years ago as a component of the DNA repair machinery. The protein dimer is believed to promote genomic stability during DNA replication. We since found TONSL-MMS22L to further function as a histone chaperone, suggesting that it plays a role in chromatin biology. Defects in the plant TONSL protein leads to a loss of chromatin silencing, but pathological mutations in the human TONSL protein have yet to be characterized.

The Hospital for Sick Children recently identified TONSL mutations in patients with developmental anomalies. This summer project aims for a medical student to get laboratory exposure by probing the cellular, molecular, and biochemical consequences of mutant human TONSL.

The participating student would specifically determine how protein-protein interactions, DNA damage response, and histone chaperone functions of TONSL-MMS22L change when TONSL is mutated.

Both Drs Kannu and Campos are new investigators at the Hospital for Sick Children, with ongoing collaborations and one manuscript in preparation. Dr. Peter Kannu is a clinician investigator and a medical specialist in pediatric and genetic medicine. Dr Eric Campos is a scientist focusing on biochemical aspects of chromatin biology.

If human subjects are involved, have Ethics been obtained?

YES

NO

Application Submitted

N/A

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

YES

NO

Uncertain

**Student's roles and responsibilities** (please be specific)

*Please indicate who will serve as the student's direct report (PI, PhD student, technician etc...)*

The student will directly report to Drs Eric Campos and Peter Kannu. She/He will be expected to participate in our joint lab meetings, and to actively participate in the design and execution of the project (with the PIs' guidance). She/He will further collaborate with our current graduate students, postdoctoral and research fellows, and technicians.