

CURRENT RESEARCH OPPORTUNITIES

Graduate Program: **Anatomy & Cell Biology**, Biochemistry, Epidemiology and Biostatistics, Family Medicine, Microbiology & Immunology, **Pathology & Lab Medicine**, **Physiology & Pharmacology**, Neuroscience, Surgery

Research Cluster(s): Cell, Stem Cell and Cancer; Inflammation & Cancer

Supervisor(s): Dr. Samuel Asfaha

Keywords: Stem cells, inflammation, colities and cancer

Vacancies: 2

MSc/PhD or Postdoc Available?: PhD (4 years)

Description: The Asfaha lab's primary interest is in gastrointestinal stem cells and their role in tissue regeneration and cancer. The lab has been strongly focused on distinguishing amongst the role of various epithelial stem cells in gut healing. We previously demonstrated that cytokeratin 19 (K19) marks a radio-resistant intestinal stem cell population distinct from classical Lgr5+ stem cells. We also discovered a subset of Dclk1+ cells are long-lived and serve as a cellular origin for colon cancer. Thus, our lab is now focused on how does inflammation (i.e. colitis) leads to cancer.

To Apply: Applicants must independently apply to the Anatomy & Cell Biology program using the online Western [application portal](#), **including a clear reference to the supervisor**

Application Deadline: None at this time

Contact Information: Questions regarding the application process, or inquiries about the program may be addressed to the [Academic Programs Coordinator](#), for more information about the description/design of the project, you may contact Dr. Asfaha directly: sasfaha2@uwo.ca

CURRENT RESEARCH OPPORTUNITIES

Graduate Program: Anatomy & Cell Biology, Biochemistry, Epidemiology and Biostatistics, Family Medicine, Microbiology & Immunology, Pathology & Lab Medicine, Physiology & Pharmacology, Neuroscience, Surgery

Research Cluster(s): Cancer Biology & Biochemistry

Supervisor(s): Dr. Gabriel DiMattia Ph.D

Keywords: Clear cell cancer of the ovary, epigenetics, hypoxia, transcription

Vacancies: 2

MSc/PhD Available?: PhD (4 years) & MSc (2 years)

Description: Our primary focus is on epigenomic changes associated with autonomous spheroid formation in ovarian clear cell cancer (OCCC). Spheroids are 3D avascular structures responsible for metastasis of all epithelial ovarian cancers. Our goal is to uncover the key H3 epigenetic marks which accompany spheroid formation and which presumably contribute to the transcriptional program that facilitates survival of OCCC spheroids. OCCC spheroids that proliferate in suspension will be used in ChIPseq and RNAseq studies. Our goal is to identify 'epigenome-based drugs' which will kill spheroids.

To Apply: Applicants must independently apply to the Biochemistry program using the online Western [application portal](#), including a clear reference to the supervisor

Application Deadline: None at this time

Contact Information: Questions regarding the application process, or inquiries about the program may be addressed to the [Academic Programs Coordinator](#), for more information about the description/design of the project, you may contact Dr. DiMattia directly: dimattia@uwo.ca

CURRENT RESEARCH OPPORTUNITIES

Graduate Program: **Anatomy & Cell Biology**, Biochemistry, Epidemiology and Biostatistics, Family Medicine, **Medical Biophysics**, Microbiology & Immunology, **Pathology & Lab Medicine**, Physiology & Pharmacology, Neuroscience, Surgery

Research Cluster(s): Imaging

Supervisor(s): Dr. Lisa Hoffman

Keywords: Duchenne muscular dystrophy, microvasculature, heart and skeletal muscle, brain, molecular imaging

Vacancies: 2

MSc/PhD or Postdoc Available?: PhD (4 years)

Description: Overarching Objective: to rescue abnormal microvasculature in Duchenne muscular dystrophy (DMD) to reduce ischemia, chronic inflammation and fibrosis. Hypothesis: Delivery of Ang-1 will restore vascular integrity, and diminish ischemia, inflammation and development of fibrosis, re-establishing a microenvironment that supports repair. Students will use below methods to fully characterize abnormal microvasculature in both DMD mouse and patient samples, to improve endogenous tissue repair, minimize fibrosis, and enhance the efficacy of cell replacement therapy for the treatment of DMD.

To Apply: Applicants must independently apply to the Anatomy & Cell Biology program using the online Western [application portal](#), **including a clear reference to the supervisor**

Application Deadline: None at this time

Contact Information: Questions regarding the application process, or inquiries about the program may be addressed to the [Academic Programs Coordinator](#), for more information about the description/design of the project, you may contact Dr. Hoffman directly: lhoffman@lawsonimaging.ca

CURRENT RESEARCH OPPORTUNITIES

Graduate Program: **Anatomy & Cell Biology**, Biochemistry, Epidemiology and Biostatistics, Family Medicine, Medical Biophysics, Microbiology & Immunology, Pathology & Lab Medicine, **Physiology & Pharmacology**, **Neuroscience**, Surgery

Research Cluster(s):

Supervisor(s): Dr. Vania Prado

Keywords: Alzheimer's; Parkinson's, Cholinergic system, mouse models, cognition, cell biology

Vacancies: 4

MSc/PhD or Postdoc Available?: PhD, Postdoctoral Scholar (5 years)

Description: We use mouse models of neurodegeneration, with main focus on Alzheimer's and Parkinson's disease, to investigate molecular and behavioural changes in neurodegenerative diseases. Our work is multidisciplinary and involves molecular, cellular, and behavioural studies. We use state of the art methodologies including, automated touchscreens, photometry analysis coupled to the behavioural tasks (to measure in vivo neurotransmitter release and/or neuronal activation), confocal and super-resolution imaging, single cell sequencing, DREADD, qPCR and RNAscope.

To Apply: Applicants must independently apply to the program using the online Western [application portal](#), **including a clear reference to the supervisor**

Application Deadline: None at this time

Contact Information: Questions regarding the application process, or inquiries about the program may be addressed to the [Academic Programs Coordinator](#), for more information about the description/design of the project, you may contact Dr. Prado directly: vprado@uwo.ca

0

CURRENT RESEARCH OPPORTUNITIES

Graduate Program: **Anatomy & Cell Biology**, **Biochemistry**, Epidemiology and Biostatistics, Family Medicine, Medical Biophysics, Microbiology & Immunology, Pathology & Lab Medicine, Physiology & Pharmacology, Neuroscience, Surgery

Research Cluster(s):

Supervisor(s): Dr. Vanessa Dumeaux

Keywords: bioinformatics, single-cell technologies, genomics, deep-learning

Vacancies: 2

MSc/PhD or Postdoc Available?: MSc (2 years), PhD (4 years)

Description: We have several graduate positions (PhD or MSc) available for individuals interested in single-cell molecular technologies, bioinformatics and data science.

Possible research topics include:

- Identifying signatures to predict treatment response in breast cancer
- Single-cell genomics of immune responses to cancer
- Microbial single-cell transcriptomics

New students can join the lab via the Anatomy and Cell Biology or Biochemistry graduate programs and will have the opportunity to join Western's Collaborative Specialization in Machine Learning in Health and Biomedical Sciences.

To Apply: Applicants must independently apply to the program using the online Western [application portal](#), **including a clear reference to the supervisor**

Application Deadline: None at this time

Contact Information: Questions regarding the application process, or inquiries about the program may be addressed to the [Academic Programs Coordinator](#), for more information about the description/design of the project, you may contact Dr. Prado directly: vdumeaux@uwo.ca