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):	Bioinformatics
Supervisor(s):	Dr. Talllulah Andrews
Keywords:	Single-cell RNA sequencing, Spatial Transcriptomics, Bioinformatics, Computational Biology, Liver Development
Vacancies:	2
MSc/PhD or Postdoc Available?:	PhD, Post Doctoral (4 years)
Description:	Gene expression is now routinely assayed at the single cell level. However, serious challenges remain in analyzing and interpreting this data. A key challenge is presented by diseased tissue where many cells are damaged or dying which releases large amounts of "background" RNA that confounds attempts to compare healthy and diseased samples. This project will develop computational and statistical approaches to rigorously compare diseased and healthy samples by integrating single-cell and single-nucleus RNA sequencing data and devising an improved method to computationally remove background RNA.
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. Andrews directly: tandrew6@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

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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 presumable 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):	Biotherapeutics
Supervisor(s):	Dr. Kun Ping Lu
Keywords:	Cell signaling, Alzheimer's disease, neurotrauma, stroke, cancer, sepsis, and pandemics, therapeutics, diagnostics
Vacancies:	5
MSc/PhD or Postdoc Available?:	PhD (5 years)
Description:	We have discovered a unique stress enzyme called Pin1 and developed innovative Pin1-targeted stereo-specific antibodies and small molecular inhibitors, which offer a new paradigm for early diagnosis and treatment of Alzheimer's disease, neurotrauma, stroke, cancer, sepsis, and pandemics. Our research goals are to further develop their unique therapeutics and diagnostics specifically targeting Pin1-regulated phosphorylation signaling using cell cultures, animal models and human tissues, and then translate them to the clinic. Seeking motived and goal-oriented postdoc or graduate students. For more details visit: https://drive.google.com/file/d/1mGxvc74Pcr8A9T1HEOdFjFI31JnfrCc1/view?usp=sharing
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. Lu directly: klu92@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):	Health Data Science, Bioinformatics
Supervisor(s):	Dr. Pingzhao Hu
Keywords:	artificial intelligence, statistical modeling, health data, omics data, imaging data, bioinformatics
Vacancies:	4
MSc/PhD or Postdoc Available?:	MSc, PhD, Postdoctoral (4 years)
Description:	Please visit my lab website: https://phulab.org/research
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. Hu directly: phu49@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):	
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