# WORKSHOP CATALOGUE

## Content Guide

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<td>A13 The Good, the Bad, and the Ugly: A day in a life of a student researcher at Western</td>
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<tr>
<td>Biomedical Engineering</td>
<td>&quot;Health Pros Tell All&quot; panel discussion from 2:15 - 3:15</td>
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<td>Dentistry</td>
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| A06  | The Physical and Virtual World of Psychology Research               | In this tour of Psychology research, you will have the opportunity to hear about and see different research methods such as EEG, fNIRS, gait, and eye tracking, from experienced researchers. You will also get an opportunity to experience the “Audiodome”, a hemispherical array of 91 speakers used to reproduce sound environments with stunning realism. This speaker array can be used in combination with virtual reality, allowing researchers to replicate highly realistic visual and auditory scenes, where all aspects of the experimental stimuli can be controlled and are reproducible. This allows for more innovative research, bringing human testing into more real-world settings. | 40 | 40  | Dr. Leah Brainin  
Aditi Nayak  
Dr. Derek Quinlan  
(BrainsCAN)  
Western Interdisciplinary Research Building (WIRB)  
Cognitive Neuroscience Research Facility |
| A07  | Understanding the Human Brain and Advanced Research Technologies    | In this workshop, you will have the unique opportunity to explore cutting-edge equipment used in collecting brain-related data, such as electroencephalogram (EEG). We will demonstrate how this equipment works and explain how it is utilized in applied research on clinical populations. For example, you will learn how we analyze gait in individuals with Parkinson's disease. Additionally, the workshop may showcase how virtual reality integrates with research tools. Participants will get hands-on experience by simulating the role of a research participant. The workshop will feature a dedicated focus on the intersection of music and the brain. | 40 | 40  | Caitlin Fitzpatrick  
Catherine Lin  
Dr. Karli Nave  
Sarah Park  
Dr. Riya Sidhu  
Diana Urian  
(Schulich School of Medicine & Dentistry)  
Western Interdisciplinary Research Building (WIRB) |
| A08  | Image Guided Interventions                                          | In this workshop you will learn about medical imaging modalities, such as ultrasound, Magnetic Resonance Imaging, and X-Ray Computed Tomography, and how they are applied in modern medicine. You will also learn about how computers and tracking system (think GPS for surgery) can be used to help doctors perform surgeries. You will be playing with the state-of-the-art ultrasound machine and see first-hand how computer-assisted surgical technique works. | 25 | 25  | Dr. Elvis Chen  
(Robarts Research Institute)  
RRI  
2nd Floor Conference Room |
| A09  | Dementia Knowledge Translation: Learning from persons with lived experience | This workshop will explore the benefits of expanding your learning beyond the classroom - by stepping into the community! Hear from a Western University student whose volunteer experience with persons living with dementia has complemented their “formal” academic learning. "I've gained practical insights into the complexities of cognitive impairment and the importance of holistic care, aligning perfectly with my aspirations to pursue a career in occupational therapy." | 25 | 0   | Megan Fife  
Susan Oster  
Stephanie Pullam  
(Alzheimer Society Southwest Partners)  
Arts & Humanities Building, Room 1802 |
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<tr>
<th>Code</th>
<th>Title</th>
<th>Description</th>
<th>AM</th>
<th>PM</th>
<th>Coordinator/Presenters (Department) and Location</th>
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<tr>
<td>A10</td>
<td><strong>The Physics of Medical Imaging</strong></td>
<td>How can physics help us see into the human body to reveal structure and detect disease? This workshop will provide a glimpse into four types of medical imaging and the basic physical concepts behind these methods. It will include a presentation on magnetic resonance imaging (MRI) and functional MRI, including examples of current research and innovations, followed by hands-on activities to explore computed tomography (CT) and ultrasound.</td>
<td>20</td>
<td>20</td>
<td>Dr. Alexei Ouriadov Dr. Tamie Poepping Dr. Andrea Soddu (Physics &amp; Astronomy) PAB 100</td>
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<td>A11</td>
<td><strong>Extraction of DNA: Getting the instruction manual out</strong></td>
<td>Biochemistry and Synthetic Biology involve the manipulation of genetic information contained in the DNA sequence of genes from different organisms. To create novel genes with new functions DNA must first be extracted from an organism and purified. In this laboratory exercise students will use biochemical techniques to extract, purify, and analyze DNA from bacterial cultures. Some of the techniques used by students in the lab will include use of micropipettes, centrifugation, and gel electrophoresis.</td>
<td>20</td>
<td>0</td>
<td>Elizabeth Connelly Dr. Anne Rintala-Dempsey Dr. Brian Dempsey (Biochemistry) MSB 120</td>
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<td>A12</td>
<td><strong>Molecules in Motion: Exploring the wonderful applications of chemistry</strong></td>
<td>From particle accelerators to pharmaceuticals, chemistry is all around us. Explore the various uses and opportunities that chemistry has to offer from environmental conservation to molecular simulations. Come join us for four presentations to learn about some of the fun chemistry has to offer, stories about life in university, and some EXPLOSIVE experiments. <strong>NOTE: Safety dress code for all participants entering our labs</strong> - ‘shoulder to toe coverage’ - long ankle length pants and socks with no exposed skin at the ankles. Shoes that completely cover the feet - like running shoes, not sandals. No exposed midriffs so t-shirts are fine (you do not need to have long sleeves.) We will provide safety glasses.</td>
<td>10</td>
<td>10</td>
<td>Nicholas Bainbridge Clement Lee Matthew Rossini Jessica Winslade (Chemistry) MSA 1220</td>
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<td>A13</td>
<td><strong>The Good, the Bad, and the Ugly: A day in a life of a student researcher at Western</strong></td>
<td>In this workshop, you will gain an honest insight on Western as a university from a student's perspective. We will discuss the path to get into medical research, medicine in Canada, and my personal path from high school all the way to my medical school interview. Lastly, we will touch on stem cell biology, my primary research area of interest. You will learn how we conduct stem cell experiments in the lab, micropipetting, the basics of molecular sequencing and the clinical applications of stem cells in the future!</td>
<td>40</td>
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<td>Bryan Lung (Schulich School of Medicine &amp; Dentistry)</td>
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| A14  | Organ Donation and Transplantation | An introduction to organ donation and transplantation, we will begin by covering criteria for donation and the establishment of brain death as well as how organs are allocated, procured and transported to recipient operating rooms. The second part of the presentation focuses on the history and evolution of transplantation and the current transplant process. | 20 20 | Peter Barrett  
(LHSC Organ Donation Program)  
Arts & Humanities Building Rm 1804 |
| A15  | Exploring the Medical Sciences | Buckle up for an exploration of the medical sciences! Scientists at Western’s Schulich School of Medicine & Dentistry investigate how the body works, what goes wrong in disease and how we can intervene to treat disease. In this session, students will get exposure to three exciting areas of the medical sciences. Learn how anatomists are helping surgeons improve their practice. Investigate the mysteries of the brain and neurological disease. Explore how cells of our immune system play a role in homeostasis and disease processes like infection, heart disease and pneumonia. | 40 40 | Dr. Olamide Adebiyi  
Dr. Bryan Heit  
Dr. Brad Urquhart  
Dr. Tim Wilson  
(Basic Medical Sciences Undergraduate Education)  
Arts & Humanities Building Rm 1806 |
| A16  | MedReach: Navigating pathways and skills to medical school | This workshop will be led by our group of MedReach medical students and Dr. George Kim, our Associate Dean of Admissions. Come learn about their individual pathway to medicine, each one unique and diverse. Not only will you learn ways to medical school, but you can even try it on by testing a few clinical skills like suturing. | 0 20 | Dr. George Kim  
Kelsey Lavigne  
(Schulich School of Medicine & Dentistry) |
| E01  | Physiotherapy: Exploring different areas of practice | In this interactive workshop, you will have the chance to hear about what it is like to work in different areas of physiotherapy practice. You will also get the chance to experiment with performing a variety of common physiotherapy assessment and treatment techniques. | 20 0 | Dr. Laura Brunton  
Dr. Laura Graham  
Dr. Erin Miller  
Dr. Janelle Unger  
Dr. Tina Ziebart  
(School of Physical Therapy)  
Elborn College |
| E02  | Audiology and Speech-Language Pathology: Hearing and Communication Health Specialists | Audiologists provide health care related to hearing, balance, and auditory disorders such as tinnitus (ringing in the ears). Speech-language pathologists provide services to those with concerns related to swallowing, speech, and oral and written language. In this session, you’ll experience some of the assessment and interventions offered to those with communication and swallowing disorders. You’ll also learn more about these health professions including educational requirements and practice contexts. | 0 20 | Dr. Lisa Archibald  
Dr. Sheila Moodie  
(School of Communication Sciences & Disorders)  
Elborn College |