



AMERICAN ASSOCIATION OF ANATOMISTS

Creating Connections

Regional 2018

November 9 & 10, 2018
McMaster University
Hamilton, Ontario

Thank You to our Sponsors and Exhibitors:



HEALTH SCIENCES
Continuing Health Sciences
Education



SCIENCE



MEDICAL SCIENCES
Graduate Program

The Organizing Committee would like to say Thank You to the following individuals who helped make this meeting happen.

MARKETING & DESIGN

Brittany Currie
Maureen Letang
Caitlin O'Connell
Colby Shultz (AAA)

LAB STAFF

Esai Bishop
Liz Jensen
Natalie Romaniuk

McMaster University Presents: Creating Connections

On behalf of the organizing committee, welcome to McMaster University and the Regional AAA meeting for 2018. Our meeting program is all about the depth and breadth of the anatomical sciences. It has been our goal to show how anatomy weaves the research, clinical and educational worlds together. To accomplish this, we have 80 different perspectives on anatomy, ranging from keynote presentations, oral and poster presentations, technical and educational workshops, and an undergraduate symposium. All of these events are bracketed by our Friday and Saturday receptions so that you can make new connections with your fellow colleagues. It is going to be a full and stimulating couple of days. Please enjoy all that we have to offer.



Committee members from left to right: Paulette Malcolm, Thomas Hawke, Judy West-Mays, Bruce Wainman, Sue Dingle, and Alexander K. Ball.



**BRIGHTER
WORLD**

2018 Program Index

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McMaster WiFi Access

username: mcm0423 password: cl8Ee3L6R7

AAA Conference Twitter Handle

#mcmasterregional

SCHEDULE-AT-A-GLANCE

07:30	Registration	Breakfast and Poster Set-up	
08:30	(Ewart Angus)	(Bayside Café)	
08:45	Welcome (Ewart Angus 1A1)		
09:00	Keynote Presentations (Ewart Angus 1A1)		
09:45			
10:00	Coffee Break (Bayside Café)		
10:15	Keynote Presentations (Ewart Angus 1A1)		
11:00			
11:15	Break		
11:30	Concurrent Proceedings - Talks		
12:15	(Ewart Angus)		
12:30	Lunch		
12:45	(Bayside Café)	Posters Attended	
14:00		(Bayside Café)	
14:15			
14:30	Anatomy Careers	Concurrent	Technical Symposium
14:45	(Ewart Angus 1A5)	Workshops	Part One
15:00		(Anatomy Lab 1R1)	(Ewart Angus 1A3)
15:15			
15:30		Break and Poster Take-down	
15:45		(Bayside Café)	
16:00	Break and Poster Take-down	Repeat of Concurrent	Technical Symposium
	(Bayside Café)	Workshops	Part Two
16:15	Anatomy Careers continued	(Anatomy Lab 1R1)	(Ewart Angus 1A3)
16:30	(Ewart Angus 1A5)		
16:45			
17:00			
17:15	Awards and Closing Reception		
17:30	(CIBC Hall)		
19:00			

Schedule of Events

Program Agenda

FRIDAY, NOVEMBER 9, 2018

Bayview Room, David Braley Health Sciences Centre, 100 Main St. W.

7:00pm - 9:00pm **Welcome Reception**
Light Refreshments

SATURDAY, NOVEMBER 10, 2018

(All sessions held in McMaster University Medical Centre, MUMC)

MORNING SESSION: KEYNOTE SPEAKERS

(Ewart Angus Centre 1A1)

- 7:30am - 8:30am **Registration**, Ewart Angus
Breakfast and Poster Set-up, Bayside Café
Coat Room in 1J8 and 1J10
- 8:45am - 9:00am **Welcome address**
Julian Guttman, Alan Neville, Bruce Wainman
- 9:00am - 9:30am **Forensic Pathology: Anatomy Goes to Court**
John Fernandes, Hamilton Health Sciences
- 9:30am - 10:00am **A Century of Virtual Reality in Anatomy Education**
Bruce Wainman, McMaster University
- 10:00am - 10:15am Coffee Break, Bayside Café
- 10:15am - 10:45am **Adapting to Change in Anatomy Education: The North American Perspective**
Jennifer McBride, Cleveland Clinic, Lerner College of Medicine
- 10:45am - 11:15am **Striking-Out Injury: Biomechanics Based Approaches for Body-Region Specific Risk Assessment in Work and Sport**
Michael Sonne, MyAbilities Technologies

11:15am - 11:30am Break

CONCURRENT PROCEEDINGS -TALKS

Ewart Angus Centre

Education 1 (1A1)

- 11:30am - 11:45pm **Active Learning Methods in an Introductory Anatomy Course,** Pulakunta
- 11:45am - 12:00pm **Retrieval Practice for Learning Leading to Better Long-Term Retention and Improved Student Performance,** Azzam
- 12:00pm - 12:15pm **Evaluation of an Undergraduate Anatomy Flipped Laboratory Session Focused on the Musculoskeletal Region of the Arm and Shoulder,** Eansor
- 12:15pm - 12:30pm **Beyond Average Information: Using Q Methodology to Evaluate an Undergraduate Pathoanatomy Course,** Leclair

Education 2 (1A6)

- 11:30am - 11:45pm **Variations in the Mandibular Foramen,** Al-Jerdi
- 11:45am - 12:00pm **A Study in Blue: Does Increasing Contrast of Brain Slices Improve Neuroanatomy Learning?,** Bishop
- 12:00pm - 12:15pm **X-Anatomy: The Efficacy of Extended Reality Systems in Anatomical Education,** Wolak
- 12:15pm - 12:30pm **An Interactive, Self-Directed Learning Module to Review Brachial Plexus and Associated Injuries,** Elzie

Developmental Biology 1(1A5)

- 11:30am - 11:45pm **Spatiotemporal Patterning of Krt5 and Upk3a in Renal Urothelium During Development,** Mosley
- 11:45am - 12:00pm **3D Reconstruction of the Renal Fornix During Normal Kidney Development and Pathogenesis,** Hunter
- 12:00pm - 12:15pm **Quercetin as a Novel Treatment for Developmental Abnormalities of the Kidney,** Cunanan
- 12:15pm - 12:30pm **Transcriptional Control of Epicardial Development,** Moise

Developmental Biology 2 (1A4)

- 11:30am - 11:45pm **Inflammation During Early Pregnancy Results in Impaired Placental Development and Reduced Fetal Growth in Rats,** Baines
- 11:45am - 12:00pm **Progression of Retinal Ganglion Cell Loss in Early Post-Natal AP-2 β Neural Crest Cell Knockout Mice,** Saraco
- 12:00pm - 12:15pm **Examining the Link Between Phenotypic Variation of the Skull and Variation in Development Using Two Mutant Mouse Models,** Jewlal

12:15pm - 12:30pm **Incremental Maxillomandibular Advancement: Airway Volume Changes**, Patel

Neurobiology (1A3)

11:30am - 11:45pm **Comparative Analysis of Locomotion in an Early Diverging Chameleon**, Varshney

11:45am - 12:00pm **The Vascular-Associated Microenvironment of the Reptilian Neurogenic Niche**, McDonald

12:00pm - 12:15pm **Toxicity of Atrazine in the Peripheral (Cardiac) and Central (Cerebellar) Purkinje Cells of Adult Xenopus Laevis Frog: An IP3R Study**, Asouzu Johnson

12:15pm - 12:30pm **The Role of Tyrosinase in the Time Course of Light-Induced Cone Contraction in the Goldfish Retina**, Thapa

LUNCH/POSTERS/EXHIBITORS

12:30pm - 2:30pm Bayside Café

12:45pm - 2:15pm Posters Attended

AFTERNOON SESSIONS

YOUR FUTURE IN ANATOMY, CAREER SYMPOSIUM

Ewart Angus Centre, 1A5

2:30pm - 4:00pm **Careers in Anatomy**

FACILITATOR: Alisha Fernandes, General Surgeon

PANEL: Mikaela Stives (University of Toronto, Anatomy PhD candidate), John Tran (University of Toronto, Anatomy PhD candidate), Madeline Norris (University of Western Ontario, Clinical Anatomy), Cassie Cetlin (MSc. BMC, Coactuate)

4:00pm - 4:15pm Coffee Break 1A5
Poster Take-down

4:15pm - 5:00pm **Networking and Q & A**
Coffee Break continued

CONCURRENT PROCEEDINGS - WORKSHOPS

Education Program in Anatomy Teaching Laboratory, 1R1

2:30pm - 3:30pm **Simple Tools for Assessing Work Place Injury and Sports Performance (1R14)**

Facilitator: Mike Sonne

Co-Facilitator: Thomas Hawke

Reading the Bones, the Nexus of Anthropology, Forensics, and Pathology (1R17)

Facilitator: Rebecca Gilmour

Co-Facilitators: Lori D'Ortenzio, Jay Maxwell,
Tracy Prowse

Build Your Own X-Reality (1R6)

Facilitator: Bruce Wainman

Co-Facilitators: Josh Mitchell, Anthony Saraco

Condoms and Cameras: The Nexus of Student Engagement (1R18)

Facilitator: Alexander K. Ball

Co-Facilitator: Liz Jensen, Courtney Pitt

3:30pm - 4:00pm Coffee Break and Poster Take-down, Bayside Café

REPEAT OF WORKSHOPS

4:00pm - 5:00pm

TECHNICAL SYMPOSIUM (By Invitation Only)

Ewart Angus Centre

2:30pm - 3:30pm

Part 1: Oral Presentations (1A3)

2:30pm - 2:50pm

Robert Sandeski, Dalhousie University

2:50pm - 3:10pm

Gabriel Venne, McGill University

3:10pm - 3:30pm

Jasmine Rockarts, Andrew Palombella, McMaster University

3:30pm - 4:00pm

Coffee Break and Poster Take-down, Bayside Café

4:00pm - 5:00pm

Part 2: Round Table Discussions (1J9A)

5:30pm

Coat Room Closes

EVENING PROCEEDINGS

CIBC Hall, 3rd floor, McMaster University Student Centre, 1280 Main St. W.

5:15pm - 5:45pm

Awards and Closing

5:45pm - 7:00pm

Closing Reception



Light Refreshments

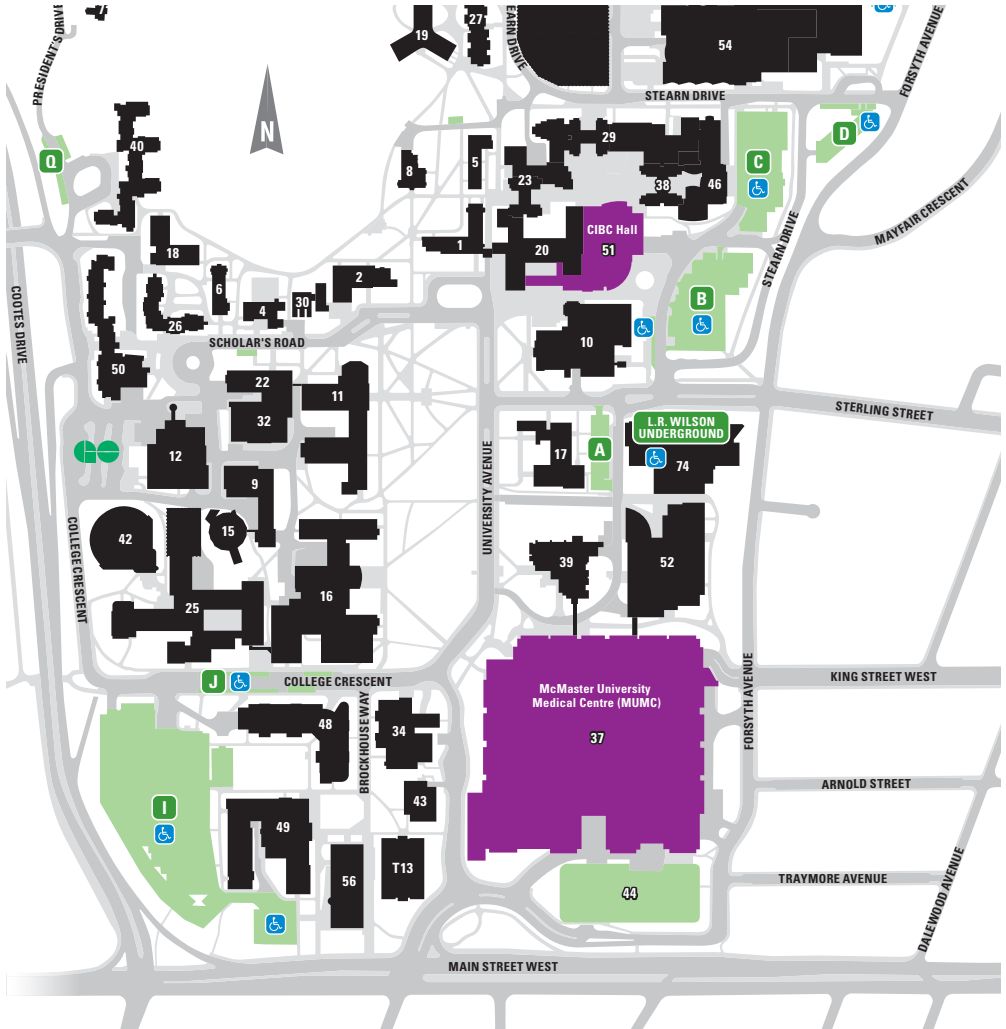
CAMPUS MAP

BUILDINGS OF NOTE

McMaster University Medical Centre (MUMC).....	37
Ewart Angus Centre (within MUMC).....	37
Education Program in Anatomy Teaching Laboratory, (within MUMC).....	37
Health Sciences Parking Garage.....	44
McMaster University Student Centre (MUSC).....	51
CIBC Hall, 3rd Floor (within MUSC).....	51

LEGEND

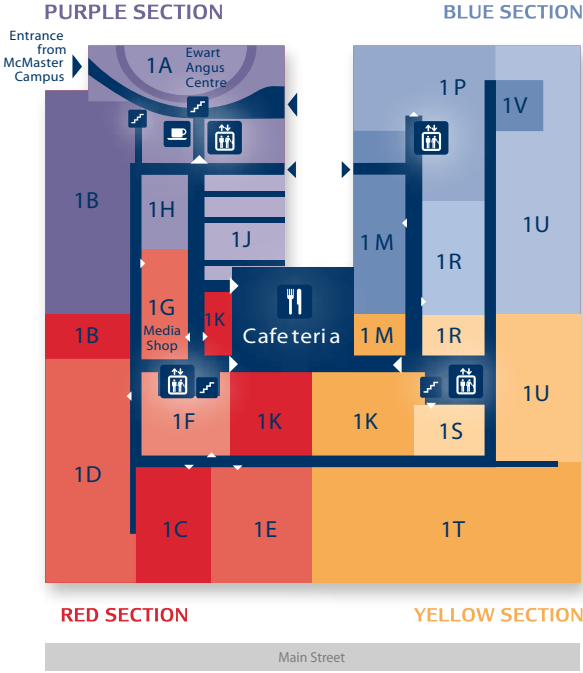
	Parking Lot Zone
	Accessible Parking
	AAA Meeting Buildings



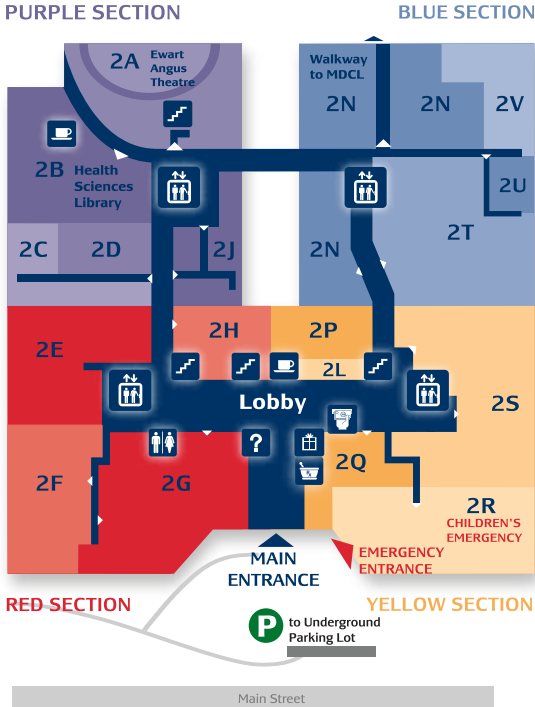
Scan this QR code with your smart phone to get walking directions

MUMC MAP

Level 1



Level 2



KEYNOTE SPEAKER BIOS



Forensic Pathology: Anatomy Goes to Court

John Fernandes MD, FRCSC, FRCPC

Hamilton Health Sciences

Dr. John Fernandes is a Professor of Pathology and Molecular Medicine, and has been a Forensic Pathologist since 2002. John is the Residency Director in Forensic Pathology for McMaster University and is the Chief of Laboratory Medicine at Hamilton Health Sciences and St Joseph's Healthcare Hamilton. He was also critical in the development and accreditation of the Forensics subspecialty for the Royal College of Physicians and Surgeons.



A Century of Virtual Reality in Anatomy Education

Bruce Wainman PhD, McMaster University

Dr. Bruce Wainman is a Professor in Pathology and Molecular Medicine and Director of the Education Program in Anatomy and Surgical Skills lab at McMaster University. His research interests include novel methods of course evaluation and the development and testing of X-reality tools for anatomy education. Bruce is also the Biological Science Coordinator for the Ontario Midwifery Consortium and an Adjunct Professor in the Departments of Obstetrics and Gynecology and Surgery at McMaster.



Adapting to Change in Anatomy Education: The North American Perspective

Jenn McBride, PhD

Cleveland Clinic, Lerner College of Medicine

Dr. Jennifer M. McBride is an Associate Professor of surgery at the Cleveland Clinic Lerner College of Medicine (CCLCM). She serves as Director of the Histology Thread, Director of Virtual Anatomy Education and Course Director for Musculoskeletal Sciences 1. In addition to these roles, Dr. McBride participates in the planning and teaching of years 1 and 2 anatomy, histology and neuroanatomy sessions. She serves as a member of the College Admissions and Screening Committee and is Associate Director of the Cleveland Clinic Body Donation Program. Her research interests include innovations in medical education, retention of learning and clinically based anatomical studies. Currently, she serves as a Board Member for the American Association of Anatomists.



Striking-Out Injury: Biomechanics Based Approaches for Body-Region Specific Risk Assessment in Work and Sport

Mike Sonne, PhD

MyAbilities Technologies

Dr. Mike Sonne received his PhD in Biomechanics in 2014 from McMaster University. There, the focus of his research was on the assessment and prevention of muscle fatigue and musculoskeletal injury in workplaces. Since that time, he has applied the findings from the field of ergonomics to the baseball world. Mike currently serves as the Vice President of Innovations and Research for MyAbilities - a health care technology company using AI video analysis to identify ergonomics risks in the workplace. In 2016, his paper on the implications of Pitch Clock implementation was published in the Journal of Sports Sciences, and received national media attention. Mike is currently an Adjunct Professor in the Faculty of Applied Health Sciences at Brock University, and he writes about the ergonomics of pitching for The Athletic.

CONCURRENT PRESENTATIONS OUTLINES

CONCURRENT WORKSHOPS

Biomechanics: Cool Tools for Assessing Work Place Injury and Sports Performance

FACILITATOR: Mike Sonne

CO-FACILITATOR: Thomas Hawke

This workshop will demonstrate different methods for assessing kinematics in workplaces and sporting arenas. The goals of this workshop are to learn about methods in both occupational and sports biomechanics for assessing kinematics, injury risk, and performance.

Participants will perform simulated work tasks, and throw a baseball into a net. Using both OHCOW's ergotools, and the Brock University Pitching mechanics tool, participants will calculate risks of injury and muscle fatigue. If you're interested in methods for assessing how people move using minimum equipment - this workshop is for you! Wear comfortable clothing, and bring a cell phone or tablet that you can record video on.

Reading the Bones, the Nexus of Anthropology, Forensics, and Pathology

FACILITATOR: Rebecca Gilmour

CO-FACILITATORS: Lori D'Ortenzio, Jay Maxwell, Tracy Prowse

Bones tell tales! Skeletons preserve a wealth of information about our habitual activities, pathological conditions, and even our identities. Biological anthropologists use this osteological evidence to improve insight into human origins and evolution (palaeoanthropologists), reconstruct the physical experiences of past people from archaeological sites (bioarchaeologists), and support personal identifications in legal contexts (forensic anthropologists).

In this workshop, you will use your anatomical expertise to scrutinize skeletal remains through the eyes of a bioanthropologist. After introducing you to key osteological methods used by biological anthropologists, we will challenge you to estimate sex, age, and pathology as it is preserved only in the bones. As these techniques form a crucial part of the forensic anthropologist's toolkit, through our exploration of these methods, we will learn how to reveal insight into who a person was, their lived experiences, and the circumstances surrounding their death.

Build Your Own X-Reality

FACILITATOR: Bruce Wainman

CO-FACILITATORS: Josh Mitchell, Anthony Saraco

This workshop will focus on the tools and techniques required to develop learning material in extended reality and showcase mixed reality, augmented reality and virtual reality applications developed and tested in the Education Program in Anatomy at McMaster.

Condoms and Cameras: The Nexus of Student Engagement

FACILITATOR: Alexander K. Ball

CO-FACILITATORS: Liz Jensen, Courtney Pitt

The MD Program at McMaster was founded on the principles of problem-based (PBL), student-centered learning. Originally, anatomy learning objectives were extracted from tutorial problems by the students with minimal intervention by their tutor. A recent curriculum re-design from PBL to case-based learning (COMPASS curriculum) has placed more responsibility on the program to define anatomy learning objectives. Small group anatomy teaching sessions dealing with student initiated objectives were replaced with large group anatomy labs. A flipped classroom approach was adopted where on-line resources were provided to the students prior to the lab, and the development of a self-directed lab manual to guide them in the study of selected lab specimens. Several end-of-lab exercises were developed to enhance the student lab experience. These exercises adhered to the principles of student-centered, small group learning, which included: repetition, clinical relevance, peer feedback, and integration of anatomy with clinical skills and radiology. This workshop will allow participants to experience some of these exercises including: 1. Respiratory - Use of the Pentax EG 290 gastroscope to examine the upper airway, 2. Use of a cadaver to perform an emergency tracheotomy and comparison with a tracheostomy, 3. Gastrointestinal - Use of fluid filled condoms hidden in peritoneal pouches to model the removal of abscess fluid based on their location seen in MRI images, 4. Reproductive - A female reproductive system costume and accessories to model relationships of pelvic organs and peritoneal reflections. Feedback and ideas for additional interactive exercises are welcome!

TECHNICAL SYMPOSIUM

Advances in Specimen Preparation and Display

The technical aspect of anatomy has historically been very siloed. We believe that anatomy would be better if ideas, procedures, and protocols were shared.

Part 1: Oral Presentations

Robert Sandeski, Dalhousie University

He will focus on a novel soft-embalming solution they created, cadaveric latex perfusions, and the preservation of lung tissue.

Gabriel Venne, McGill University

He will discuss soft-embalming methods, their potential applications, and some qualitative and quantitative comparisons.

Andrew Palombella and Jasmine Rockarts, McMaster University

They will focus on soft-embalming methods, their potential applications, and some qualitative and quantitative comparisons.

Part 2: Roundtable Discussion

FACILITATORS: Andrew Palombella and Jasmine Rockarts

We would like to foster an open and inclusive environment to discuss topics we believe are pertinent to those individuals working on the technical side of anatomy. The following are just a few topics we may touch upon:

- Embalming troubleshooting
- Post-embalming procedures/injections
- Mental health initiatives

POSTERS

Poster # First Author/Abstract title

Anatomy Education

- 1 Maureen Schaefer (Michigan State University)
Knock-out Anatomy: Using Martial Arts as a Platform to Discuss Human Anatomy with the General Public
- 2 Michael Hortsch (University of Michigan Medical School)
When Students Choose E-learning Resources - The Importance of Ease and Convenience
- 3 Madeleine Norris (University of Western Ontario)
Assessment of Third-Year Medical Students' Basic Science Knowledge vs. Clerkship Directors' Expectations
- 4 Christina Chopra (California University)
Surgery Interest Group for Residency Preparation: A Proposed Model
- 5 Ethan Bozos (University of Western Ontario)
Professionalism & Clinical Anatomy
- 6 Kristina Lisk (Humber College)
Cognitive Integration of Basic Science and its Effect on Diagnostic Reasoning in Allied Health Students
- 7 Stuart Inglis (University at Buffalo)
The Virtual Anatomy Lab: A Pilot Project
- 8 James P. Faul (University of Toronto)
Research Design for the Evaluation of Two-Stage Collaborative Testing on Student Recall of Anatomical Material
- 9 Ron Easteal (Queen's University)
A Master of Science in Anatomical Education
- 10 Jasmine Rockarts (McMaster University)
Anatomy in Medical Education: A Canadian Context
- 11 John Kelly (University of Western Ontario)
Using Educational Escape Room Activities to Teach Teamwork Skills and Build Effective Teams
- 12 Yasmeen Mezil (McMaster University)
Streamlining Knowledge Translation at the PhD: The Development of an Animation Video on Exercise and the Muscle-Bone Unit in Children

- 13 Ilana Bayer (McMaster University)
The Evolution of MacAnatomy: A Portal to Anytime, Anyplace Anatomic Education
- 14 Kaesavan Selvakumaran (McMaster University)
Attitudes and Perceptions of Health Care Students in an Inter-Professional Cadaveric Dissection Elective
- 15 Alexandra Hildebrand (McMaster University)
Size Matters? Evaluating the Effect of Size on Anatomy Learning
- 16 Angela Nguyen (McMaster University)
Learning through the Eyes of the Beholder: A Study Design for Using Eye Tracking to Understand How Novices Learn Neuroanatomy
- 17 Jaskaran Gill (McMaster University)
Does Familiarization with Virtual Reality Improve Learning in a Virtual Reality Environment?
- 18 Katrina Hass (McMaster University)
An Open Education Physical Model for Teaching Female Pelvic Anatomy
- 19 Akanksha Aggarwal (McMaster University)
Is Dissection in Virtual Reality an Effective Learning Tool?
- 20 Josh Mitchell (McMaster University)
Raiders of the Lost Atlas: Reviving the Bassett Collection Using Google Cardboard
- 21 Nathan Ozobia (University Medical Center of Southern NV)
The Hepatocystic Quadrangle of Ozobia
- 22 Maxwell Ng (McMaster University)
A Virtual Reality Brachial Plexus on a Smartphone: Bridging the Gap Between Study and Student
- 23 Oleksiy Zaika (University of Western Ontario)
Expert Perception of the Importance, Error Frequency and Severity of Procedural Steps in Cerebral Angiography: A Delphi Study

Cell and Molecular Biology

- 24 Mark Rzepka (McMaster University)
Investigating Anti-fibrotic Inhibitors on Trabecular Meshwork Cells in Open Angle Glaucoma

- 25 Khadija Ahmed (University of Western Ontario)
Regulation of Endoplasmic Reticulum Stress Sensitivity by TORC1 Signalling in Yeast
- 26 Mariyan Jeyarajah (University of Western Ontario)
Syndecan-4 Regulates Extravillous Trophoblast Migration by Coordinating Protein Kinase C Activation
- 27 Chidambra Halari (University of Western Ontario)
Decorin Production During Decidualization of Human Endometrial Stromal Cells
- 28 Maram Albakri (University of Western Ontario)
Uncovering the Role of OVOL1 in Placental Stem Cell Differentiating Using Sac Charomyces Cerevisiae
- 29 Alyssa Moore (University of Western Ontario)
Effects of Altered Connexin-43 Function on Mandibular Morphology in Newborn Mice

Developmental Biology/Embryology

- 30 Monica Akula (McMaster University)
AP-2B Transcription Factor is Required for Normal Development of the Anterior Segment of the Eye
- 31 Patricia Kitala (McMaster University)
Characterization of the Role of Shroom3 in Nephron Formation

Gross Anatomy

- 32 Sameer Khan (NYIT College of Osteopathic Medicine)
Clinical Implications for Variations Observed of the Internal Iliac artery
- 33 Marco Ciavaglia (University of Detroit Mercy)
Morphology of the Semispinalis Capitis Muscle in the Neck

Histology

- 34 Kathy Jacyniak (University of Guelph)
A Preliminary Investigation of Cardiac Cell Proliferation Following a Puncture Injury to the Heart of the Leopard Gecko (Eublepharis macularius)
- 35 Edward Czamecki (Oakland University)
Palmaris Longus: Evolutionarily Vestigial Muscle or Proprioceptive Organ?
- 36 Samera Nademi (McMaster University)
High Salt Diet Induces Renal Lesions and Oxidative Stress in Wistar Kyoto Rats

Imaging

- 37 Vian Mohialdin (McMaster University)
An Overview of the First Year Undergraduate Medical Students Feedback on the Point of Care Ultrasound Curriculum
- 38 Akmal Shahzad (University of Western Ontario)
Impact of Esophageal Protective Devices on the Anatomy of the Posterior Mediastinum

Neurobiology

- 39 Emily Gilbert (University of Toronto)
Activating Endogenous Neural Precursor Cells in the Mammalian Spinal Cord with Metformin
- 40 Aja Hogan-Cann (University of Western Ontario)
In Vivo Modulation of Microglial Activity Using Chemogenetics
- 41 Omela Kljakic (University of Western Ontario)
Manipulating Acetylcholine and Glutamate Secreted by Cholinergic Interneurons to Investigate their Roles in Behaviour

Paleontology

- 42 M. Aleksander Wysocki (University at Buffalo)
The Convergent Evolution of a Sabertooth Upper Canine Replacement Mechanism

Physiology

- 43 Jennifer Williams (McMaster University)
Flow-Mediated Dilation Stimulated by Handgrip Exercise is Determined by the Magnitude, Not the Rate, of Increase in Shear Stress

Rehabilitation Sciences and Biomechanics

- 44 Zachary Pierce (New York Institute of Technology College of Osteopathic Medicine)
Axial Kinematics and Vertebral Morphology in Jackson's Chameleon

NOTES

NOTES

Annual Meeting at Experimental Biology 2019

APRIL 6-9, 2019 • ORLANDO, FL

Deadline Dates

Abstract Submission: November 14, 2018

Travel Award: November 14, 2018

Early Registration: February 5, 2019

Sessions topics include:

Cardiovascular Biology

Cell Biology

Developmental Biology/Morphology

Education & Teaching

Evolution and Anthropology

Neurobiology

Professional Development

Stem Cell/Regeneration

Tissue Engineering

Keynote Speaker

Saturday, April 6

Janet Rossant, SickKids Research Institute
and University of Toronto

Plenary Speakers

Sunday, April 7

Nenad Bursac, Duke University

Stem Cell Engineering for
Striated Muscle Modeling and Repair

Monday, April 8

Danelle Devenport, Princeton University

Patterning Morphogenesis via the
Planar Cell Polarity Pathway

Mini-Meeting

Cardiovascular • Neuroscience

Register now and submit an abstract by November 14th

You can do it all at www.anatomy.org/annual-meeting-2019



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