

THE FACULTY OF GRADUATE STUDIES PRESENTS

# THREE MINUTE THESIS FINAL



WATCH LIVE ONLINE – JUNE 3



## MESSAGE FROM THE PRESIDENT

Thank you for joining us for our eighth annual Three Minute Thesis (3MT®) competition. This year's competition will look a little different than in years past, but we are happy that we can still give these outstanding graduate students the opportunity to showcase their valuable research.

Tonight, 12 graduate students will show you what happens when knowledge, passion and creativity collide.

At the University of Manitoba, we recognize the key role graduate students play in generating the energy and ideas that drive innovation. Their imaginations ignite our research engine and spark action that has a life-changing impact on our world.

The University of Manitoba's Three Minute Thesis (3MT®) competition challenges and celebrates our talented graduate students – this year, 33 students competed in three heats leading up to this final event.

Now the finalists from this university-wide, cross-discipline challenge are prepared to share their exciting research with all of us. Using only a single slide, each competitor has just three minutes to explain their research and its significance.

Thank you to every student who participated, from the initial applicants to tonight's finalists. The time and effort you have invested will pay off tremendously as you prepare to share your research with the world.

A competition such as this requires months of preparation from faculty, staff and students. On behalf of the University, thank you to everyone who contributed to the success of this event, particularly the Faculty of Graduate Studies.

Tonight's presentations will feature graduate students from diverse areas of study and address a number of issues that impact our community. They will surprise you with their ingenuity. They will inspire you with their passion. They will show you how an idea can change everything.



**DAVID T. BARNARD, O.M., PH.D., FRSC**  
*President and Vice-Chancellor*

## EMCEE

### DR. LOUISE SIMARD

ACTING DEAN, FACULTY OF GRADUATE STUDIES

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## PRIZES

DR. ARCHIE MCNICOL PRIZE FOR FIRST PLACE **\$2,500**

UNIVERSITY OF MANITOBA RETIREES ASSOCIATION  
PRIZE FOR SECOND PLACE **\$1,250**

THIRD PLACE **\$750**

PEOPLE'S CHOICE **\$250**

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## 2020 CHALLENGERS

### HEAT 1

Anna Mikhailitchenko, Geetika Bassi, Kaye Quizon, Magnolia Pretell, Kathy Yerex, Toby Le, Alyse Sukovieff, Jacqueline Hay, Roshan Parvarchian, Landon Falk, Zahra Sepehri, Chetan Patil

### HEAT 2

Jamie Sookhoo, Elinor Shvartsman, Xiang Li, Nicole Brunton, Jamie Dearnley, Sarah Bohunicky, Jessica Nicksy, Odile Huynh, Parvin Berenjkar, Dmitry Vrublevskiy, Shifa Mohideen, Michael Shepit

### HEAT 3

Nanxi Huang, Brittany Semenchuk, Cheli Kambaran, Tyson Reimer, Tasheney Francis, Kevin Sharma, Kasey Morgan, Alana Signore, Jessica Piper, Caitlin Thomas, Shanelle Gingras, Zoya Buckmire

# JUDGES

## JANINE SHERMAN

**Deputy Secretary to the Cabinet (Senior Personnel and Public Service Renewal)**

Janine Sherman [BA/83, MA/86] was appointed Deputy Secretary to the Cabinet (Senior Personnel and Public Service Renewal) at the Privy Council Office in 2016 after being Assistant Secretary to the Cabinet for Senior Personnel. She provides advice to the Prime Minister and the Clerk of the Privy Council on governor-in-council appointments, ensuring the Public Service has the leadership to function as a high performing organization of over 280,000 employees. Her role includes supporting the Clerk as head of the Public Service and leading the Beyond2020 renewal framework to help ensure the Public Service is able to continuously adapt and effectively serve the government and Canadians.

## JESSICA DUMAS

**President of Jessica Dumas Coaching and Training**

Jessica Dumas is a Certified Life Coach, business coach and speaker coach, who is passionate about helping women and entrepreneurs live more confidently and independently. Since 2013, Jessica has been enthusiastic about personal growth and recognizes how our own personal growth stimulates the impact on our community. She is a sought-after speaker in the areas of women in business, leadership success and Indigenous inclusion, as well as an expert emcee, serving several conferences and evening galas. Jessica is an award-winning professional and avid volunteer. She is currently serving as the first Indigenous female to Chair the Winnipeg Chamber of Commerce. She is a powerful role model and advocate for self-love and social justice, by turning a tragic family experience, the shocking and sudden loss of her brother in 2005, into an opportunity to lead others to overcome challenge and hardship by developing personal strengths, vision and self-confidence and demonstrating her own story of reconciliation.

## JOHANNA HURME

**Architect and co-founder of 5468796 Architecture**

Johanna Hurme is an architect and co-founder of Winnipeg-based 5468796 Architecture. The firm has achieved national and international recognition and their work has been published in over 200 books and publications. Johanna has spearheaded a number of design-related events and programs, including Table for 12 + 1200, Chair Your Idea, Design Quarter Winnipeg and Walk-Winnipeg. She is past Chair of the Winnipeg Chamber of Commerce and a member of the International Council of the New-York based Van Alen Institute. An alumni of University of Manitoba [BEnvD/99, MArch/02], Johanna also lectures and teaches extensively. Most recently she was named visiting Professor-Morgenstern Chair at the College of Architecture, IIT, Chicago.

## PETER WHEATLEY

**Director of Sales Operations, StandardAero**

Peter Wheatley [BSc(ME)/07, ExtEd/10, MBA/15] is a young professional who has found a balance between academic excellence, family and real world business acumen. He has 15 years of experience in the aerospace industry, having initially joined StandardAero's Winnipeg team as a summer intern in 2004 while studying for his BSc in Mechanical Engineering at the University of Manitoba. He graduated in 2007, after completing the five-year program one year early. He rose through the ranks, holding positions such as production engineer, quality manager, senior service engineer, director of engineering, and director of customer programs. He was appointed director of sales operations for StandardAero's \$2 billion Airlines & Fleets team in 2018. He manages the global sales and operations planning process for the division's transactional sales team and serving on the division's sales leadership team. In June 2019, he was appointed chair of the University of Manitoba Alumni Association and was named a Top 20 Under 40 in Canadian aviation by Wings magazine. Peter has successfully led large teams of professionals in improving key metrics, team unity and morale. Sports have played a key part in his early success, teaching him the values of leadership, teamwork, commitment and passion. Some of his highlights include playing junior hockey for both the Winnipeg South Blues and Charleswood Hawks. Peter strongly believes in lifelong learning and views this opportunity as a chance to help others.

## FINALISTS



### SARAH BOHUNICKY

KINESIOLOGY AND RECREATION MANAGEMENT (MASTER'S)

Advisor: Dr. Trisha Scribbans

#### **Shoulder pain: Can we reduce the risk of it in only 4-minutes?**

A Certified Athletic Therapist, Sarah hopes her future career will involve research and education in musculoskeletal rehabilitation, helping to address the gaps between research and practice so that therapists are able to provide the best evidence-based treatment for their patients. Sarah has a Bachelor of Kinesiology with Specialization in Athletic Therapy from the University of Manitoba, and was the recipient of the Massage Therapy Association of Manitoba (MTAM) Research Award in 2019.



### CHETAN PATIL

PHARMACOLOGY AND THERAPEUTICS (DOCTORAL)

Advisor: Dr. Michael Jackson

#### **Shutting the door on the progression of Alzheimer's disease**

Following undergraduate studies in life sciences and biochemistry at the University of Mumbai, Chetan focuses on helping the community through research on Alzheimer's disease. He has received several prestigious scholarships and awards, including Research Manitoba and the McCrorie West Family Fellowship for Alzheimer Research. Chetan hopes to pursue a career in therapeutic intervention for incurable diseases.



### JAMIE DEARNLEY

CHEMISTRY (MASTER'S)

Advisor: Dr. Gregg Tomy

#### **Using fish bile to assess oil spill clean-up techniques on freshwater lakes**

A graduate from the University of British Columbia, Jamie says he didn't choose his research topic, it chose him. When invited to be part of a study spilling oil into an actual lake, Jamie notes: "I couldn't help but say yes!" He spends his spare time playing UM Herd Rugby, and when asked about his most important achievements, he first listed his 5<sup>th</sup> place finish in the nationwide Sportsnet Fantasy Hockey Pool in 2014. Jamie says he will either end up an accountant like his parents, or working in a lab somewhere.



### JESSICA NICKSY

SOIL SCIENCE (MASTER'S)

Advisor: Dr. Martin Entz and Dr. Brian Amiro

#### **Closing the loop on urban waste: Anthronutrients for organic crops**

After completing an undergraduate degree in geological engineering, Jessica realized her passion was for what grows in the soil rather than its engineering properties. Jessica's interest in nutrient cycling came from both volunteering on a biodynamic farm, and from running her own vegetable market garden. Her research focuses on ways to keep nutrients in our food system where they are beneficial, rather than releasing them to the environment where they can cause harm. Jessica won an oral presentation competition at the Manitoba Soil Science Society.



### TOBY LE

MEDICAL MICROBIOLOGY AND INFECTIOUS DISEASES (MASTER'S)

Advisor: Dr. Keith Fowke

#### **Understanding the links between DMPA and HIV risk**

Toby has a Bachelor of Medical Science from the University of Western Ontario. Recently, Toby traveled to Kenya where he visited a community of sex workers that his lab has worked with for the past 35 years to study immunity to HIV. He wants to pursue a career in international infectious disease research, working with impoverished communities to address infections and diseases and empower vulnerable populations. When he's not working on his research, Toby volunteers with non-profit organizations that aim to empower vulnerable populations around the world through sustainable programming.



### TYSON REIMER

PHYSICS AND ASTRONOMY (MASTER'S)

Advisor: Dr. Stephen Pistorius

#### **Detecting breast cancer with microwaves**

Tyson chose to study medical physics because it provided an opportunity to apply the concepts he learned in physics to medicine, particularly in developing safer and more accurate ways of diagnosing cancer and directly benefiting the wider community. Tyson has a BSc in Medical and Biological Physics from the University of Manitoba, and received the NSERC CGS-M scholarship. He hopes to contribute meaningfully to the field of medical physics, and to help train and educate students.

## FINALISTS



### LANDON FALK

PHYSIOLOGY AND PATHOPHYSIOLOGY (MASTER'S)

Advisor: Dr. Richard Keijzer

#### **The role of the aryl hydrocarbon receptor in the pathogenesis of congenital diaphragmatic hernia**

Landon has a strong interest in working with children, and assists in research at the Children's Hospital Research Institute of Manitoba. She recently received first place for the best research presentation at the Canadian Association of Pediatric Surgeons Annual Meeting and the Dean of Graduate Studies Poster Award at Canadian Student Health Research Forum. Landon has a BSc from the University of Manitoba, and in her spare time she volunteers as a swimming instructor for children with special needs and does respite work.



### SHANELLE GINGRAS

MEDICAL MICROBIOLOGY AND INFECTIOUS DISEASES (DOCTORAL)

Advisor: Dr. Paul McLaren

#### **Safer surfing: the impact of genetics on inflammation and HIV susceptibility**

Shanelle is passionate to learn about pathogens that cause disease and wants to teach or mentor in her field. She created the Medical Microbiology and Infectious Diseases (MMID) Community Outreach Initiative that connects graduate students with volunteering opportunities, and is the MMID Student Council President. Shanelle was chosen to participate in the President's Student Leadership Program offered by the James W. Burns Leadership Institute, located in the Asper School of Business, which builds leadership skills through interdisciplinary workshops and collaborative community projects.



### XIANG LI

FOOD SCIENCE (MASTER'S)

Advisor: Dr. Filiz Koksel

#### **Eating puffed snacks without feeling guilty**

Xiang believes that blends of cereal and pulse flours have great potential to be the new, healthy, fiber- and protein-rich ingredient of puffed snacks. She's a 2+2 student, having done 2 years of applied chemistry at Nanjing University of Finance and Economics in China, and 2 more years at the University of Manitoba in food science. She received a Manitoba Graduate Scholarship in 2018, and plans to continue her education with a PhD in a food-related field.



### ANNA MIKHAILITCHENKO

BIOLOGICAL SCIENCES (MASTER'S)

Advisor: Dr. Gail K. Davoren

#### **Patterns in humpback whale non-song calls across time on their Newfoundland feeding grounds**

Anna has always loved science and been fascinated by the world around her from a young age. Originally, she studied bat acoustic patterns but made a "big" switch and is now studying a much larger creature! Anna received a BSc from the University of Toronto, has a NSERC grant and fellowship at UM, and volunteers her time as an executive member for the UM Volleyball club.



### ALANA SIGNORE

KINESIOLOGY AND RECREATION MANAGEMENT (MASTER'S)

Advisor: Dr. Shaelyn Strachan

#### **Teaching self-compassion to people with prediabetes**

Alana has a passion for health and exercise research and has always been interested in the ways we can live longer and healthier through physical activity. She's a research coordinator and assistant in the Health & Exercise Psychology Lab. She has a Bachelor of Arts in psychology, and was the recipient of a University of Manitoba Graduate Fellowship in 2019.



### ZOYA BUCKMIRE

NATURAL RESOURCES INSTITUTE (MASTER'S)

Advisor: Dr. Nicola Koper

#### **Understanding mangrove zonation: the key to successful restoration**

From the small island of Grenada, Zoya saw firsthand how important mangrove ecosystems are for protecting coastlines. She wants to make a tangible contribution to the understanding of these ecosystems, and improve actions taken to protect and restore them. Her undergraduate degree is in Marine, Wildlife, and Conservation Biology, which she studied at St. George's University in Grenada.



## DR. ARCHIE McNICOL PRIZE

Dr. Archibald (Archie) McNicol, Associate Dean in the faculty of Graduate Studies, passed away suddenly in December 2016. Dr. McNicol earned a BSc (Hons) and a PhD in pharmacology from the University of Glasgow and had been with the University of Manitoba since 1993 when he joined the department of oral biology in what was then the Faculty of Dentistry. He taught in the College of Dentistry, the School of Dental Hygiene and the College of Rehabilitation Sciences within the Rady Faculty of Health Sciences. His globally-recognized research focused on blood-clotting mechanisms and the function and dysfunction of human platelets.

Dr. McNicol was a gifted teacher and researcher who was an enthusiastic supporter of graduate students and of the Three Minute Thesis competition. To honour his legacy, the Dr. Archie McNicol Prize is awarded annually to the first place winner of the University of Manitoba's Three Minute Thesis Competition.



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