

Congratulations...



GRADUATE STUDENT DEFENSES

Denny Chin, PhD

The Role of Coagulase-Negative Staphylococcal Secreted Products on Staphylococcus aureus and Staphylococcus lugdunensis Infections

Supervisor: Dr. David Heinrichs

Jacklyn Hurst, PhD

Investigation of Streptococcus pyogenes hyaluronic acid capsule and M protein during acute nasopharyngeal and skin infections, as vaccine candidates, and possible drivers of heart dysfunction

Supervisor: Dr. John McCormick

GRADUATE STUDENT CANDIDACY EXAMS

Lei Qi

Supervisor: Dr. Eric Arts

Lane Buchanan

Supervisor: Dr. Jessica Prodger

Andris Evans

Supervisor: Dr. Joe Mymryk

Gerrit Stuivenberg

Supervisor: Drs. Jeremy Burton and Gregor Reid

Shabitha Arumugurajah

Supervisor: Dr. Lakshman Gunaratnam

Mo'ayyad Nassar

Supervisor: Drs. Jeremy Burton and Donna Goldhawk

1-YEAR MSC STUDENT GRADUATES

Clara Sun (Dr. Dekaban)

Minhyuk Mun (Dr. Heit)

Kasia Wodz (Dr. Heit)

Aleena Ghafoor (Dr. Arts)

Ryan Ho (Dr. Arts)

4th YEAR HONOURS THESIS STUDENTS

Barr Lab: Nicole Jasmine

Friesen, Jacqueline
Lebiadowski-Parish

Burton Lab: Paul Akouris

Burton and Barra Labs:
Andrew Keith Bowman

Creuzenet Lab: Jeena Khan,
Brian Yang

Dekaban Lab: Zi Xuan Chen,
Kaitlin Lees

DeKoter Lab: Heidi Rysan,
Joshua SW Yi

Dikeakos Lab: Carolyn Rose
Prins, Dana Caroline Spencer

Fruci Lab: Faye Mao

Gunaratnam Lab: Najat Said
El-Farra

Haeryfar Lab: Zi Xin Gao,
Imran Amaan Rhemtulla,
Nicole Ilayda Wang

Heinrichs Lab: Colette Benko,
Michelle Kan-Hodgson, Ainslie
Claire Shouldice, Catherine
Chen Sun

Heit Lab: Catherine Yeeun
Jung

Kerfoot Lab: Kevin Kaichao
Zhang

Kim Lab: Georgia Roy, Justin
Wen Jie Zhou

McCormick Lab: Lara Fouad
Bawadi, Carla Sorana Maduta,
Bonnie Yiu

McGavin Lab: Alexandria
Bartlett, Romanch Shah

Mymryk Lab: Luke DiMambro

Prodger Lab: Victor Hoe-Kin
Lam, Jeff Lin, Reeya Parmar

Ronald Lab: Victor
Velehorschi

Sener Lab: Lucas Nelson
Penney

Troyer Lab: Samuel Kamal,
Pierce Bryan Roger Nelson

Zheng Lab: Serina Chahal

WELCOME NEW GRADUATE STUDENTS!

Winter of 2022

Inbar Habaz (Dr. Haeryfar)
Akanksha Thukral (Dr. McGavin)

WELCOME!

MNI Social Committee Events



Intramural Ultimate Frisbee
Wednesday nights 6:30-8:30pm

Summer of 2022

Polycronis Akouris (Dr. Burton)
Omar Almomani (Dr. Prodger)
Andrew Bowman (Dr. Burton/Dr. Barra)
Serina Chahal (Dr. Zheng)
Jason Chen (Dr. Dekaban)
Nicole Friesen (Dr. Barr)
Avery Gaudreau (Dr. Heinrichs)
Carla Maduta (Dr. McCormick)
Heidi Rysan (Dr. DeKoter)
Victor Velehorschi (Dr. Haeryfar/Dr. Ronald)
Brian Yang (Dr. Creuzenet)
Kevin Zhang (Dr. Kerfoot)



Let's Talk Science is looking for volunteers this September for the 2022-2023 school year. If you are interested or want more info, please contact letstalkscienceuwo@gmail.com

Mark your calendars!

The Infection and Immunity Research Forum (IIRF) is coming this Fall on November 4th 2022! IIRF will be featuring Dr. Dawn Bowdish as the keynote speaker

Keep an eye out for emails, twitter or Instagram updates on registration and abstract submission ([Twitter](#), [Instagram](#))

If you are interested in being part of the IIRF committee, please contact iirf@schulich.uwo.ca

MNI Social Committee Contact Information:

Please feel free to contact Mack with questions or suggestions for social events! The other graduate student representatives can be found on the [departmental website](#). Mack (mdodge@uwo.ca)

The deadline for the **Dean's Research Scholarship** is June 24th, 2022. Remember to seek references early! This competition is restricted to students co-supervised by a clinician and a basic scientist ([view link](#)):



Upcoming Meetings!

CSV

June 5-7
Edmonton,
Alberta

CSI

June 17-20
Halifax,
Nova Scotia
(or virtual)

CSM

June 26-29
Guelph,
Ontario

ASV

July 15-20
Madison,
Wisconsin

In Memory of Dr. R.G.E. Murray



Dr. Murray joined the University of Western Ontario in 1945 and was head of the department from 1949 to 1974. He was chairman of the Founding Committee and the Founding President for the Canadian Society of Microbiologists, the founding editor of the Canadian Journal of Microbiology, and was president of the American Society for Microbiology. In 1999, the department initiated the annual R.G.E. Murray Lectureship and named the departmental seminar series as the R.G.E. Murray Seminar Series. Microbiology and Immunology scholarships and seminar awards were established in his name. Dr. Murray continues to be an inspiration to students and faculty members. He will be missed. His memoriam and details for his celebration of life can be found [here](#).

MICROIMM NEWS

Congratulations...

Congratulations to faculty members from our department who have been recognized for their excellence and achievements.



Dr. Jimmy Dikeakos
2022 Faculty Scholar



Dr. Lakshman Gunaratnam
2022 Dean's Award of Excellence



Dr. Aleks Leligdowicz
2022 Wolfe-Western
Fellowship At-Large



Dr. Gregor Reid
Dr. Rogers Prize in Excellence
for Complementary and
Alternative Medicine.

Welcome to the Department

A warm welcome to two new members of our department. **Dr. Veronica Guariglia**, who has just completed a PDF with Dr. Heinrichs, joins us as an Assistant Professor and our newest Educator. Dr. Guariglia's research interests focus on understanding how microbial pathogens interact with their environment. **Dr. Jennifer Guthrie** has also joined our department as an Assistant Professor. Dr. Guthrie's research combines genomics, computational biology and microbiology with the goal of developing and applying bioinformatics and epidemiological methods to interpret complex pathogen data.

In The News

Dr. Jennifer Guthrie

Featured in Discover Magazine detailing a study she led investigating SARS-CoV-2 in white-tailed deer in Ontario ([view link](#))

Dr. Mansour Haeryfar

Featured in a BBC Future article where he discusses immune amnesia ([view link](#))

Dr. Art Poon

Featured in a National Post article discussing what we know about sub-lineages of the Delta variant ([view link](#))

MICROIMM NEWS

Alumni News

Matthew Miller (PhD 2011, Mymryk Lab) an Associate Professor at McMaster University, was awarded a 2022 Alumni of Distinction Award from the Schulich School of Medicine and Dentistry

Ryan Chanyi (PhD 2014, Koval Lab) was awarded a Science New Zealand award for 2021

Faizah Alotaibi (PhD 2020, Koropatnick Lab) is now an Assistant Professor at the King Said bin Abdulaziz University for Health Sciences

Jessica Sheldon (PhD 2015, Heinrichs Lab) is now an Assistant Professor at the University of Saskatchewan for Biochemistry, Microbiology & Immunology

DEPARTMENTAL FUNDING

Student Awards

- Stephen D. Poland Award John A. Thomas Award RGE Murray Graduate Seminar Awards
- **Brendan Daisley (Reid)** ➤ **Denny Chin (Heinrichs)** ➤ **Denny Chin (Heinrichs, PhD)**
➤ **Alex Lac (Heit, MSc)**

Grant Competition Success

- ❖ **Dr. Jessica Prodger (PI)**
Neovaginal health for transfeminine people: the microbiome, inflammation, and post-vaginoplasty outcomes
(CIHR, \$873 815, 5-year)
- ❖ **Dr. David Heinrichs (PI)**
Interactions between coagulase -negative staphylococci and the host
(NSERC, \$240,000, 5-year)
- ❖ **Dr. Jeremy Burton (PI)**
Critical cross feeding mechanisms of microbial communities in the gut: menaquinone production and bacterial bioenergetics
(NSERC, \$149,705, 5-year)
- ❖ **Dr. Rodney DeKoter (PI)**
Biological role of the lineage-determining transcription factor Spi-C in B cells
(NSERC, \$240,000, 5-year)
- ❖ **Dr. Martin McGavin (PI)**
Role and regulation of resistance-nodulation-division family efflux pumps in physiology and resistance mechanisms of *Staphylococcus aureus*
(NSERC, \$170,000, 5-year)
- ❖ **Dr. Lakshman Gunaratnam (PI)**
KIM-1-mediated Suppression of Renal Cell Carcinoma
(Kidney Foundation, \$100,000, 2-year)
- ❖ **Dr. Bryan Heit (PI)**
Cages, corrals and vesicular trafficking shape the diffusional environment of the plasma membrane
(NSERC, \$200,000, 5-year)
- ❖ **Dr. John McCormick (PI)**
Multimodal Microplate Reader for Research in Microbiology and Immunology
(NSERC RTI, \$149,160, 1-year)
- ❖ **Dr. John Ronald (PI)**
Immun-oncology
(Western Research IDI, \$100,000, 2-year)



Canadian Institutes of Health Research
Institut de recherche en santé du Canada



DEPARTMENT PUBLICATIONS 1

Olabode AS, Ng GT, Wade KE, **Salnikov M**, Grant HE, Dick DW, **Poon AFY**. Revisiting the recombinant history of HIV-1 group M with dynamic network community detection. *Proc Natl Acad Sci U S A*. May 2022 doi: [10.1073/pnas.2108815119](https://doi.org/10.1073/pnas.2108815119).

Kim HAJ, Zeng PYF, Sorgini A, Shaikh MH, Khan H, MacNeil D, Khan MI, Mendez A, Yoo J, Fung K, Lang P, Palma DA, **Mymryk JS**, Barrett JW, Patel KB, Boutros PC, Nichols AC. Tumor molecular differences associated with outcome disparities of Black patients with head and neck cancer. *Head Neck*. May 2022. doi: [10.1002/hed.27007](https://doi.org/10.1002/hed.27007).

Xing J, Ma L, Cheng X, Ma J, Wang R, Xu K, **Mymryk JS**, Zhang Z. Prokaryotic Argonaute Protein from *Natronobacterium gregoryi* Requires RNAs To Activate for DNA Interference *In Vivo*. *mBio*. Mar 2022. doi: [10.1128/mbio.03656-21](https://doi.org/10.1128/mbio.03656-21).

Patel KB, Prokopec S, Barrett JW, **Mymryk JS**, Boutros PC, Nichols AC. Establishment of four Head and Neck Squamous Cell Carcinoma Cell Lines: Importance of Reference DNA is Essential for accurate genomic characterization. *J Laryngol Otol*. Mar 2022. doi: [10.1017/S0022215122000846](https://doi.org/10.1017/S0022215122000846).

Hadwen B, Yu R, **Cairns E**, **Barra L**. Presence of Autoantibodies in Males and Females with Rheumatoid Arthritis: A Systematic Review and Meta-Analysis. *J Rheumatol*. Mar 2022. doi: [10.3899/jrheum.211020](https://doi.org/10.3899/jrheum.211020).

Juriasingani S, **Vo V**, **Akbari M**, **Grewal J**, **Zhang M**, **Jiang J**, Haig A, **Sener A**. Supplemental hydrogen sulfide in models of renal transplantation after cardiac death. *Can J Surg*. Mar 2022. doi: [10.1503/cjs.013920](https://doi.org/10.1503/cjs.013920).

Flannagan RS, **Brozyna JR**, **Kumar B**, Adolf LA, Power JJ, Heilbronner S, **Heinrichs DE**. In vivo growth of *Staphylococcus lugdunensis* is facilitated by the concerted function of heme and non-heme iron acquisition mechanisms. *J Biol Chem*. Mar 2022. doi: [10.1016/j.jbc.2022.101823](https://doi.org/10.1016/j.jbc.2022.101823).

Dugbartey GJ, Alornyo KK, Ohene BO, Boima V, Antwi S, **Sener A**. Renal consequences of the novel coronavirus disease 2019 (COVID-19) and hydrogen sulfide as a potential therapy. *Nitric Oxide*. Mar 2022. doi: [10.1016/j.niox.2022.01.002](https://doi.org/10.1016/j.niox.2022.01.002).

Gameiro SF, **Evans AM**, **Mymryk JS**. The tumor immune microenvironments of HPV+ and HPV- head and neck cancers. *WIREs Mech Dis*. Mar 2022. doi: [10.1002/wsbm.1539](https://doi.org/10.1002/wsbm.1539).

Mann JFS, McKay PF, Klein K, **Pankrac J**, Tregoning JS, Shattock RJ. Blocking T-cell egress with FTY720 extends DNA vaccine expression but reduces immunogenicity. *Immunology*. Mar 2022. doi: [10.1111/imm.13429](https://doi.org/10.1111/imm.13429).

Fnais N, Laxague F, Alzahrani F, Fung K, Gravio ED, MacNeil D, Mendez A, Yoo J, Lang P, **Mymryk JS**, Barrett JW, Tay KY, Leung A, Nichols AC, Palma DA. The Impact of Surgical Resectability on Outcomes for Patients Undergoing Primary Radiation Treatment for Human Papillomavirus-Related Oropharyngeal Cancer. *Int J Radiat Oncol Biol Phys*. Feb 2022 Feb. doi: [10.1016/j.ijrobp.2022.02.025](https://doi.org/10.1016/j.ijrobp.2022.02.025).

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DEPARTMENT PUBLICATIONS 2

Goncheva MI, Chin D, Heinrichs DE. Nucleotide biosynthesis: the base of bacterial pathogenesis. Trends Microbiol. Jan 2022. doi: [10.1016/j.tim.2021.12.007](https://doi.org/10.1016/j.tim.2021.12.007).

Aktar A, Wodz KM, Heit B. Monitoring Cellular Responses to Infection with Fluorescent Biosensors. Methods Mol Biol. Jan 2022. doi: [10.1007/978-1-0716-2051-9_6](https://doi.org/10.1007/978-1-0716-2051-9_6).

Edgar CR, Dikeakos JD. Bimolecular Fluorescence Complementation to Visualize Protein-Protein Interactions in Cells. Methods Mol Biol. Jan 2022. doi: [10.1007/978-1-0716-2051-9_5](https://doi.org/10.1007/978-1-0716-2051-9_5).

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Zhang MY, Dugbartey GJ, Juriasingani S, Akbari M, Liu W, Haig A, McLeod P, Arp J, **Sener A.** Sodium thiosulfate-supplemented UW solution protects renal grafts against prolonged cold ischemia-reperfusion injury in a murine model of syngeneic kidney transplantation. Biomed Pharmacother. Jan 2022. doi: [10.1016/j.biopha.2021.112435](https://doi.org/10.1016/j.biopha.2021.112435).

Hurst JR, Brouwer S, Walker MJ, **McCormick JK.** Streptococcal superantigens and the return of scarlet fever. PLoS Pathog. Dec 2021. doi: [10.1371/journal.ppat.1010097](https://doi.org/10.1371/journal.ppat.1010097).

Liu Q, Xiong J, Xu D, Hao N, Zhang Y, Sang Y, Wang Z, **Zheng X,** Min J, Diao H, Raphael J, Maleki Vareki S, **Koropatnick J,** Min W. TdIF1-LSD1 Axis Regulates Epithelial-Mesenchymal Transition and Metastasis via Histone Demethylation of E-Cadherin Promoter in Lung Cancer. Int J Mol Sci. Dec 2021. doi: [10.3390/ijms23010250](https://doi.org/10.3390/ijms23010250).

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Chmiel JA, **Stuivenberg GA,** Alathel A, Gorla J, Grohe B, Razvi H, **Burton JP,** Bjazevic J. High-Throughput in vitro Gel-Based Plate Assay to Screen for Calcium Oxalate Stone Inhibitors. Urol Int. Dec 2021. doi: [10.1159/000519842](https://doi.org/10.1159/000519842).

DEPARTMENT PUBLICATIONS 3

Daisley BA, Koenig D, Engelbrecht K, Doney L, Hards K, **Al KF**, **Reid G**, **Burton JP**. Emerging connections between gut microbiome bioenergetics and chronic metabolic diseases. *Cell Rep*. Dec 2021. doi: [10.1016/j.celrep.2021.110087](https://doi.org/10.1016/j.celrep.2021.110087).

Tessier TM, **Dodge MJ**, **MacNeil KM**, **Evans AM**, **Prusinkiewicz MA**, **Mymryk JS**. Almost famous: Human adenoviruses (and what they have taught us about cancer). *Tumour Virus Res*. Dec 2021. doi: [10.1016/j.tvr.2021.200225](https://doi.org/10.1016/j.tvr.2021.200225).

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Batko IZ, **Flannagan RS**, **Guariglia-Oropeza V**, **Sheldon JR**, **Heinrichs DE**. Heme-Dependent Siderophore Utilization Promotes Iron-Restricted Growth of the *Staphylococcus aureus* *hemB* Small-Colony Variant. *J Bacteriol*. Nov 2021. doi: [10.1128/JB.00458-21](https://doi.org/10.1128/JB.00458-21).

Blythe EN, Weaver LC, Brown A, **Dekaban GA**. β 2 Integrin CD11d/CD18: From Expression to an Emerging Role in Staged Leukocyte Migration. *Front Immunol*. Nov 2021. doi: [10.3389/fimmu.2021.775447](https://doi.org/10.3389/fimmu.2021.775447).

Sinclair NRS. Beginnings of coinhibition. *Scand J Immunol*. Nov 2021. doi: [10.1111/sji.13098](https://doi.org/10.1111/sji.13098).

Dugbartey GJ, Alornyo KK, Luke PPW, **Sener A**. Application of carbon monoxide in kidney and heart transplantation: A novel pharmacological strategy for a broader use of suboptimal renal and cardiac grafts. *Pharmacol Res*. Nov 2021. doi: [10.1016/j.phrs.2021.105883](https://doi.org/10.1016/j.phrs.2021.105883).

Kim HAJ, Shaikh MH, Lee M, Zeng PYF, Sorgini A, Akintola T, Deng X, Jarycki L, Khan H, MacNeil D, Khan MI, Mendez A, Yoo J, Fung K, Lang P, Palma DA, Patel K, **Mymryk JS**, Barrett JW, Boutros PC, Morris LGT, Nichols AC. 3p Arm Loss and Survival in Head and Neck Cancer: An Analysis of TCGA Dataset. *Cancers (Basel)*. Oct 2021. doi: [10.3390/cancers13215313](https://doi.org/10.3390/cancers13215313).

Patel A, **Sener A**, Lee SY. Reversed diastolic flow in a renal transplant due to ureteric obstruction from intraluminal blood clot. *J Clin Ultrasound*. Oct 2021. doi: [10.1002/jcu.23079](https://doi.org/10.1002/jcu.23079).

We need your help!

The Microbiology & Immunology Newsletter is a community initiative brought on by the students in the MNI Department. We need community support to be maintained – please email mnuiwoneewsletter@gmail.com with any updates that you would like to have featured in the next newsletter. The MNI UWO newsletter will be published every semester. A call will be sent out to students and faculty a couple weeks before the newsletter is published as a reminder.

MNI Newsletter Team

MNI Newsletter Organizer: Mackenzie Dodge

Graduate Student Editors: Leah Cheung, Andris Evans, Alex Lac, Katelyn MacNeil

Faculty Support: Dr. Joe Mymryk, Dr. Greg Dekaban, Dr. Jimmy Dikeakos

Administrative Support: Laura Cardozo