



MESSAGE FROM THE CHAIR, DR. JUAN CARLOS ZUNIGA-PFLUCKER

It is beginning to look a lot like December 17 is going to be a great day for our UofT Immunology community. We are all looking forward to a safe and wonderful gathering to recognize the many achievements of our graduate students. Please see more details in the IGSA section, and in your email in boxes.

The 2021 Fall term is nearly over, and for most of our undergrads it continued to be an online experience. Nevertheless, I was happy to welcome back most of our 4th year undergrad students to in-person lectures. The hope remains that we will be able to continue delivering more in-person classes during the Winter term, pending how we fare with the current addition(s) to the Greek alphabet-named interloper(s). We are thankful and proud of the work being done in this area by members of our community, which gives us all much needed encouragement and hope for 2021.

Ahead of our Holiday gathering, please be sure to send in your nominations to Kate Sedore for The Cinader and Miller Awards (Dec. 6th deadline).

It is important that we continue to recognize and support the tremendous excellence of all our trainees. I am delighted to announce the launch of a new program that will provide 2 grants in aid of collaborative research conducted by at least two Post-Doctoral Fellows from different labs in Immunology. Details for the 1-year \$50,000 grant competition will be sent out shortly.

As the year comes to a close, please remember to share your gratitude and respect for our trainees and colleagues, as we share the joy that it is to work together in making new discoveries in immunology.

Best wishes to all for the upcoming holiday season.

UPCOMING EVENTS

CHARLES GOULD EASTON SEMINARS

December 6, 2021

11:05 am via Zoom

[Hartland Jackson, PhD](#)

[Investigator, Lunenfeld-Tanenbaum Research Institute, Assistant Professor, Molecular Genetics](#)

Title: "High parameter tissue pathology imaging: from single cell phenotypes to cellular networks"

Host: Juan Carlos Zúñiga-Pflücker, PhD

December 13, 2021

11:05 am via Zoom

[Marco Colonna, MD](#)

[Robert Rock Belliveau Professor, Pathology and Immunology, Washington University](#)

Title: "Heterogeneity of meningeal B cells reveals a lymphopoietic niche at the CNS borders"

Host: Arthur Mortha, PhD

IMMUNOLOGY Holiday Retreat

When: Evening of December 17, 2021

Where: The Carlu (444 Yonge St)

Registration: Just fill out [this form](#)





NOVEMBER STUDENT SEMINARS

Mondays, 10:00-11:00 via ZOOM

December 6, 2021

Identification and characterization of new cell surface antigens on plasma cells using monoclonal VLRB antibodies VLRB K318 and VLRB J260

Shilan Dong
(Ehrhardt Lab)

The role of APC-derived 4-1BBL on memory CD8 T cell formation during influenza infection

Karen Yeung
(Watts Lab)

December 13, 2021

Title TBD
Juan Diego Sanchez Vasquez
(Gehring Lab)

Optimization of anti-Mesothelin CAR-T cells through scFv engineering

Yota Ohashi
(Hirano Lab)

* Title will be updated to our website when it is available.

GRADUATE PROGRAM UPDATES

Committee Meetings

2nd year PhD students are reminded to complete their 2nd committee meeting by December 31, 2021. Committee Meeting forms should be submitted to Kate as soon as possible after the meeting.

Upper year PhD students are reminded to hold a committee meeting each year at minimum, and submit the Committee Meeting forms to Kate.

Graduate Admissions

Applications to our graduate programs are now being accepted. All application materials, including references, must be received by the deadline in order for an application to be considered.

PhD in Fundamental Immunology &
MSc in Applied Immunology (Standard Entry)

Due: January 15, 2022

MSc in Applied Immunology (Advanced Standing)

Due: March 1, 2022





IGSA

Warm greetings, Immunologists!

This past month, we celebrated the successful completion of the Fall term of our dodgeball and ultimate frisbee intramurals, with both Immunodominator teams meeting for drinks at a pub night hosted by our sports representative. We are looking forward to future indoor intramurals in the Winter term, and are currently calling for interested immunologists to be at the ready for our intramural volleyball team in January. If you're interested, please contact our sports representative, Natalie Ogradnik. We would be excited to have you!

As mentioned in our November newsletter, we have continued the writing, design, and distribution of our educational pamphlets, which seek to convey immunological topics in an accessible way, organized by our outreach representative, Baweleta Isho!

In addition to the events that have happened in this past month, we are excited for our near-term social events. In this first week of December, our peer-to-peer mentorship representative will be hosting a first-year pub night! All first-year graduate students (that includes both Fundamental and Applied streams!) are encouraged to come out to meet your fellow colleagues to enjoy a night of food, drink, and sharing stories of your first term in graduate school. Make sure to double-check your emails to make sure you're signed up!

As the holiday season slowly approaches, we continue our (new) tradition of Gingerbread House Building, a fundraising event hosted by our social representatives Meggie, Kameel, and Robyn. Not only did we ponder a potential career in design, but also collectively raised money for Nellie's, a local charitable organization that provides shelter and assistance for homeless women and children. These lovely Gingerbread houses will be voted on by the entirety of the department at a very special holiday event!

Finally, we are very excited to announce that we will be able to host an **in-person holiday dinner** for the Department of Immunology! This year will look a little different from our previous years: aside from eating and drinking, this will be a masked event, and there will be no dancing. With that said, we will still be setting down our pipettes and sharing memories with our fellow lab mates! Instead of a holiday group singing performance, we are hosting IMM's Got Talent! at the holiday party, and are asking solo, duo, or trios to sign up to showcase the talents you picked up during lockdown. To continue our fundraising for Nellie's, we are looking for either an item or service from students or faculty to be sold at the dinner's silent auction! We are continuing our longstanding centrepiece competition tradition, in which labs submit a structure made of any spare lab materials to feature at the holiday event. We are incredibly excited for this DoI dinner. Please keep your eyes on your email inboxes for details and ways to sign up!

Please stay healthy and safe!

Tiff & Kitt

IGSA Co-Presidents 2021-2022



IMMSA

Happy Holidays Immunologists!

It's officially December, there's an icy chill in the air, the holiday decorations are being put up and it puts us right in the mood for Immunology celebrations! Before we break off for the New Year, we have events coming up in December that you don't want to miss out on.

In November, before and after reading week we hosted events for the undergraduate students which consisted of a research info session with Dr. Eleanor Fish who spoke about her interferon research in various parts of the world and her role in the COVID pandemic. We continued with our monthly Intro to Immunology Techniques seminar and had guest speaker, Daniel Zangrando teach the students about ELISA and research techniques involved in his lab. It was one of many interactive, thought-provoking sessions included in this seminar and we hope to see more people join the next one!

As for upcoming events, December is quite a light month with exam season coming up and the holidays. We are having our final joint social for this semester on December 7th from 5-6 PM with the Neuroscience Association for Undergraduate Students and students will be given the chance to meet and mingle with other students in a Life Sciences program. We hope to see you guys there as it is the final social we will have for this semester and hope to go out with a bang!

Since we are hurtling through the end of the semester towards exams, we just wanted to remind everyone to make sure they are being mindful and prioritizing their well-being! Exercise, eating healthy meals, and getting enough sleep are crucial tenets to being a successful student and having a balanced life! Remember to take care of yourself and study hard!

Happy holidays to the staff and students at UofT!

Cheers,

Shaivy T. + Kunal K.

2021-22 IMMSA Co-Presidents

Website: <http://immsauoft.com> | **Instagram:** @immsta | **Facebook:** <http://facebook.com/IMMSA.UofT>



PUBLICATIONS

Wong A, Epelman S. 2021. Tissue-Reparative Benefits of MST1/2 Inhibition Separating the Wheat From the Chaff. *Circulation Research*. **129(10)**:927-929.

Shinar S, Agrawal S, Ryu M, Walmsley S, Serghides L, Yudin MH, Murphy KE. Perinatal outcomes in women living with HIV-1 and receiving antiretroviral therapy-a systematic review and meta-analysis. *Acta Obstetrica Et Gynecologica Scandinavica*. Online Ahead of Print.

Hu B, Xu GT, Jin X, Chen DQ, Qian XL, Li WL, Xu L, Zhu J, Tang J, Jin XH, Hou J. 2021. Novel Prognostic Predictor for Primary Pulmonary Hypertension: Focus on Blood Urea Nitrogen. *Frontiers in Cardiovascular Medicine*. **8**.

Nakamura A, Zeng FX, Nakamura S, Reid KT, Gracey E, Lim M, Leng L, Jo S, Park YS, Kusuda M, Machhar R, Boroojeni SF, Wu B, Rossomacha E, Kim TH, Ciccio F, Rockel JS, Kapoor M, Inman RD, Jurisica I, Crome SQ, Bucala R, Haroon N. 2021. Macrophage migration inhibitory factor drives pathology in a mouse model of spondyloarthritis and is associated with human disease. *Science Translational Medicine*. **13(616)**.

Matsuyama T, Yoshinaga SK, Shibue K, Mak TW. Comorbidity-associated glutamine deficiency is a predisposition to severe COVID-19. *Cell Death and Differentiation*. Online Ahead of Print.

Haniuda K, Gommerman JL, Reich HN. 2021. The microbiome and IgA nephropathy. *Seminars in Immunopathology*. **43(5)**:649-656.

Nilvebrant J, Ereno-Orbea J, Gorelik M, Julian MC, Tessier PM, Julien JP, Sidhu SS. 2021. Systematic Engineering of Optimized Autonomous Heavy-Chain Variable Domains. *Journal of Molecular Biology*. **433(21)**.

Sharma MD, Pacholczyk R, Shi HD, Berrong ZJ, Zakharia Y, Greco A, Chang CSS, Eathiraj S, Kennedy E, Cash T, Bollag RJ, Kolhe R, Sadek R, McGaha TL, Rodriguez P, Mandula J, Blazar BR, Johnson TS, Munn DH. 2021. Inhibition of the BTK-IDO-mTOR axis promotes differentiation of monocyte-lineage dendritic cells and enhances anti-tumor T cell immunity. *Immunity*. **54(10)**:2354.

Yu HB, Yang H, Allaire JM, Ma CX, Graef FA, Mortha A, Liang QC, Bosman ES, Reid GS, Waschek JA, Osborne LC, Sokol H, Vallance BA, Jacobson K. 2021. Vasoactive intestinal peptide promotes host defense against enteric pathogens by modulating the recruitment of group 3 innate lymphoid cells. *Proceedings of the National Academy of Sciences USA*. **118(41)**.

Kirby D, Parmar B, Fathi S, Marwah S, Nayak CR, Cherepanov V, MacParland S, Feld JJ, Altan-Bonnet G, Zilman A. 2021. Determinants of Ligand Specificity and Functional Plasticity in Type I Interferon Signaling. *Frontiers in Immunology*. **12**.





Cable J, Elowitz MB, Domingos AI, Habib N, Itzkovitz S, Hamidzada H, Balzer MS, Yanai I, Liberali P, Whited J, Streets A, Cai L, Stergachis AB, Hong CKY, Keren L, Guilliams M, Alon U, Shalek AK, Hamel R, Pfau SJ, Raj A, Quake SR, Zhang NR, Fan J, Trapnell C, Wang B, Greenwald NF, Vento-Tormo R, Santos SDM, Spencer SL, Garcia HG, Arekatla G, Gaiti F, Arbel-Goren R, Rulands S, Junker JP, Klein AM, Morris SA, Murray JI, Galloway KE, Ratz M, Romeike M. Single cell biology-a Keystone Symposia report. *Annals of The New York Academy of Sciences*. Online Ahead of Print

Kang H, Lee JB, Khatri I, Na Y, D'Souza C, Arruda A, Minden MD, Zhang L. 2021. Enhancing Therapeutic Efficacy of Double Negative T Cells against Acute Myeloid Leukemia Using Idelalisib. *Cancers*. **13(20)**.

Oliva M, Chepeha D, Araujo DV, Diaz-Mejia JJ, Olson P, Prawira A, Spreafico A, Bratman SV, Shek T, de Almeida J, Hansen AR, Hope A, Goldstein D, Weinreb I, Smith S, Perez-Ordóñez B, Irish J, Torti D, Bruce JP, Wang B, Fortuna A, Pugh TJ, Der-Torossian H, Shazer R, Attanasio N, Au QY, Tin A, Feeney J, Sethi H, Aleshin A, Chen I, Siu LL. 2021. Antitumor immune effects of preoperative sitravatinib and nivolumab in oral cavity cancer: SNOW window-of-opportunity study. *Journal for Immunotherapy of Cancer*. **9(10)**.

Shan YG, Chen DQ, Hu B, Xu GT, Li WL, Jin Y, Jin XH, Jin X, Jin LM. 2021. Allicin ameliorates renal ischemia/reperfusion injury via inhibition of oxidative stress and inflammation in rats. *Biomedicine & Pharmacotherapy*. **142**.

Wu JY, Xu XQ, Zheng L, Mo JF, Jin XH, Bao Y. 2021. Nilotinib inhibits microglia-mediated neuroinflammation to protect against dopaminergic neuronal death in Parkinson's disease models. *International Immunopharmacology*. **99**.

Jaiswal A, Murakami K, Elia A, Shibahara Y, Done SJ, Wood SA, Donato NJ, Ohashi PS, Reedijk M. 2021. Therapeutic inhibition of USP9x-mediated Notch signaling in triple-negative breast cancer. *Proceedings of the National Academy of Sciences USA*. **118(38)**.

Untersmayr E, Forster-Waldl E, Bonelli M, Boztug K, Brunner PM, Eiwegger T, Eller K, Goschl L, Grabmeier-Pfistershammer K, Hotzenecker W, Jordakieva G, Moschen AR, Pfaller B, Pickl W, Reinisch W, Wiedermann U, Klimek L, Bergmann KC, Brehler R, Novak N, Merk H, Rabe U, Schlenker W, Ring J, Wehrmann W, Mulleneisen N, Wrede H, Fuchs T, Jensen-Jarolim E. 2021. Immunologically relevant Aspects of the New COVID-19 Vaccines A Position Paper of the Austrian Society for Allergology and Immunology (OEGAI) and the German Society for Applied Allergology (AeDA). *Allergo Journal*. **30(5):34-47**.

Knuth CM, Auger C, Jeschke MG. 2021. Burn-induced hypermetabolism and skeletal muscle dysfunction. *American Journal of Physiology-Cell Physiology*. **321(1):C58-C71**.

Asselta R, Paraboschi EM, Gerussi A, Cordell HJ, Mells GF, Sandford RN, Jones DE, Nakamura M, Ueno K, Hitomi Y, Kawashima M, Nishida N, Tokunaga K, Nagasaki M, Tanaka A, Tang RQ, Li ZQ, Shi YY, Liu XD, Xiong M, Hirschfield G, Siminovitch KA, Carbone M, Cardamone G, Duga S, Gershwin ME, Seldin MF,





Invernizzi P. 2021. X Chromosome Contribution to the Genetic Architecture of Primary Biliary Cholangitis. *Gastroenterology*. **160(7)**:2483.

Tsui FWL, Lin AF, Sari I, Zhang ZB, Tsui HW, Inman RD. 2021. Serial Lipocalin 2 and Oncostatin M levels reflect inflammation status and treatment response in axial spondyloarthritis. *Arthritis Research & Therapy*. **23(1)**.

Egan G, Khan DH, Lee JB, Mirali S, Zhang L, Schimmer AD. 2021. Mitochondrial and Metabolic Pathways Regulate Nuclear Gene Expression to Control Differentiation, Stem Cell Function, and Immune Response in Leukemia. *Cancer Discovery*. **11(5)**:1052-1066.

Sivasubramaniyam T, Yang JQ, Pollock E, Chon J, Schroer SA, Li YZ, Metherel AH, Dodington DW, Bazinet RP, Woo M. 2021. Hepatic Igf1-Deficiency Protects Against Atherosclerosis in Female Mice. *Endocrinology*. **162(5)**.

Barayan D, Abdullahi A, Vinaik R, Knuth CM, Auger C, Jeschke MG. 2021. Interleukin-6 blockade, a potential adjunct therapy for post-burn hypermetabolism. *FASEB Journal*. **35(5)**.

Uldreaj A, Li A, Chen YH, Besla R, Pacheco S, Althagafi MG, Cybulsky MI, Lindsay T, Robbins CS, Byrne JS. 2021. Adventitial recruitment of Lyve-1(-) macrophages drives aortic aneurysm in an angiotensin-2-based murine model. *Clinical Science*. **135(10)**:1295-1309.

Cahilla LS, Stortz G, Chandrand AR, Milligane N, Shinard S, Whitehead CL, Hobson SR, Ayyathuraid V, Rahmana A, Saghiana R, Jobstb KJ, McShaneh C, Block-Abrahamh D, Seravallih V, Laurieh M, Millardh S, Delph C, Wolfsonh D, Baschath AA, Murphyd KE, Serghidesk L, Morgenn E, Macgowanc CK, Parks WT, Kingdomd JC, Sted JG. 2021. Wave reflections in the umbilical artery measured by Doppler ultrasound as a novel predictor of placental pathology. *Ebiomedicine*. **67**.

Khan S, Luck H, Winer S, Winer DA. 2021. Emerging concepts in intestinal immune control of obesity-related metabolic disease. *Nature Communications*. **12(1)**.

