

# Department of Immunology

## Newsletter

VOL V – ISSUE 10

June 2017

### **Message from the Chair, Dr. Juan Carlos Zúñiga-Pflücker**

I am happy to say this year's Immunology Summer Retreat was stunningly wonderful, and we had a mostly rain-free couple of days by the shores of charming Lake Couchiching. For the 11th annual edition of our retreat, we had the addition of a second Keynote lecture, one for each day, with Ulrich von Andrian presenting his latest work on the identification of new subsets of memory T cells, including beautiful movies showing the movement of T cells in vivo, and then we enjoyed Rolf Zinkernagel's lecture in which he delivered a thought-provoking talk that helped to make this a truly memorable retreat.

We also had outstanding talks, posters, and great games. I am extremely thankful for the brilliant organization of this event, for which we owe its success to the enormous and extraordinary efforts of our Immunology Graduate Student Association and its co-presidents Maria Edilova and Mark Gower. Kudos to all for putting together such a terrific retreat, which also featured the always entertaining retreat video production.

Congratulations to the oral and poster presentation winners. In case you missed them, we will be displaying the winning posters in the 7th floor of the MSB, near the Immunology office. The unannounced award for the best oral presentation went to Dave Prescott (Philpott lab), the new Jim Watts' Travel Award for the best human immunology presentation went to Dr. Alexandra Paun (Danska lab); while the 1st place poster presentation award went to Angela Zhou (Watts lab), with a tie for 2nd place to Tiantian Zhao (Treanor lab), and Charles Masoinneuve (Philpott lab).

We also enjoyed a return of the Case Competition presentations, in which proposals to reduce the amount of disposable plastic ware currently used in labs were discussed.

### **UPCOMING**

#### **Special Seminar**

**Room 7231 MSB at 11:00 a.m.**

Monday July 17, 2017

Monica Romera Hernandez, Post-Doctoral Candidate

**Host:** Dr. Arthur Mortha

**“RORgamma(t)+ innate lymphoid cells in intestinal tissue regeneration“**

The winners were the Snap-Trash team of Nyrie Israelian, Mayra Cruz Tleugabulova, Heather MacGregor and Lis Foerster. Congratulations to all.

The retreat together with the presentation of the 5th BD-Biosciences Immunology Post-Doctoral Lecture by this year's winner Dr. Sue Tsai, from the Winer lab, the day before our trip to Geneva Park, was a delightful way to start off the week in which we celebrated Immunology at UofT.

Speaking of celebrating Immunology at UofT, please join me in Congratulating the following faculty members on their recently approved promotions: from Associate to Full Professor - James Carlyle, Alberto Martin and Dana Philpott; and, from Assistant to Associate Professor - Shannon Dunn.

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Please also join me to congratulate and thank Dana Philpott, who will be taking over as Acting Chair for the Department of Immunology, from July 1, 2017 to March 31, 2018, while I take a 9 month academic leave to focus on lab work and develop new research initiatives, and be ready to resume the Chair position on April 1, 2018 for a 2nd 5-year term.

Lastly, this is the last issue of the Immunology Newsletter for this academic year, and we will restart in late September 2017. To quell your need for summer reading, happy to say that a new issue of IMMpress Magazine will be released shortly. In the meantime, best wishes for a productive summer.

### **Awards**

On June 19th 2017, the BD-Biosciences Immunology Post-Doctoral Lecture, entitled: "The insulin receptor signaling pathway as a critical regulator of T cell function" was given by Dr. Sue Tsai, a postdoctoral fellow in Dr. Dan Winer's laboratory. Representative from BD-Biosciences presented the following awards, a \$2,500 lecture prize and a \$500 voucher to the Winer lab. Shown on the right are: Scott Hayes (BD), Sue and Dan.





## **GRADUATE**

### **CONGRATULATIONS**

#### **Ph.D.**

Mayra Cruz Tleugabulova (Mallevaey lab) – May 2, 2017

#### **Reclassification**

Eric Cao (Mortha/Gommerman labs) – May 24, 2017

Albert Nguyen (Gommerman lab) – May 29, 2017

Chung-Hsi (Brett) Wang (Hirano lab) – May 25, 2017

#### **Qualifying**

Edouard Al-chami (Robbins lab) – May 24, 2017

### **FEATURED CAMPUS RESOURCE**

The SGS Parental Grant program aims to provide financial support to research-stream doctoral students within the funded cohort who experience a loss or reduction in funding as the result of taking an approved parental leave of absence at the time of birth or adoption in order to provide full-time care during a child's first year.

Please visit the SGS, Graduate Awards Office website for details:

<http://www.sgs.utoronto.ca/currentstudents/Pages/Completion-Grants-Emergency-Funding.aspx>



## IGSA

Happy summer, Immunologists! For everyone who attended the Department of Immunology Annual Retreat, IGSA would like to say thank you for making it a wonderful experience! For all of you who missed it, no worries, we will break it down for you. June 20th started with three excellent talks by Dr. Sonya MacParland, Dr. Lena Serghides, and Dr. Hesam Movassagh. Rain almost spoiled the IMMazing race but dozens of us (dozens!) showed up to prove ourselves for the ultimate prize, bragging rights. Following dinner, Dr. Ulrich von Andrian, our first keynote speaker, gave a wonderful talk that went against the grain (or more appropriately against the arteriole) of how we understand the migration of lymphocytes. Congratulations to this year's poster competition winner Angela Zhou who was followed up by a tie for second between Tiantian Zhao and Charles Maisonneuve. The first day came to a close with an excellent fire, which kept burning until the AM.

Day 2 started with our second ever Case Competition where five teams brought forward serious and fun solutions to reduce plastic waste in the lab environment. Nyrie Israelian, Heather MacGregor, Mayra Cruz Tleugabulova and Lis Foerster had the winning pitch with "Snap Trash". Our second oral symposium saw inspiring presentations by this year's oral presentation prize winner Dr. Dave Prescott, the first Jim Watt's Travel Award for Human Immunology winner Dr. Alexandra Paun, Dr. Patrick Brauer, and Jastaran Singh. After lunch we heard a remarkable talk from Nobel Laureate Dr. Rolf Zinkernagel, who challenged our way of thinking about Immunology and research.

IGSA would like to thank everyone who filled out the feedback forms to help us plan a better retreat next year! IGSA would also like to extend a special thank you to everyone that helped us with the retreat including our sponsors, the judges for the poster session and case competition, chairs for the oral symposiums, the immunology office and the IGSA executive committee for their tireless efforts in planning and executing the retreat!

Stay tuned for Elections, coming up at the end of July!

All the best,

Team IGSA



## PUBLICATIONS FROM THE DEPARTMENT OF IMMUNOLOGY (May 2017)

1. Chen, J., M. C. Zhong, H. J. Guo, D. Davidson, S. Mishel, Y. Lu, I. Rhee, L. A. Perez-Quintero, S. H. Zhang, M. E. Cruz-Munoz, N. Wu, D. C. Vinh, M. Sinha, V. Calderon, C. A. Lowell, J. S. Danska, and A. Veillette. 2017. SLAMF7 is critical for phagocytosis of haematopoietic tumour cells via Mac-1 integrin. *Nature* 544: 493-+
2. Adema, C. M., L. W. Hillier, C. S. Jones, E. S. Loker, M. Knight, P. Minx, G. Oliveira, N. Raghavan, A. Shedlock, L. R. do Amaral, H. D. Arican-Goktas, J. G. Assis, E. H. Baba, O. L. Baron, C. J. Bayne, U. Bickham-Wright, K. K. Biggar, M. Blouin, B. C. Bonning, C. Botka, J. M. Bridger, K. M. Buckley, S. K. Buddenborg, R. L. Caldeira, J. Carleton, O. S. Carvalho, M. G. Castillo, I. W. Chalmers, M. Christensens, S. Clifton, C. Cosseau, C. Coustau, R. M. Cripps, Y. Cuesta-Astroz, S. F. Cummins, L. Di Stephano, N. Dinguirard, D. Duval, S. Emrich, C. Feschotte, R. Feyereisen, P. FitzGerald, C. Fronick, L. Fulton, R. Galinier, S. G. Gava, M. Geusz, K. K. Geyer, G. I. Giraldo-Calderon, M. D. Gomes, M. A. Gordy, B. Gourbal, C. Grunau, P. C. Hanington, K. F. Hoffmann, D. Hughes, J. Humphries, D. J. Jackson, L. K. Jannotti-Passos, W. D. Jeremias, S. Jobling, B. Kamel, A. Kapusta, S. Kaur, J. M. Koene, A. B. Kohn, D. Lawson, S. P. Lawton, D. Liang, Y. Limpanont, S. J. Liu, A. E. Lockyer, T. L. Lovato, F. Ludolf, V. Margrini, D. P. McManus, M. Medina, M. Misra, G. Mitta, G. M. Mkoji, M. J. Montague, C. Montelongo, L. L. Moroz, M. C. Munoz-Torres, U. Niazi, L. R. Noble, F. S. Oliveira, F. S. Pais, A. T. Papenfuss, R. Peace, J. J. Pena, E. A. Pila, T. Quelais, B. J. Raney, J. P. Rast, D. Rollinson, I. C. Rosse, B. Rotgans, E. J. Routledge, K. M. Ryan, L. L. S. Scholte, K. B. Storey, M. Swain, J. A. Tennesen, C. Tomlinson, D. L. Trujillo, E. V. Volpi, A. J. Walker, T. Wang, I. Wannaporn, W. C. Warren, X. J. Wu, T. P. Yoshino, M. Yusuf, S. M. Zhang, M. Zhao, and R. K. Wilson. 2017. Whole genome analysis of a schistosomiasis-transmitting freshwater snail. *Nature Communications* 8.
3. Baglaenko, Y., M. C. Tleugabulova, E. Gracey, N. Talaei, K. P. Manion, N. H. Chang, D. M. Ferri, T. Mallevaey, and J. E. Wither. 2017. Invariant NKT Cell Activation Is Potentiated by Homotypic trans-Ly108 Interactions. *Journal of Immunology* 198: 3949-3962.
4. Rahman, N., P. M. Brauer, L. L. Ho, T. Usenko, M. Tewary, J. C. Zuniga-Pflucker, and P. W. Zandstra. 2017. Engineering the haemogenic niche mitigates endogenous inhibitory signals and controls pluripotent stem cell-derived blood emergence. *Nature Communications* 8.
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6. Smith, M. J., D. K. Reichenbach, S. L. Parker, M. J. Riddle, J. Mitchell, K. C. Osum, M. Mohtashami, H. E. Stefanski, B. T. Fife, A. Bhandoola, K. A. Hogquist, G. A. Hollnder, J. C. Zuniga-Pflucker, J. Tolar, and B. R. Blazar. 2017. T cell progenitor therapy-facilitated thymopoiesis depends upon thymic input and continued thymic microenvironment interaction. *Jci Insight* 2.
7. Varo, R., V. M. Crowley, A. Siteo, L. Madrid, L. Serghides, R. Bila, H. Mucavele, A. Mayor, Q. Bassat, and K. C. Kain. 2017. Safety and tolerability of adjunctive rosiglitazone treatment for children with uncomplicated malaria. *Malaria Journal* 16.





## PUBLICATIONS FROM THE DEPARTMENT OF IMMUNOLOGY (May 2017)

8. Cavallari, J. F., M. D. Fullerton, B. M. Duggan, K. P. Foley, E. Denou, B. K. Smith, E. M. Desjardins, B. D. Henriksen, K. J. Kim, B. R. Tuinema, J. C. Stearns, D. Prescott, P. Rosenstiel, B. K. Coombes, G. R. Steinberg, and J. D. Schertzer. 2017. Muramyl Dipeptide-Based Postbiotics Mitigate Obesity-Induced Insulin Resistance via IRF4. *Cell Metabolism* 25: 1063-+.
9. Haycock, P. C., S. Burgess, A. Nounu, J. Zheng, G. N. Okoli, J. Bowden, K. H. Wade, N. J. Timpson, D. M. Evans, P. Willeit, A. Aviv, T. Gaunt, G. Hemani, M. Mangino, H. P. Ellis, K. M. Kurian, K. A. Pooley, R. A. Eeles, J. E. Lee, S. Y. Fang, W. V. Chen, M. H. Law, L. M. Bowdler, M. M. Iles, Q. Yang, B. B. Worrall, H. S. Markus, R. J. Hung, C. I. Amos, A. B. Spurdle, D. J. Thompson, T. A. O'Mara, B. Wolpin, L. Amundadottir, R. Stolzenberg-Solomon, A. Trichopoulou, C. Onland-Moret, E. Lund, E. J. Duell, F. Canzian, G. Severi, K. Overvad, M. J. Gunter, R. Tumino, U. Svenson, A. van Rij, A. F. Baas, M. J. Bown, N. J. Samani, F. N. G. van t'Hof, G. Tromp, G. T. Jones, H. Kivimäki, J. R. Elmore, M. Johansson, J. McKay, G. Scelo, R. Carreras-Torres, V. Gaborieau, P. Brennan, P. M. Bracci, R. E. Neale, S. H. Olson, S. Gallinger, D. H. Li, G. M. Petersen, H. A. Risch, A. P. Klein, J. L. Han, C. C. Abnet, N. D. Freedman, P. R. Taylor, J. M. Maris, K. K. Aben, L. A. Kiemeny, S. H. Vermeulen, J. K. Wiencke, K. M. Walsh, M. Wrensch, T. Rice, C. Turnbull, K. Litchfield, L. Paternoster, M. Standl, G. R. Abecasis, J. P. San-Giovanni, Y. Li, V. Mijatovic, Y. Sapkota, S. K. Low, K. T. Zondervan, G. W. Montgomery, D. R. Nyholt, D. A. van Heel, K. Hunt, D. E. Arking, F. N. Ashar, N. Sotoodehnia, D. Woo, J. Rosand, M. E. Comeau, W. M. Brown, E. K. Silverman, J. E. Hokanson, M. H. Cho, J. Hui, M. A. Ferreira, P. J. Thompson, A. C. Morrison, J. F. Felix, N. L. Smith, A. M. Christiano, L. Petukhova, R. C. Betz, X. Fan, X. J. Zhang, C. H. Zhu, C. D. Langefeld, S. D. Thompson, F. J. Wang, X. Lin, D. A. Schwartz, T. Fingerlin, J. I. Rotter, M. F. Cotch, R. A. Jensen, M. Munz, H. Domisch, A. S. Schaefer, F. Han, H. M. Ollila, R. P. Hillary, O. Albagha, S. H. Ralston, C. J. Zeng, W. Zheng, X. O. Shu, A. Reis, S. Uebe, U. Huffmeier, Y. Kawamura, T. Otowa, T. Sasaki, M. L. Hibberd, S. Davila, G. Xie, K. Siminovich, J. X. Bei, Y. X. Zeng, A. Forsti, B. Chen, S. Landi, A. Franke, A. Fischer, D. Ellinghaus, C. Flores, I. Noth, S. F. Ma, J. N. Foo, J. J. Liu, J. W. Kim, D. G. Cox, O. Delattre, O. Mirabeau, C. F. Skibola, C. S. Tang, M. Garcia-Barcelo, K. P. Chang, W. H. Su, Y. S. Chang, N. G. Martin, S. Gordon, T. D. Wade, C. Lee, M. Kubo, P. C. Cha, Y. Nakamura, D. Levy, M. Kimura, S. J. Hwang, S. Hunt, T. Spector, N. Soranzo, A. Manichaikul, G. Barr, B. Kahali, E. Speliotes, L. Yerges-Armstrong, C. Y. Cheng, J. B. Jonas, T. Y. Wong, I. Fogh, K. Lin, J. F. Powell, K. Rice, C. L. Relton, R. M. Martin, G. D. Smith, and R. Telomeres Mendelian. 2017. Association Between Telomere Length and Risk of Cancer and Non-Neoplastic Diseases A Mendelian Randomization Study. *Jama Oncology* 3: 636-651.
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11. Sarswat, A., E. Wasilewski, S. K. Chakka, A. M. Bello, A. V. Capriello, C. M. Muthuramu, P. K. Stys, S. E. Dunn, and L. P. Kotra. 2017. Inhibitors of protein arginine deiminases and their efficacy in animal models of multiple sclerosis. *Bioorganic & Medicinal Chemistry* 25: 2643-2656.



## PUBLICATIONS FROM THE DEPARTMENT OF IMMUNOLOGY (May 2017)

12. Shannon, B., P. Gajer, T. J. Yi, B. Ma, M. S. Humphrys, J. Thomas-Pavanel, L. Chieza, P. Janakiram, M. Saunders, W. Tharao, S. Huibner, K. Shahabi, J. Ravel, and R. Kaul. 2017. Distinct Effects of the Cervicovaginal Microbiota and Herpes Simplex Type 2 Infection on Female Genital Tract Immunology. *Journal of Infectious Diseases* 215: 1366-1375.
13. She, Z., K. Topping, T. X. Ma, T. T. Zhao, W. X. Zhou, A. Kamal, S. Ahmadi, and H. B. Kraatz. 2017. Detection of the Lipopeptide Pam3CSK4 Using a Hybridized Toll-like Receptor Electrochemical Sensor. *Analytical Chemistry* 89: 4882-4888.
14. Shukla, S., M. A. Langley, J. Singh, J. M. Edgar, M. Mohtashami, J. C. Zuniga-Pflucker, and P. W. Zandstra. 2017. Progenitor T-cell differentiation from hematopoietic stem cells using Delta-like-4 and VCAM-1. *Nature Methods* 14: 531-+.
15. Sun, T., O. L. Rojas, C. Li, L. A. Ward, D. J. Philpott, and J. L. Gommerman. 2017. Intestinal Batf3-dependent dendritic cells are required for optimal antiviral T-cell responses in adult and neonatal mice. *Mucosal Immunology* 10: 775-788.
16. Yamashita, Y., M. Anczurowski, M. Nakatsugawa, M. Tanaka, Y. Kagoya, A. Sinha, K. Chamoto, T. Ochi, T. Guo, K. Saso, M. O. Butler, M. D. Minden, T. Kislinger, and N. Hirano. 2017. HLA-DP84Gly constitutively presents endogenous peptides generated by the class I antigen processing pathway. *Nature Communications* 8.
17. Zlotnikov, N., A. Javid, M. Ahmed, A. Eshghi, T. T. Tang, A. Arya, A. Bansal, F. Matar, M. Parikh, R. Ebady, A. Koh, N. Gupta, P. Song, Y. Zhang, S. Newbigging, G. P. Wormser, I. Schwartz, R. Inman, M. Glogauer, and T. J. Moriarty. 2017. Infection with the Lyme disease pathogen suppresses innate immunity in mice with diet-induced obesity. *Cellular Microbiology* 19.

*We'd like to hear from you!*  
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