



Edited by Ryan Staudt

BGSA Newsletter

January 2019



Pitt BGSA



@PittBGSA

Upcoming Events

- January 26th.....Ice Skating at PPG Paints Arena
- February 16th.....Ski Trip to Hidden Valley
- March 29th.....PRSEF Science Fair Judging
- TBD.....Adobe Illustrator Workshop
- TBD.....Resume Writing Workshop

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Letter from the President



Shelby Hemker
slh131@pitt.edu
BGS President,
2018-2019

Congratulations to the newly elected BGS officers and representatives! I am honored to represent the graduate students in the School of Medicine. I aim to help the BGS run smoothly and hope to make everyone's graduate student experience both educational and fun. This past year, the university has been increasing awareness about the prevalence of mental health issues in graduate students. To make getting help easier, we have compiled a list of several local and national resources on our website (<http://www.bgsa.pitt.edu/mental-health.html>).

Since our last newsletter, we have hosted several social events, including our Summer Formal at Maggie's Farm Rum, an Escape the Room adventure, the Orientation Picnic, Dave and Buster's Night, Midnight Spooky Movie Night, and candle-making at the Candle Lab. If you have an idea for an event we could run, please contact me so we can help put that idea in action.

Our biggest event of the year, the 23rd annual BGS Symposium, was a great success. Thank you to the Cell and Molecular Pathology Program organizers (and other volunteers) for your excellent planning and execution. We also hosted other professional development events, including the Summer Career Seminar Series featuring career talks from non-academic professionals and a Burn-out or Churn-out workshop that gave personality-type specific advice to help deal with the stress of grad school.

We have several more events in the works, including the Ski Trip to Hidden Valley February 16. We are also planning an Adobe Illustrator workshop and Transferrable Skills Resume-writing workshop in the next semester. Check our webpage (www.bgsa.pitt.edu) Facebook, Twitter, and Email Group for more information about our events.

Shelby Hemker

BGS Representatives, 2018-2019

Executive Board

- **President:** Shelby Hemker
- **VP of Records:** Becca Kritschil
- **VP of Finance:** Azia Evans
- **VP of Communications:** Ryan Staudt
- **VP of University Relations:** Sam Herron
- **VP of Programming:** Nicole Martucci, Mondraya Howard

Program Representatives

- **IBGP First Year:** Corinne Farrell, Angela Hinchie
- **Cell Biology and Molecular Physiology:** Rachel Wills
- **Molecular Pharmacology:** Ravi Patel, Nicole Kaminski
- **Cellular and Molecular Pathology:** Meghan Mooring, Mason Donnell

- **Molecular Genetics and Developmental Biology:** Namrata Kumar, Nikki Naim
- **Integrated Systems Biology/PIMB:** Kate Shipman
- **Molecular Biophysics and Structural Biology:** Nacef Guessaymi
- **Biomedical Informatics:** Michael Ding
- **Neuroscience (CNUP):** TBD
- **Computational Biology:** Bentley Wingert
- **Clinical and Translational Sciences:** Jason Colditz
- **PMI:** Haley Cartwright, Ben Warner
- **Biomedical Master's Program (BMP):** Laura Weiss

BGSA Symposium 2018



University of Pittsburgh

BGSA SYMPOSIUM BALLROOM A, THE UNIVERSITY CLUB,
123 UNIVERSITY PLACE, PITTSBURGH, PA

HOSTING GRADUATE PROGRAM:
CELLULAR & MOLECULAR PATHOLOGY (CMP)

DAISUKE NAKADA LECTURE
OCTOBER 24, 2018, 11AM



LINDA G. GRIFFITH Ph.D.

S.E.T.I. PROFESSOR OF BIOLOGICAL AND MECHANICAL ENGINEERING
DIRECTOR, MIT CENTER FOR GYNEPATHOLOGY RESEARCH,
MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)



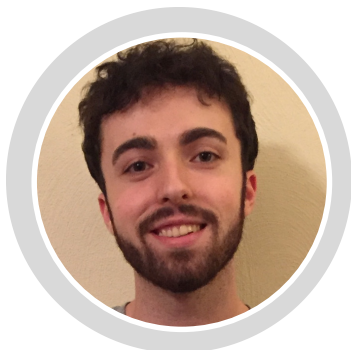
Azia Evans, PMI

This year the Pathology Graduate Program hosted our 23rd annual BGSA symposium. The selected oral presentations highlighted research from seven of the fifteen graduate programs within the School of Medicine, demonstrating the diversity of research being conducted here at the University of Pittsburgh. In addition to the scientific diversity on display, the BGSA has made a commitment to accurately represent the diversity of both the researchers here at the university and the larger scientific community. Keeping in line with this philosophy, this year's Daisuke Nakada Memorial Lecture was given by Dr. Linda Griffith. Dr. Griffith gave a wonderful presentation about how she utilized her unique background in chemical engineering to develop novel systems to study tissue engineering and micro-organ systems related to regenerative medicine and in vitro drug development, focusing on her studies of liver disease and endometriosis.

This year we had a record number of abstracts submitted and hosted over 130 student presenters in two poster sessions. This also translated to higher student attendance throughout the entire symposium, especially at the earlier talks of the day, where attendance has traditionally been thinner. In addition to student presentations, the BGSA award selection committee recognized Anastasia Gorelova (Molecular Pharmacology) as this year's Most Well-Rounded Student for her extensive involvement within our scientific community. Dr. Adrian Lee (Pharmacology and Chemical Biology) was recognized as this year's Distinguished Mentor, and was awarded the Philosopher's Stone, passed on from last year's recipient, Dr. JoAnne Flynn. Overall, we are calling this year's symposium a huge success.

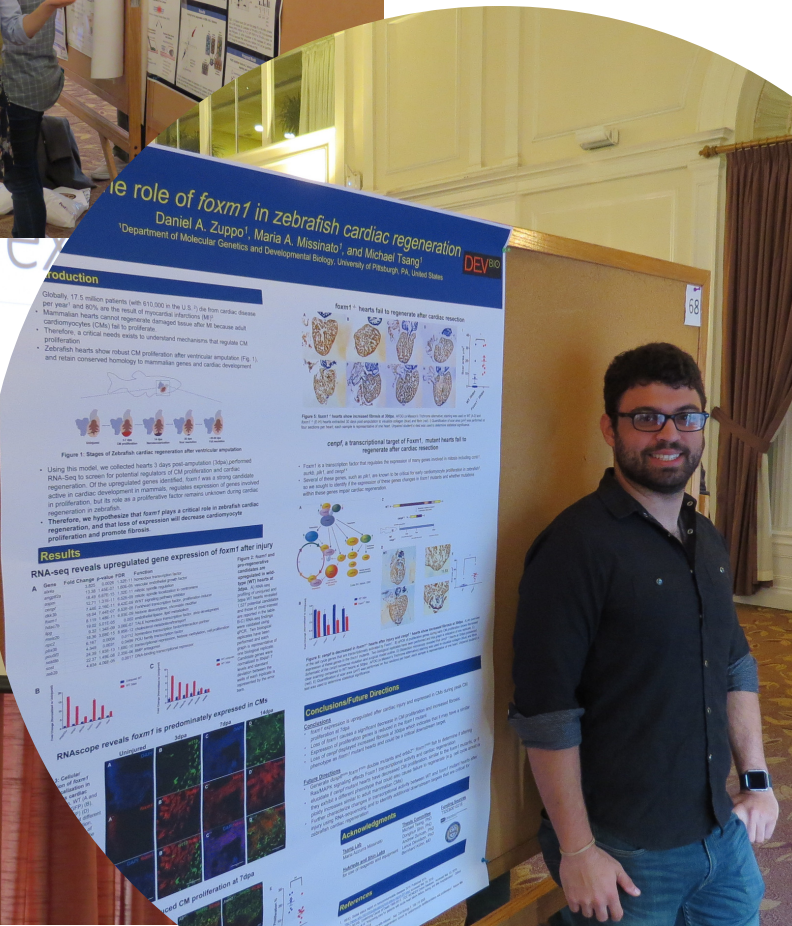
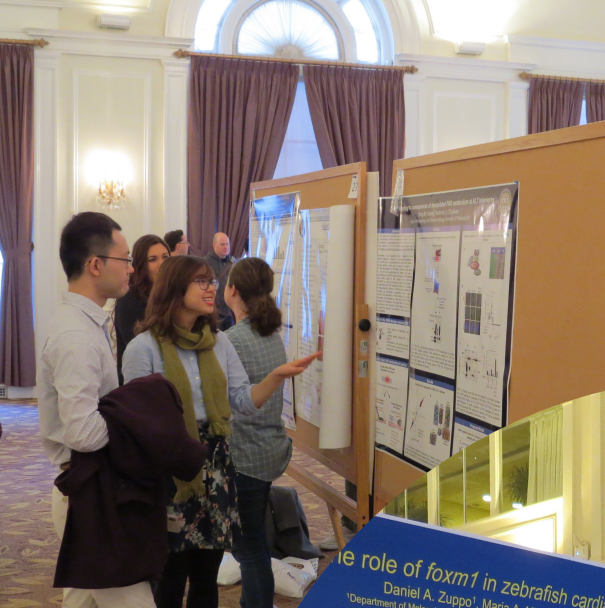
Symposium Happy Hour

This year the annual BGSA post-symposium was held at Stacked Burgers and Beer in Shadyside. The reserved upstairs bar area hosted the students and faculty as they unwound and discussed the day's events over drinks, hors d'oeuvres, or a game of darts. The event had a great turn out and students stayed long after the food and drinks were finished, crowding the bar and seating area enjoying the atmosphere and socializing with their friends and peers."



Sam Herron, CMP

BGSA Symposium



Past Events



BGSA Escape Room Event

We met up at Voodoo Brewery in Homestead to fill up on lunch before embarking on our expedition in an ancient Egyptian tomb. Right from the start we were thrown into a snake-infested room (“Snakes! Why did it have to be snakes?”), but luckily, no one was bitten. We managed to work together as a team to solve the various puzzles, which included reading hieroglyphics, sitting on an ancient throne, and solving riddles, and escaped with plenty of time to spare. Afterwards, we went back to Voodoo Brewery for the mission debriefing and to celebrate our win.



Shelby Hemker, MGDB

Maggie's Rum Farm Happy Hour

On July 11th, the BGSA ventured out to Maggie's Rum Farm in the Strip District to celebrate the summer with a semi-formal happy hour. Students mingled in Maggie's intimate bar space, decoratively lined with rum barrels and multi-colored bottles of Maggie's offerings. Not only did students get to taste a selection of tropical rum-based cocktails, they enjoyed a catered dinner from a grad student culinary favorite: Chipotle. Following the trend of this year's event and last year's Wigle Whiskey semi-formal, who knows what corner of Pittsburgh-based distilleries the BGSA will explore next summer.



Ryan Staudt, Pharm



Past Events

Summer Career Seminar Series

This summer the BGSA hosted a Summer Career Seminar Series featuring former Pitt post-doc Dr. April Marrone and Pitt alumni Drs. Kathleen Kehr and Abhishek Mandal. The purpose of the seminar series was to introduce students to some of the non-academic career paths that are available to them. Dr. Marrone spoke about her experience working as a Commissioners Fellow and later a Regulatory Chemist with the Food and Drug Administration. Dr. Kehr is a Biological Modeler with Immunetrics, a local biotech startup that aids pharmaceutical companies in making decisions about drug development. Dr. Mandal discussed his experience as an immigrant moving from academia to data science/analytics. Students found the seminars very useful and enjoyed having open conversations about planning for their future.



Jenn Boatz, MBSB

BGSA Picnic

On August 22nd students and faculty from across all graduate programs in the School of Medicine came out to welcome the incoming class of first year graduate students. This year's BGSA Summer Picnic, held at the Vietnam Veterans Pavilion in Schenley Park, featured our traditional burger and hot dog BBQ while our fellow students enjoyed games of volleyball and corn hole. However, after a few hours of eating and socializing, Ryan Staudt (Molecular Pharmacology) emceed our very own BGSA karaoke! Although I'm far too much of a chicken (and a terrible singer) to have participated myself, it was a great way to end the picnic and created a fun and entertaining evening for all those who stayed.



Azia Evans, PMI

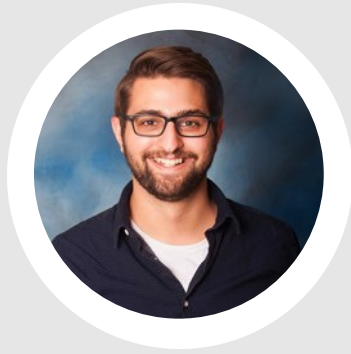


Nikki Naim, MGDB



Dave and Busters with the BGSA

The atmosphere at Dave and Buster's is a great way to unwind from a day in lab. Why not use those pipetting muscles to win on a skill crane? Or your perfect hand-eye coordination to play a first-person simulation of Jurassic Park? Since Wednesday's at D&B's are half-off the BGSA managed to reserve us a room with awesome appetizers for a whole night of games at only \$16. After mini-quiches and nachos, I found my way to challenging my fellow colleagues to 2 and 4-player games of air MarioKart, and Super Trivia. I cannot recommend this BGSA event more for those curious to try it next year.



Ryan Staudt, Pharm

STEM Outreach at Sister Thea Bowman School

On December 6th, a group of BGSA students (equipped with a box of slime-making supplies) visited Ms. Poole's Pre-K class at the Sister Thea Bowman School. The young class was introduced to polymer chemistry at a basic, fun, and hands-on level, and were ecstatic to color and customize their very own slime. Ms Poole's class also learned about phases of matter through several provided examples, the most popular being a container of messy green "oobleck". It's easy in grad school to forget how exciting science can be, but seeing these young students react as their slime transformed before their eyes definitely helped recapture some of the magic.



End of Semester Happy Hour

On Friday, December 7th, BGSA hosted a Winter Happy Hour at the Thirsty Scholar in Oakland. Students from various biomedical programs gathered to celebrate the end of the Fall semester. Planned by first year IBGP representatives, this event served as a celebration of not only the end of a semester, but also first year foundations classes. Over drinks and great appetizers, students were able to socialize with their peers from different programs or from their own. It was a great opportunity to meet new friends as well as look back at the memories made during this very long semester.



Corinne Farrell, 1st Year IBGP

BGSA Spooky Midnight Movie Night

For several years, the historic Manor Theatre in Squirrel Hill has hosted a Midnight Movie Horror Fest, showing a series of super-spooky classic horror movies every Saturday night in October. During the wee hours of October 20th, BGSA students filed into the jam-packed theater to view one of the most terrifyingly disturbing movies of all time: Stanley Kubrick's 'The Shining'. Prior to the start of the movie, the owner of The Manor Theatre ran through the theater toting an axe and "attacking audience members, before asking a number of trivia questions where correct answers won attendees free admission to future movies screenings. The run time for 'The Shining' is 2h 26m; I was not able to stay awake pass the first hour of the movie. Let me tell you, waking up intermittently as Jack Nicolson's character becomes more deranged and violent is a wonderful way to intensify the spookiness of this already incredibly spooky movie. I was told by BGSA students that were able to give up their normal sleep time to watch the entire movie, that the event was enjoyed by all.



Mondraya Howard, MVM

Burnout or Churnout Workshop

Do you feel like you don't have a minute to spare in your busy day? Are you overwhelmed by everything that's going on in the world these days? What if I told you that all it takes is four minutes to help you feel less stressed and overwhelmed? Just close your eyes, listen to your breathing, and focus on slowing it down. This was one of several exercises that Hallie Stotsky, the director of Pitt's Stress-Free Zone, walked us through during the Get Organized event on November 13. The Stress-Free Zone provides free classes and quiet spaces for meditation, yoga, and Tai Chi as well as resources for students to help with time management and dealing with stress. The major take-away from the event was simple: you do have time to focus on yourself for at least a few minutes a day. Your reagents, cells, and papers can wait five minutes while you all yourself to clear your mind and breathe.



Nicole Martucci, CMP

Candle-making with the BGSA

On Wednesday November 14th, forty BGSA members gathered at the Candle Lab in Lawrenceville. At this sold out event, we each made a custom scented candle. There was a wall of 120 scents to choose from and professional scent stylists to help each candle maker formulate a pleasant-smelling candle. Each candle maker also had the option to make a custom label for their candle. While waiting for the candles to cool down and solidify, we enjoyed pizza and tasty arsenal ciders. This down time was the perfect time to catch up with other BGSA members. Overall, the Candle Lab was a great break from the regular lab bench.



Ravi Patel, Pharm

Student Spotlight



Stephanie Mutchler, Pharm

Stephanie is a kind, accomplished, talented graduate student. She works in Dr. Tom Kleyman's lab in the Renal-Electrolyte Division, and, I believe is a hidden gem contributing to the great accomplishments of this department. She not only works tirelessly on writing her own publications and thesis defense while completing her own experiments, but she also is constantly helping others with her expertise in in vitro and in vivo work. Although Stephanie and I are in different labs, she acts as a mentor and has contributed the most to my learning techniques as a new graduate student. She supports me technically and scientifically. Most importantly, she is and extremely nice person, bringing positivity and calmness to the Renal Department. She is a role model for new graduate students: an accomplished, technically skilled scientist who never hesitates to share her knowledge and skills with others. We're lucky to have her here at Pitt!

-Helene Altmann



Sharie Ganchua, PMI

Sharie Ganchua began working on the role of thoracic lymph nodes in tuberculosis as a rotation student, and continued this work as a "side project" when she joined the Flynn lab. Through a lot of hard work, Sharie produced outstanding data demonstrating that thoracic lymph nodes are a significant reservoir for *M. tuberculosis* in non-human primates, and that lymph nodes are pretty poor at killing the bacteria. She published this as a first author paper in PLoS Pathogens this month, and it was chosen as a paper for press release by PLoS Pathogens. Congratulations Sharie!

-Joanne Flynn

Travel Grants

Congratulations to BGSA Travel Grant awardees!

Congratulations to Chelsea Merkel (Cell Biology and Molecular Physiology), winner of the BGSA Travel Award for December! Chelsea is attending the American Society for Cell Biology (ASCB) Annual Meeting in San Diego!

November: Ryan Hausler (Biomedical Informatics) attended the Radiological Society of North America Meeting in Chicago, and **Paige Rudich** (Cell Biology and Molecular Physiology) attended the 5th RNA Metabolism in Neurological Disease Conference in San Diego.

October: Ben Hayes (Clinical and Translational Sciences) attended the American Academy of Child and Adolescent Psychiatry 2018 Annual Meeting in Seattle, and **Allison Close** (UPMC Pediatrics Residency Program) attended the 2018 Histiocyte Society Annual Meeting in Lisbon, Portugal.

September: Jacob Spiegall (Molecular Biology and Structural Biology) attended the RDKit UGM Conference 2018 in Cambridge, and **Derek Callahan** (Immunology) attended the Systems Immunology Symposium in Philadelphia.

August: Rachel Wills (Cell Biology and Molecular Physiology) attended FASEB: Phospholipids: Dynamic Lipids Signaling in Health and Disease in Steamboat Springs, CO

July: Azia Evans (Program in Microbiology and Immunology) attended American Society of Virology 2018 Annual Meeting in College Park, MD

The BGSA will award **TWO** travel grants of **\$250** per month to two eligible students within School of Medicine's graduate programs. BGSA Travel Grants can be used to reimburse travel and lodging costs, and event-specific fees. To learn more and to submit an application, please go to <http://www.bgsa.pitt.edu/travel-grants.html> or email BGSATravelGrants@gmail.com.

Recent Student Publications

Cell Biology and Molecular Physiology

Wills RC, Goulden BD, Hammond GRV. "Genetically encoded lipid biosensors". *Mol Biol Cell*. 2018 July 1;29(13):1526-1532. PMID: 29953345.

Cellular and Molecular Pathology

Agarwal N, Popovic B, **Martucci NJ**, Fraunhoffer N, Soto-Gutierrez A. "Biofabrication of Autologous Human Hepatocytes for Transplantation: How do we get there?". *Gene Expr*. Aug 2018. DOI: 10.3727/105221618X15350366478989.

Murdock MH, Chang JT, Luketich SK, Pedersen D., Hussey GS, D'Amore A, Badylak SF. "Cytocompatibility and mechanical properties of surgical sealants for cardiovascular applications." *J Thorac Cardiovasc Surg*. 1 Sept 2018. <https://doi.org/10.1016/j.jtcvs.2018.08.043>

Murdock MH, David S, Swinehart IT, Reing JE, **Tran K.**, Gassei K., Orwig KE, Badylak SF. "Human testis extracellular matrix enhances human spermatogonial stem cell survival in vitro" *Tissue Eng.* 12 Oct 2018. <https://doi.org/10.1089/ten.TEA.2018.0147>.

Russell JO, Lu WY, Okabe H, Abrams M, Oertel M, Poddar M, Singh S, Forbes S, Monga SP. "Hepatocyte-specific β -catenin deletion during severe liver injury provokes cholangiocytes to differentiate into hepatocytes". *Hepatology.* 2018 Sept 14. DOI: 10.1002/hep.30270.

Zhang R, Kikuchi AT, Nakao T, **Russell JO**, **Preziosi ME**, Poddar M, Singh S, Bell AW, England SG, Monga SP. "Elimination of Wnt secretion from stellate cells is dispensable for zonation and development of liver fibrosis following hepatobiliary injury." *Gene Expr.* 2018 Sep 20. DOI: 10.3727/105221618X15373858350141

Ko S, **Russell JO**, Tian J, Gao C, Kobayashi M, Feng R, Yuan X, Shao C, Ding H, Poddar M, Singh S, Locker J, Weng HL, Monga SP, Shin D. "Hdac1 Regulates Differentiation of Bipotent Liver Progenitor Cells During Regeneration via Sox9b and Cdk8". *Gastroenterology.* 2018 Sep 26. DOI: 10.1053/j.gastro.2018.09.039

Pradhan-Sundd T, Vats R, **Russell JO**, Singh S, Michael AA, Molina L, Kakar S, Cornuet P, Poddar M, Watkins SC, Nejak-Bowen KN, Monga SP, Sundd P. "Dysregulated Bile Transporters and Impaired Tight Junctions During Chronic Liver Injury in Mice". *Gastroenterology.* Oct 2018. DOI: 10.1053/j.gastro.2018.06.048

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Stahl EC, Bonvillain RW, Skillen CD, Burger BL, Hara H, Lee W, Trygg CB, Didier PJ, Grasperge BF, Pashos NC, Bunnell BA, Bianchi J, Ayares DL, Guthrie KI, Brown BN, Petersen TH. "Evaluation of the host immune response to decellularized lung scaffolds derived from alpha-Gal knockout pigs in a non-human primate model." *Biomaterials.* Dec 2018. DOI: 10.1016/j.biomaterials.2018.09.038

Wilkinson PD, Delgado ER, Alencastro F, Leek MP, Roy N., Weirich MP, **Stahl EC**, **Otero PA**, Chen MI, Brown WK, and Duncan AW. "The polyploid state restricts hepatocyte proliferation and liver regeneration in mice." *Hepatology.* 23 Sept 2018. DOI: 10.1002/hep.30286

Molecular Genetics and Developmental Biology

Kumar N, Stanford W, de Solis C, Aradhana, Abraham ND, Trieu-Mi J. Dao, Thaseen S, Sairavi A, Gonzalez CU, and Ploski JE. "The Development of an AAV-Based CRISPR SaCas9 Genome Editing System That Can Be Delivered to Neurons in vivo and Regulated via Doxycycline and Cre-Recombinase". *Front Mol Neurosci.* 13 Nov 2018. doi: 10.3389/fnmol.2018.00413

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Zuppo DA, Tsang M. "Fusion heals the broken-hearted" *Ann Trans Med.* Nov 2018. <http://atm.amegroups.com/article/view/21311>

Molecular Pharmacology

Asan A, Skoko JJ, Chen Woodcock CS, **Wingert BM**, Woodcock SR, Normolle D, Huang Y, Stark JM, Camacho CJ, Freeman BA and Neumann CA. "Electrophilic fatty acids impair RAD51 function and potentiate the effects of DNA-damaging agents on growth of triple-negative breast cells." *J Bio Chem*. 26 Nov 2018. doi: 10.1074/jbc.AC118.005899

Shen K, Moroco JA, **Patel RK**, Shi H, Engen JR, Dorman HR, Smithgall TE. "The Src family kinase Fgr is a transforming oncoprotein that functions independently of SH3-SH2 domain regulation". *Sci Signal*. Oct 2018. doi: 10.1126/scisignal.aat5916.

Roy A, **Veroli MV**, Prasad S, Wang QJ. "Protein Kinase D2 Modulates Cell Cycle By Stabilizing Aurora A Kinase at Centrosomes". *Mol Cancer Res*. Nov 2018. doi: 10.1158/1541-7786.MCR-18-0641.

Biomedical Informatics

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Fisher AM, **Mtonga TM**, Espino JU, Jonkman LJ, Connor SE, Cappella NK and Douglas GP. "User-centered design and usability testing of RxMAGIC: a prescription management and general inventory control system for free clinic dispensaries". *BMC Health Services Research*. 10 September 2018. <https://doi.org/10.1186/s12913-018-3517-8>.

Clinical and Translational Sciences, Institute for Clinical Research Education

Colditz JB, Chu KH, Emery SL, Larkin CR, James AE, Welling J, Primack BA. "Toward Real-Time Inveillance of Twitter Health Messages". *Am J Public Health*. 11 Jul 2018. doi: 10.2105/AJPH.2018.304497

Integrative Systems Biology

Jeon BB, **Swain AD**, Good JT, Chase SM, Kuhlman SJ. "Feature selectivity is stable in primary visual cortex across a range of spatial frequencies". *Sci Rep* 16 Oct 2018. doi: 10.1038/s41598-018-33633-2

Medical Scientist Training Program

Harvey LD, Chan SY. "Evolving systems biology approaches to understanding non-coding RNAs in pulmonary hypertension". *J Phys*. 16 Aug 2018. doi: 10.1113/JP275855

Molecular Biophysics and Structural Biology

Smith AN, Märker K, Piretra T, **Boatz JC**, Matlahov I, Kodali R, Hediger S, van der Wel PCA, and De Paëpe G. "Structural Fingerprinting of Protein Aggregates by Dynamic Nuclear Polarization-Enhanced Solid-State NMR at Natural Isotopic Abundance". *J Am Chem Soc*. 07 Nov 2018. DOI: 10.1021/jacs.8b09002.

Cabalteja CC, Mihalko DS, Horne WS. "Heterogeneous-Backbone Foldamer Mimics of a Computationally Designed, Disulfide-Rich Miniprotein." *Chembiochem*. 16 Oct 2018 doi: 10.1002/cbic.201800558

Himes BA, Zhang P. "emClarity: software for high-resolution cryo-electron tomography and subtomogram averaging". *Nat Methods*. 2018 Nov. doi: 10.1038/s41592-018-0167-z

Iliina TV, **Slack RL**, Elder JH, Sarafianos SG, Parniak MA, Ishima R. "Effect of tRNA on the Maturation of HIV-1 Reverse Transcriptase". *J Mol Biol*. 2018 Jun 22. doi: 10.1016/j.jmb.2018.02.027

Program in Microbiology and Immunology

Ganchua SKC, **Cadena AM**, Maiello P, Gideon HP, Myers AJ, Junecko BF, Klein EC, Lin PL, Mattila JT, Flynn JF. "Lymph nodes are sites of prolonged bacterial persistence during *Mycobacterium tuberculosis* infection in macaques". *PLoS Pathog*. 11 Nov 2018. <https://doi.org/10.1371/journal.ppat.1007337>

Rogers, MC, **Lamens KD**, Shafagati N, Johnson M, Oury TD, Joyce S, Williams JV. "CD4+ Regulatory T Cells Exert Differential Functions during Early and Late Stages of the Immune Response to Respiratory Viruses". *J Immunol*. 11 Jul 2018. doi: 10.4049/jimmunol.1800096

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Wells AI, Coyne CB. "Type III Interferons in Antiviral Defenses at Barrier Surfaces". *Trends Immunol*. 2018 Oct. doi: 10.1016/j.it.2018.08.008

Computational Biology

Sunseri J, **King JE**, **Francoeur PG**, Koes DR. "Convolutional neural network scoring and minimization in the D3R 2017 community challenge". *J Comput Aided Mol Des*. 10 July 2018.

Gupta S, Hainsworth L, Hogg J, Lee R, Faeder J. "Evaluation of Parallel Tempering to Accelerate Bayesian Parameter Estimation in Systems Biology". *Proceedings – 26th Euromicro International Conference on Parallel, Distributed, and Network-Based Processing, PDP 2018*, 690-697

Tyurina YY, Shrivastava I, Tyurin VA, **Mao G**, Dar HH, Watkins S, Epperly M, Bahar I, Shvedova AA, Pitt B, Wenzel SE, Mallampalli RK, Sadovsky Y, Gabrilovich D, Greenberger JS, Bayir H, Kagan VE. "“Only a life lived for others is worth living:” Redox Signaling by Oxygenated Phospholipids in Cell Fate Decisions". *Antioxid Redox Signal*. Nov 2018. DOI:10.1089/ars.2017.7124

Parvatikar A, Vacaliuc GS, Ramanathan A, Chennubhotla SC. "ANCA: Anharmonic Conformational Analysis of Biomolecular Simulations". *Biophys J*. May 2018. doi: 10.1016/j.bpj.2018.03.021.

Wingert BM, Camacho CJ "Improving small molecule virtual screening strategies for the next generation of therapeutics". *Curr Opin Chem Biol*. June 2018. <https://doi.org/10.1016/j.cbpa.2018.06.006>

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Kitsios GD, Fitch A, Manatakis DV, Rapport SF, Li K, Qin S, Huwe J, **Zhang Y**, Doi Y, Evankovich J, Bain W, Lee JS, Methé B, Benos PV, Morris A, McVerry BJ (2018) Respiratory Microbiome Profiling for Etiologic Diagnosis of Pneumonia in Mechanically Ventilated Patients. *Front Microbiol*. 2018 Jul 10;9:1413. doi: 10.3389/fmicb.2018.01413.