



# University of Pittsburgh School of Medicine BGSA Newsletter

March, 2016 edition

Edited by Greg Logan



Dear fellow students and faculty members,

The cold weather in Pittsburgh this winter didn't stop the BGSA from staying active! We kicked off our career development initiative this semester with two fantastic events: first, a Careers in Academia panel featuring Pitt faculty in a variety of academic positions, and two weeks later, a talk by Jesse Schell entitled "Curiosity, Patience, and Purpose: How Big Breakthroughs Happen." Both events provided graduate students and other members of the Pitt community in attendance with tools and tricks to help them be successful in their careers. We're excited to continue this initiative, so keep an eye out for future related events!

BGSA members have also been involved with science outreach through a new and exciting partnership with the Carnegie Science Center. BGSA volunteers have spent one weekend a month volunteering at the Science Center's STEM Saturday Academies, helping local middle school girls develop an understanding of scientific topics and the confidence to pursue STEM fields in college.

Looking ahead, the BGSA's annual Ski Trip is coming up this weekend, on Saturday, March 12th - hopefully you bought tickets! We are also working on details for our Spring social events, some surprises for Graduate Student Appreciation Week in early April, and an end-of-semester party in May- so keep an eye out for more information about these fun opportunities over the next several weeks.

As always, any graduate student is welcome to attend the monthly BGSA Council meetings, held the first Monday of every month in BST 995 at 1:30 pm. Our next meeting will be on Monday, April 4th. To be included on the BGSA email distribution list, please email me. You can also visit the BGSA website ([www.bgsa.pitt.edu](http://www.bgsa.pitt.edu)), join our Facebook group, or follow us on Twitter (@PittBGSA) for updated information about events and other resources.

Until June!

Aliyah Weinstein  
BGSA President  
Immunology training program

## Foundations Happy Hour BGSA Website

Thank you to all who attended the post-foundations happy hour at Stack'd in Shadyside! We reached about 40 in attendance and it could not have been nearly as much fun without all that came. Thank you for showing support for the first years at the end of a tiresome semester of enzyme kinetics and receptor mediated endocytosis. -Ben Warner

Have you visited the BGSA website recently? If not, you may not have noticed all the changes that have been made! You can now find an up-to-date list of student publications, resources to help you navigate Pitt and Pittsburgh, a Google calendar listing BGSA and other science-oriented events, and more! Visit [bgsa.pitt.edu](http://bgsa.pitt.edu) to check it out. - Aliyah Weinstein

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## Upcoming Events

*More information on page 3.*

### March 12th

BGSA Ski Trip

### April 4th

Next BGSA meeting

Location TBA 1:30p.m.

### April 4th

Coffee Hour with Judy Chang, MD  
6p.m.

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# BGSA Council 2015-2016

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## *Officers*

### **President**

Aliyah Weinstein (IMM)

### **VP of Records**

Abby Stahl (CMP)

### **VP of Finance**

Jennifer Boatz (MBSB)

### **VP of Communications**

Gregory Logan (CMP)

### **VP of University Outreach**

Elizabeth Dahlburg (MBSB)

### **VP of Programing**

\*Vacant Position\* Contact Aliyah if you are interested in this position

## *Representatives*

### **Biomedical Informatics**

Jose Posada

### **Cell Biology**

Paige Rudich

### **Cellular and Molecular Pathology**

Morgan Preziosi

### **Clinical and Translational Science**

Alyce Anderson

### **Computational Biology**

Kristina Buschur

### **Immunology**

Agustin Cruz and Adolfo Frias

### **Integrative Systems Biology**

Celestino Velasquez

### **Mol. Biophysics and Structural Bio**

Lisa Clark

### **Mol. Genetics and Dev. Biology**

Adetunji Fayomi

### **Mol. Virology and Microbiology**

Mondraya Howard, Justin Wendzicki, and Eileen Wong

### **Neuroscience**

Puja Parekh

### **Pharmacology**

Shireen Attaran and Nyla Naim

### **1st-year Representatives**

Sarah Dremel and Ben Warner

### **WSMA Representative**

Alyce Anderson

## Comprehensive Exam Panel

The Comprehensive Exam panel was held early in February and was attended by a majority of the students taking the exam this year. Although this event has been directed towards those in the IBGP program, this year we were joined by students from ISB, along with their own representative. The panelist started out by giving their own piece of advice for tackling the comprehensive exam to

everyone, transitioning into an open discussion of their shared and contrasting experiences. Everyone remained engaged when we moved into smaller groups based on program and some groups went for almost the whole time allotted. Thanks to everyone that volunteered and we wish everyone good luck with exams - even if you didn't attend! -Adolfo Frias

## Careers in Academia Panel

BGSA members gathered in early February to learn about careers in academia. This panel brought together Pitt faculty in a variety of academic positions: tenure-track assistant professor, research assistant professor, and lecturer, to discuss the pros and cons of their job, salary differences, work-life balance, and how students can attain the same job. The event was a great success, as students

walked away with an understanding that an academic career path can look very different depending on which position they pursue. Thanks to panelists Seema Lakdawala, Bill Hawse, and Sara Ernst, and moderator Bruce Freeman, for making this event so educational! If you were unable to attend, please visit the Events tab on the BGSA website to see notes from the event. – Aliyah Weinstein

## Writing Seminar and Workshop

This February, the BGSA partnered with the Women in Science and Medicine Association (WSMA) to host the Writing Seminar and Workshop Series. This series offered a formal introduction to the manuscript writing process while allowing students to have their work critically reviewed. Dr. Partha Biswas, from the Department of Medicine, Division of Rheumatology & Clinical Immunology, kicked off the event with a presentation on organization, writing style, and the key elements of a good paper. This was followed by Dr. Ronald Wetzel, of the Department of Structural Biology, who described what happens to a manuscript once it is submitted. Together, Drs.

Biswas and Wetzel offered their advice and insight on writing strong manuscripts and navigating the peer-review process.

Students were able to apply these tips in the following workshop. Each student was paired with a post-doctoral or faculty reviewer and received one-on-one constructive critiques on a written sample. Since most student's written style relies heavily on their immediate mentors and co-workers, this interdepartmental workshop provided networking opportunities and fresh perspectives. We are incredibly thankful to the volunteer reviewers and presenters for making this series a success! -Nyla Naim

## BGSA Presents: Jesse Schell

On February 24, the BGSA welcomed an acclaimed speaker and video-game designer from Carnegie Mellon University, Professor Jesse Schell, CEO of Schell Games. Mr. Schell gave a talk entitled, "Curiosity, Patience, and Purpose: How Big Breakthroughs Happen." Schell described his own life accomplishments in game design, starting a company, and writing a book and his inspirations and challenges along the way. Schell encouraged students to follow their curiosity to a scientific topic they are passionate about. If students find themselves unhappy in their current position or pursuit, Schell recommended changing directions or perspectives. To improve

patience in the pursuit of knowledge, Schell recommended daily meditation to focus the mind, and carrying a notebook to capture and preserve ideas. At the end of the day, students should identify the purpose of their discovery, and apply the discovery to a greater good. For example, Schell spoke about Happy Atoms, his groundbreaking new gaming system for high school and elementary level students to study organic molecules using a much-needed updated and intuitive ball-and-stick model with an iPad application. The educational game may even lead to the discovery of new organic molecules and improve the theoretical understanding of chemistry for students! -Abby Stahl

# Python Language Programming Series

Women in Science in Medicine (WSMA) in collaboration with the BGSA community organized and hosted a Python Programming course throughout the month of February. Students gathered on Wednesday evenings to complete an online, independent learning course geared to those who have zero programming experience. The course that was taken by students in attendance

was available through an online, open access website ([www.coursera.org](http://www.coursera.org)), and students completed this independently. This ongoing event series was designed to create a group of students that were interested in advancing their skills in programming and holding each other accountable! Students drank coffee and learned valuable skills

throughout the month. We are looking forward to offering additional classes in this format and welcome future topic suggestions! Please email any suggestions you have for new courses to [ajm197@pitt.edu](mailto:ajm197@pitt.edu). If you are interesting in attending future events or courses, please follow us on Facebook and Twitter (@PittWSMA). -Alyce Anderson

## Upcoming Events

### Coffee Hour with Judy Chang

Judy Chang, MD, is an engaging scientist who has dedicated her research career on communication between patients and providers on sensitive issues in women's health. She is experienced with qualitative methods in research and has published fascinat-

ing work on communication about intimate partner violence from the perspective of men and women. She is a captivating speaker, and we hope you will join us at this coffee hour to learn about her career. The event is April 4th at 6p.m. Location is TBA

### Annual BGSA Ski Trip

The Seven Springs ski trip is upon us! While it is a little later in the season this year, that 4-6 ft. base is sure to hold against this warmer weather, lending hand to a sunny day on the slopes. Thanks to all who have signed up and continue to make this a fun annual event! -Ben Warner

## Photos

### Photocredits:

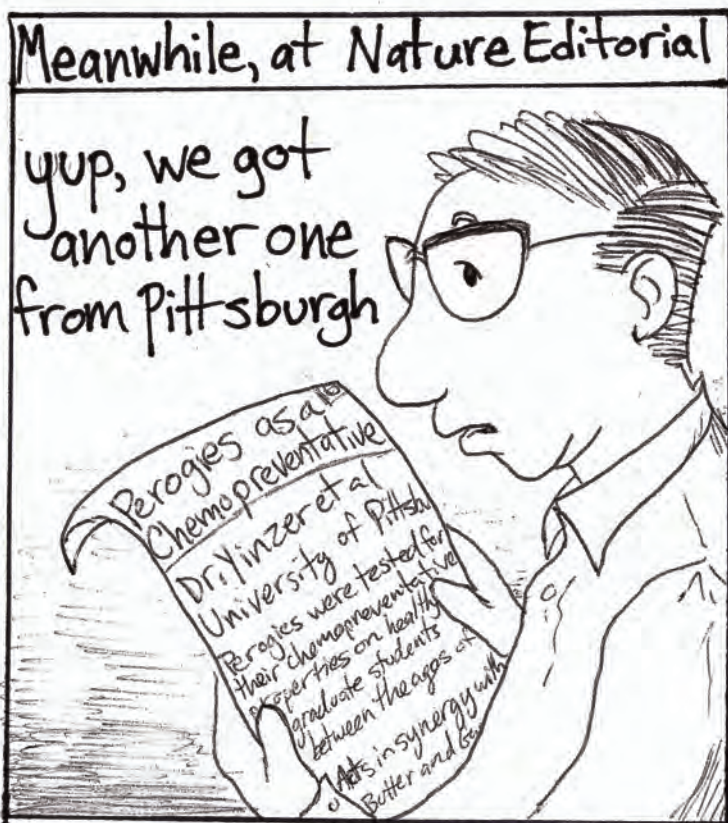
Aliyah Weinstein  
Eileen Wong



Careers in Academia panel



Jesse Schell



Comic by Nyla Naim



Volunteering with Carnegie Science Center



# Student Spotlight



**Rory Donovan**  
5th Year Graduate Student  
Daniel Zuckerman Lab  
Computational Biology

Rory works at the interface of systems biology and structural biophysics, applying enhanced sampling techniques from the structural world to systems models of cell-scale behavior. His recent work, which spanned the research objectives of four disparate groups (bioimage informatics, cell modelling, biochemical networks, and sampling methodology), has been essential to the success of the National

Center for Multiscale Modeling of Biological Systems, a new center at Pitt and CMU. Aside from his research, he is an active member of the computational biology community in Pittsburgh. He has been involved in the Computational Biophysics course at Pitt for four years now, as both a TA and guest lecturer. He has served on the senate for the CMU-Pitt CompBio (CPCB) graduate program, and also as a member of the admissions committee. This year he received an award for outstanding research accomplishments by the CPCB graduate program, and had his second 1st-author paper accepted for publication.

**Matthew Hendricks**  
4th Year Graduate Student  
Jennifer Bomberger Lab  
Mol. Virology and Microbiology

Matthew Hendricks is a bright and hardworking 4th year student in Jennifer Bombergers' laboratory in the MMG department, where he studies host-pathogen interactions. In particular, his project focuses on the impact of respiratory viruses on the ability of the bacterium *Pseudomonas aeruginosa* to form biofilms on airway epithelial cells. This

interaction may have important medical ramifications for cystic fibrosis, a deadly genetic disease. The lung of young cystic fibrosis patients is frequently colonized in an acute manner by bacteria such as *P. aeruginosa*, but inevitably, the bacteria achieve chronic colonization that leads to lung dysfunction, morbidity, and mortality. The mechanisms by which this change from acute to chronic interactions occur are not well understood. Mathew's recent first author papers in the Proceedings of the National Academy of Science and Journal of Virology provide fundamental insight into this medically important phenomenon.



**Binh Phong**  
Senior Graduate Student  
Larry Kane Lab  
Immunology

Binh recently defended her thesis, which was very well received by her thesis committee and by the Immunology graduate program, who came out in large numbers for her defense. Late in 2015, Binh

published a high-profile paper in the prestigious Journal of Experimental Medicine. This paper represented a tremendous effort by Binh, who single-handedly brought the study of mast cells to my lab, which until now has focused on the study of T cells. It also gives me confidence that she has what it takes to become a successful scientist.

# Publications December 2015-present

## *Cell Biology and Molecular Physiology*

Montalbetti N, Rued AC, Clayton DR, Ruiz WG, Bastacky SI, Prakasam HS, **Eaton AF**, Kullman FA, Apodaca G, Carattino MD. Increased urothelial paracellular transport promotes cystitis. *Am J Physiol Renal Physiol*. 2015 Dec 15. doi:10.1152/ajprenal.00200.2015. PMID:26423859.

## *Clinical and Translational Biology*

Agassandian M, Tedrow JR, Sembrat J, Kass DJ, Zhang Y, Goncharova EA, Kaminski N, Mallampalli RK, **Vuga LJ**. VCAM-1 is a TGF- $\beta$ 1 Inducible Gene Upregulated in Idiopathic Pulmonary Fibrosis. *Cell Signal*. 2015 Dec;27(12):2467-73. PMID: 26386411

## *Immunology*

**Concha-Benavente, F.**, Srivastava, R.M., Trivedi, S., Lei, Y., Chandran, U., Seethala, R.R., Freeman, G.J., Ferris, R.L., 2015. Identification of the Cell-Intrinsic and -Extrinsic Pathways Downstream of EGFR and IFN $\gamma$  That Induce PD-L1 Expression in Head and Neck Cancer. *Cancer Res*. doi:10.1158/0008-5472.CAN-15-2001. PMCID: PMC4775348

Garcia-Bates, T.M., Kim, E., **Concha-Benavente, F.**, Trivedi, S., Mailliard, R.B., Gambotto, A., Ferris, R.L., 2016. Enhanced Cytotoxic CD8 T Cell Priming Using Dendritic Cell-Expressing Human Papillomavirus-16 E6/E7-p16INK4 Fusion Protein with Sequenced Anti-Programmed Death-1. *J Immunol*. doi:10.4049/jimmunol.1502027. PMID: 26851223

**Overacre, A.E.**, Vignali, D.A., 2016. Treg stability: to be or not to be. *Curr Opin Immunol* 39, 39–43. doi:10.1016/j.coi.2015.12.009. PMID: 26774863

Sobo-Vujanovic, A., Vujanovic, L., DeLeo, A.B., **Concha-Benavente, F.**, Ferris, R.L., Lin, Y., Vujanovic, N.L., 2016. Inhibition of soluble tumor necrosis factor prevents chemically-induced carcinogenesis in mice. *Cancer Immunol Res*. doi:10.1158/2326-6066.CIR-15-0104. PMID: 26896171

Zheng, M., Horne, W., McAleer, J.P., Pociask, D., **Eddens, T.**, Good, M., Gao, B., Kolls, J.K., 2016. Therapeutic Role of Interleukin 22 in experimental intra-abdominal *Klebsiella pneumoniae* infection in mice. *Infect Immun*. doi:10.1128/IAI.01268-15. PMID: 26729763

## *Molecular Biophysics and Structural Biology*

Hoop C L, Lin H-K, Kar K, Magyarfalvi G, Lamley JM, **Boatz JC, Mandal A**, Lewandowski JR, Wetzel R, van der Wel PCA. 2016. Huntingtin exon 1 fibrils feature an interdigitated  $\beta$ -hairpin-based polyglutamate core. *Proceedings of the National Academy of Sciences*. 2016 February. doi:10.1073/pnas.1521933113. PMID: 26831073.

Liu C, Perilla JR, Ning J, Lu M, Hou G, Ramalho R, **Himes BA**, Zhao G, Bedwell GJ6, Byeon IJ, Ahn J, Gronen born AM, Prevelige PE, Rousso I, Aiken C, Polenova T, Schulten K, Zhang P. Cyclophilin A stabilizes the ms10714. PMID: 26940118.

## *Molecular Virology and Microbiology*

**Hendricks MR**, et al. (2016) Respiratory syncytial virus infection enhances *Pseudomonas aeruginosa* biofilm growth through dysregulation of nutritional immunity. *Proc Natl Acad Sci USA* 113:1642–1647

## *Pharmacology*

**Barnes CO**, Kovaleva EG, Fu X, Stevenson HP, Brewster AS, DePonte DP, Baxter EL, Cohen AE, Calero G. Assessment of Microcrystal Quality by Transmission Electron Microscopy for Efficient Serial Femtosecond Crystallography. *Arch Biochem Biophys*. 2016 March. doi: 10.1016/j.abb.2016.02.011. [Epub ahead of print] PMID: 26944553

## *Neuroscience*

**Becker-Krail**, D and McClung C. Implications of circadian rhythm and stress in addiction vulnerability. *F1000 Research*. 2016 Jan 13. 5:59 doi:10.12688/f1000research.7608.1 PMID:26913197.