



Edited by Anastasia Gorelova

# BGSA Newsletter

April 2017



Pitt BGSA



@PittBGSA

## Upcoming Events

- Center for Creativity Post-Card Writing & Sign Making Event – April 20
- March for Science – April 22
- Spring Semi-formal – TBA
- Intramural Sports Activities – TBA
- Summer Career Seminar Series – TBA

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# Letter from the President



**Abby Stahl**  
ecs40@pitt.edu  
BGSA President,  
2016-2017

Dear fellow students and faculty members,

Since our last update in December, we've seen a great many changes in our university community, largely influenced by the new political administration. The BGSA echoes the sentiments of Chancellor Gallagher, by supporting our international students and calling for an immigration policy that does not discriminate against ethnic backgrounds or religious beliefs.

Fueled by student interest in advocating for science policy, the BGSA is co-sponsoring a trip to Washington DC for the March for Science on Earth Day, April 22, in collaboration with other organizations at Pitt and Duquesne University. In addition, the BGSA will host a postcard writing event, where students can reach out to local representatives. These events aim to prevent the mischaracterization of science as a partisan issue, and to advocate for fact-based policies in the public interest.

In the past few months, the BGSA has also sponsored several social and professional development events, as well as participated in community outreach, which you can read more about in this newsletter. Please visit the newly renovated BGSA website at [www.bgsa.pitt.edu](http://www.bgsa.pitt.edu) for continued updates on upcoming events, useful resources, and student accomplishments.

Looking forward to finishing off a great Spring semester!

## BGSA Representatives, 2016-2017

### Executive Board

- **President:** Abby Stahl
- **VP of Records:** Paige Rudich
- **VP of Finance:** Lisa Jean Clark
- **VP of Communications:** Anastasia Gorelova
- **VP of University Relations:** Eileen Wong
- **VP of Programming:** Adolfo Frias

### Program Representatives

- **IBGP First Year:** Christopher Chuckran and Nikki Naim
- **Cell Biology and Molecular Physiology:** Rachel Wills
- **Molecular Pharmacology:** Ryan Staudt and Eleanor Johnston
- **Cellular and Molecular Pathology:** Colin Beckwitt, Morgan Preziosi, and Anthony Otero

- **Immunology:** Aliyah Weinstein, Helen Rich and Hiroshi Yano
- **Molecular Genetics and Developmental Biology:** Fine Han and Daniel Zuppo
- **Molecular Virology and Microbiology:** Justin Wendzicki and Mondraya Howard
- **Integrated Systems Biology/PIMB:** Kate Shipman, Celestino Velasquez, and Ricardo DeMoya
- **Molecular Biophysics and Structural Biology:** Sara Whitlock and Stephen White
- **Biomedical Informatics:** Jose Posada
- **Neuroscience:** Sarah Najjar and Matt Rich
- **Computational Biology:** Jocelyn Sunseri
- **Clinical and Translational Sciences:** Alyce Anderson

# Past Events

## End of Foundations Happy Hour

With a deadline at noon and a Happy Hour at five, the first snowfall of winter marked the End of Foundations. Despite the busy week and stress of a rotation report behind us the IGBP first-year students finally met at Stack'd in Shadyside to celebrate. Of our class, roughly 50 people joined for the platters, wings, a couple beers, and good company. Many had already planned after-parties and some students had flights booked for the next morning to visit family for the holidays. The venue gave us the whole second floor of the bar and free reign to stay as late as we wanted. Before leaving you could tell the event was a hit as several groups of attendees gathered outside to chat more and enjoy the snow as it covered and quieted the sounds of Walnut street.



Nikki Naim, IGBP

## Ski trip

The BGSA had its annual ski trip on January 28 at Hidden Valley Resort! Over twenty attendees skied and snowboarded during the resort's Twilight Session, and the weather was perfect for the occasion! Many of the participants had never skied before and definitely improved over the course of the trip. After several hours of intense skiing, many participants relaxed and chatted with friends over food from the snack bar. Everyone had a fun time, and the BGSA is looking forward to next year's trip!



Lisa Clark, MBSB

## Comprehensive Exam Panel

Every year, the BGSA hosts the Comprehensive Exam Panel where second year graduate students get tips for the upcoming comprehensive exams from the upper classmen. To keep everyone alert we provided cookies, water, tea and coffee. We had a good turnout this year. Our volunteer panelist shared their past experiences and tips with tackling the comprehensive exams. Keeping with the format from the years before, we began with general tips and broke off into the program specific groups to cover more specific details on the comprehensive exams. Lastly, I'd like to thank all the volunteers for helping with this event and good luck to those taking the comprehensive exam!



Adolfo Frias, Immunology





## Make a Mug Workshop

Several BGSA members gathered on January 12 at Kiln-N-Time to mold clay into platters and mugs. We struggled at first to roll out the clay, but before long were etching intricate designs into our pieces. We enjoyed light refreshments and sang along to the great variety of music the owner, Sandy, played. We reconvened on January 26 to paint our fired pieces. After much discussion of the best colors to use, we got straight to work while still taking time to admire everyone's progress. We received our finished pottery a week later and put it to use right away!



**Shelby Hemker, MGDB**

## Professional figure making, two-part workshop

On Feb 7th and Feb 21st, the BGSA and WSMA hosted a joint event for students to become acquainted with multiple graphic design programs. The "Figure and Graphic Design Principles for Publication" series was held in two parts: the first session was an introduction to graphic design software (what programs were available, their strengths and weaknesses, and the thought process for making an idea become a illustration) and the second session was a more-detailed oriented look into using Adobe Photoshop by improving figure ideas submitted by returning students. As someone with little experience in graphic design, I gained enough basic knowledge from this event that I feel comfortable enough to try making more complex figures in the future (the packet that was distributed was very helpful as a reference!). I really appreciated the instructor's, Dr. Ricardo Londono, sense of humor and knowledge on how to swiftly navigate each program: these two aspects of his presentation helped show that using these software isn't an insurmountable challenge, but simply takes time and becomes straightforward with more practice. Students with no or little experience with graphic design software could really benefit from this series, and if BGSA hosts this event again in the future I'd highly recommend attending as it was both intellectual and entertaining.



**Daniel Zupoo, MGDB**

## Past Events

### STEM Saturday Academy, Community Outreach



**Mondraya Howard, MVM**

On February 25, a group of BGSA members volunteered at Community College of Allegheny County (CCAC) for Carnegie Science Center's STEM Saturday Academy! The Academy provides an opportunity for middle school girls in the Pittsburgh area to learn about STEM, life skills, and college life.

BGSA taught the life skills activity, where the girls learned about tools to use to manage stress. The girls measured their heart rates after being stressed (running in place) and after relaxing (coloring mandalas) to observe stress affects the body. Many girls identified teachers, friends and family as their main source of distress. We facilitated a discussion about productive ways to mitigate distress and using communication as an effective tool to maintain healthy relationships with friends and family. BGSA also helped with the STEM activity; CCAC chemistry faculty lead the STEM lesson and taught the girls about how enzymes work in metabolic processes to generate nutrients for our bodies. The girls used this knowledge to make cheese from milk using the enzyme rennet. This activity was very fun and the girls were very excited to apply what they learned about enzymes to produce a food that many of them eat on a regular basis.

Stay tuned for the dates for next STEM Saturday Academies we are always looking for volunteers!

Please contact Mondraya Howard at [moh16@pitt.edu](mailto:moh16@pitt.edu) for more information. We would love for you to join us!

## Student Spotlight



**Rochelle Fletcher,  
Pharmacology**

Rochelle is a hardworking student who is exceptionally passionate for her work on chemoprevention of colorectal cancer by nonsteroidal anti-inflammatory drugs (NSAIDs). You can immediately feel her passion and engagement when you speak to her in front of her poster, or sit in her seminar presentation. For her accomplishments, Rochelle received the BGSA Poster Award and the John Lazo Pharmacology Fellowship. Most recently, she has been awarded with a Get Your Rear in Gear (GYRIG) Scholar-in-Training Award by the American Association for Cancer Research (AACR) to present her work at the upcoming AACR annual meeting in Washington D.C. She has also enjoyed mentoring two Pitt undergraduate students and a high-school student from the UPCI Summer Academy. She is expected to submit a manuscript in next several months. I am proud of Rochelle's accomplishments and feel that she has a great potential of becoming a leader in cancer research.

**Lin Zhang, PhD**



# BGSA Symposium 2017

Save the date!

Born in Damascus, Syria, Huda Akil came to the U.S. in the 1960s to get her Ph.D. at UCLA. After completing a post-doc at Stanford University, Dr. Akil began work as a professor at the University of Michigan in 1978 and has been there ever since. She is now a Professor of Psychiatry and co-director of the Molecular & Behavioral Neuroscience Institute at Michigan. She has made seminal contributions to our understanding of the neurobiology of emotions and affect, including pain, stress, depression, and addictive behavior. She began her research work at the time of the discovery of endorphins and participated in the development of that field through a combination of behavioral, anatomical, molecular, and translational studies. Throughout her career, she has developed new technologies for studying the function and regulation of neural circuits, as well as new paradigms and animal models of affective behavior. This includes the study of the neurobiology of temperament and its relevance to differences in mood and addictive disorders. She is currently engaged in large-scale studies to discover new genes and proteins that cause vulnerability to major depression and bipolar illness. The hallmark of her work is its multidimensional, collaborative, and integrative nature. Dr. Akil has received many awards and honors and has been recognized as one of the most cited researchers in neuroscience. She is a member of the National Academy of Sciences and served as President of the Society for Neuroscience in 2002.



## University of Pittsburgh

**BGSA SYMPOSIUM**  
SAVE THE DATE!  
HOSTING GRADUATE PROGRAM: CENTER FOR NEUROSCIENCE (CNUP)  
**DAISUKE NAKADA LECTURE**

PROFESSOR OF PSYCHIATRY,  
CO-DIRECTOR OF MOLECULAR &  
BEHAVIORAL NEUROSCIENCE INSTITUTE,  
UNIVERSITY OF MICHIGAN

# HUDA AKIL, Ph.D.

WEDNESDAY, OCTOBER 11, 2017

THE UNIVERSITY CLUB, 123  
UNIVERSITY PLACE,  
PITTSBURGH, PA 15260  
Schedule TBA



For more information visit  
<http://www.bgsa.pitt.edu/symposium>



# Travel Grants

## Congratulations to BGSA Travel Grant awardees!

January - Sharie Ganchua. Share presented her research at the 2017 Keystone Symposia Conference: New Developments in Our Basic Understanding of Tuberculosis!

February – Ryan Slack. Ryan studies the proteolytic maturation of HIV-1 Reverse Transcriptase and presented his research at the Biophysical Society Annual Meeting!

March – Jennifer Boatz. Jenn uses magic angle spinning solid state Nuclear Magnetic Resonance (MAS NMR) to study the aggregation of human gamma-D-crystallin mutant P23T. She presented this work at the 58th Experimental Nuclear Magnetic Resonance Conference.

April - Muwen (Ben) Kong. Ben used single molecule techniques to describe the binding of Poly-(ADP)-polymerase 1 (PARP1) to DNA. Ben presented his work at Keystone Symposia on Molecular and Cellular Biology – Genomic Instability and DNA Repair

The BGSA will award one travel grant of \$250 per month to one eligible student within one of the 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](mailto:BGSATravelGrants@gmail.com).

# Recent Student Publications

## CTS

- Boiko JR, **Anderson AJ**, Gordon RA. Representation of women among academic grand rounds speakers. *JAMA Internal Medicine*. 2017 Mar 6.
- Click B, Binion DG, **Anderson AM**. Predicting Costs of Care for Patients With Inflammatory Bowel Diseases. *Clin Gastroenterol Hepatol*. 2017 Mar;15(3):393-395.
- Primack BA, Shensa A, Escobar-Viera CG, Barrett E, Sidani J, **Colditz JB**, James EA. (2017). Use of multiple social media platforms and symptoms of depression and anxiety: A nationally-representative study among US young adults. *Computers and Human Behavior*, 69, 1-9. doi: 10.1016/j.chb.2016.11.013
- Primack BA, Shensa A, Sidani JE, Whaitte EO, Lin LY, Rosen D, **Colditz JB**, Radovic A, Miller E. (2017). Social media use and perceived social isolation among young adults in the U.S. *American Journal of Preventive Medicine*. doi: 10.1016/j.amepre.2017.01.010
- Primack BA, Giles LE, **Colditz JB**, Jackson K, Kraemer K. (In press). Portrayal of alcohol brands on YouTube. *Journal of Studies on Alcohol and Drugs*.
- **Colditz JB**, Welling J, Smith NA, James AE, Primack BA. (In press). World Vaping Day: Contextualizing vaping culture in online social media using a mixed methods approach. *Journal of Mixed Methods Research*.

## MVM

- **Kunkle DE**, Bina XR, Bina JE. The *Vibrio cholerae* VexGH RND efflux system maintains cellular homeostasis by effluxing vibriobactin. 2017. *mBio*. Accepted for publication

## CMP

- **Preziosi M**, Monga SP. Updates on the Mechanisms of Liver Regeneration. *Seminars in Liver Diseases*, Manuscript Accepted. 2017
- **Preziosi ME**, Singh S, Valore EV, Jung CL, Popovic B, Poddar M, Nagarajan S, Ganz T, Monga SP. Mice lacking liver-specific  $\beta$ -catenin develop steatohepatitis and fibrosis after iron overload. *Journal of Hepatology*, Manuscript Accepted. 2017

## CMB

- Trac PT, Thai TL, Linck V, Zou L, Greenlee MM, Yue Q, Al-Khalili OK, Alli AA, Eaton AF, **Eaton DC**. Alveolar Non-Selective Channels are ASIC1a/ $\alpha$ -ENaC Channels and Contribute to AFC. *Am J Physiol Lung Cell Mol Physiol*. 2017 Mar 10;ajplung.00379.2016. doi: 10.1152/ajplung.00379.2016. [Epub ahead of print].
- Kang H, Bang I, Jin KS, Lee B, Lee J, Shao X, **Heier JA**, Kwiatkowski AV, Nelson WJ, Hardin J, Weis WI, Choi HJ. Structural and Functional Characterization of *Caenorhabditis elegans*  $\alpha$ -Catenin Reveals Constitutive Binding to  $\beta$ -Catenin and F-actin. *Journal of Biological Chemistry*. 2017 Mar 15; jbc.M116.769778.
- **Klemens CA**, Edinger RS, Kightlinger L, Liu X, Butterworth MB. Ankyrin G Expression Regulates Apical Delivery of the Epithelial Sodium Channel (ENaC). *J Biol Chem*. 2017 Jan 6;292(1):375-385. doi: 10.1074/jbc.M116.753616.
- Liu X, Edinger RS, **Klemens CA**, Phua YL, Bodnar AJ, LaFramboise WA, Ho J, Butterworth MB. A MicroRNA Cluster miR-23-24-27 Is Upregulated by Aldosterone in the Distal Kidney Nephron Where it Alters Sodium Transport. *J Cell Physiol*. 2017 Jun;232(6):1306-1317. doi: 10.1002/jcp.25599. Pub 2017 Jan 5.
- **Preston GM** and Brodsky JL. 2016. The evolving role of ubiquitin modification in endoplasmic reticulum associated degradation. *Biochem J*. Feb 03, 2017,474(4)445-469. doi: 10.1042/BCJ20160582.
- Buck TM, Jordahl AS, Yates ME, **Preston GM**, Cook E, Kleyman TR, and Brodsky JL. 2016. Interactions Between Intersubunit Transmembrane Domains Regulate the Chaperone Dependent Degradation of an Oligomeric Membrane Protein. *Biochem J*. Nov 30, 2016, BCJ20160760; doi: 10.1042/BCJ20160760.

## MGDB

- Gassei K, Sheng Y, **Fayomi A**, Mital P, Sukhwani M, Lin CC, Peters KA, Althouse A, Valli H, Orwig KE. DDX4-EGFP transgenic rat model for the study of germline development and spermatogenesis†. *Biol Reprod*. 2017 Feb 20. doi: 10.1095/biolreprod.116.142828.

## MBSB

- **Mandal A**, **Boatz JC**, Wheeler TB, van der Wel PC. On the use of ultracentrifugal devices for routine sample preparation in biomolecular magic-angle-spinning NMR. *J Biomol NMR*. 2017 Feb 22. doi: 10.1007/s10858-017-0089-6.
- Luo J, **Kong M**, Liu L, Samanta S, Van Houten B, Deiters A. Optical Control of DNA Helicase Function through Genetic Code Expansion. *Chembiochem*. 2017 Mar 2;18(5):466-469. doi: 10.1002/cbic.201600624. Pub 2017 Jan 25.
- Karki I, Christen MT, Spiriti J, **Slack RL**, Oda M, Kanaori K, Zuckerman DM, Ishima R. Entire-Dataset Analysis of NMR Fast-Exchange Titration Spectra: A Mg<sup>2+</sup> Titration Analysis for HIV-1 Ribonuclease H Domain. *J Phys Chem B*. 2016 Dec 15;120(49):12420-12431. Pub 2016 Dec 5.
- Ning J, Erdemci-Tandogan G, Yufenyuy EL, Wagner J, **Himes BA**, Zhao G, Aiken C, Zandi R, Zhang P. In vitro protease cleavage and computer simulations reveal the HIV-1 capsid maturation pathway. *Nat Commun*. 2016 Dec 13;7:13689. doi: 10.1038/ncomms13689.
- **Kong M**, Van Houten B. Rad4 recognition-at-a-distance: Physical basis of conformation-specific anomalous diffusion of DNA repair proteins. *Prog Biophys Mol Biol*. 2016 Dec 7. doi: 10.1016/j.pbiomolbio.2016.12.004.
- **Sharaf NG**, Brereton AE, Byeon IL, Andrew Karplus P, Gronenborn AM. NMR structure of the HIV-1 reverse transcriptase thumb subdomain. *J Biomol NMR*. 2016 Dec;66(4):273-280. doi: 10.1007/s10858-016-0077-2. Epub 2016 Nov 17.
- **Mandal A**, van der Wel PC. MAS <sup>1</sup>H NMR Probes Freezing Point Depression of Water and Liquid-Gel Phase Transitions in Liposomes. *Biophys J*. 2016 Nov 1;111(9):1965-1973. doi: 10.1016/j.bpj.2016.09.027.