



Edited by Anastasia Gorelova

BGSA Newsletter

August 2017



Pitt BGSA



@PittBGSA

Upcoming Events

- Pitt Football Game and Tailgate - Sept. 2
- BGSA 2017-2018 Elections - Sept. 12-19
- Row House Movie Night - Sept. 21
- BGSA Symposium - Oct. 11

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Letter from the President



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

Dear fellow students and faculty members,

I can hardly believe that this will be my last update as BGSA President! The BGSA has been very active since our last newsletter in March. In April, students attended the March for Science in Washington DC and satellite locations. In June, we kicked off the summer with the second annual Spring Semi-formal, followed by two exciting career seminar series given by Pitt alumni, and held our annual summer orientation picnic in Schenley Park. You can read more about these events and others in this newsletter. Please visit www.bgsa.pitt.edu for updates on upcoming events, useful resources, and student accomplishments.

Here are some new highlights and opportunities from the BGSA:

- We will be holding elections September 12-19. Interested in running for a program representative or executive board position? Contact Paige Rudich at pad68@pitt.edu.
- We recently formed an Intramural Sports Committee to engage students in outdoor physical activity at the newly opened Pitt Sports Dome and public parks. If you are interested in playing sports this fall, contact Dan Zuppo at daz48@pitt.edu.
- We are also looking forward to volunteering at Saturday STEM academies this fall with Carnegie Science Museum and Carlow University. If you're interested in community outreach, contact Mondraya Howard at moh16@pitt.edu.

It's been a privilege to serve as the leader of the BGSA. Looking forward to the upcoming academic year! Abby Stahl BGSA President, 2016-2017

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:** Jennifer Boatz

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, Michael Ding
- **Neuroscience:** Sarah Najjar and Matt Rich
- **Computational Biology:** Jocelyn Sunseri
- **Clinical and Translational Sciences:** Alyce Anderson

Past Events



Spring Semi-formal at Wigle Whiskey

The BGSA hosted a Spring Semi-Formal Happy Hour at Wigle Whiskey Distillery in the Strip District on June 26th. Students enjoyed snacking on crock-pot meatballs, hummus, watermelon, Prantle's cupcakes and more paired with two free drinks from scotch, bourbon, and rye whiskeys neat, on the rocks, and as mixed spirits. Over the night, students learned how local grains such as corn, barley, and rye are converted into flavorful whiskeys through tours of the grain mill, fermentation and distillery vats, and aging barrels. Everybody had a great time and several people bought bottles and snifters to take home with them. Wigle is donating back 13% of their proceeds from the night of celebration back to the BGSA.



Jennifer Boatz, MBSB

Careers in Government Agencies for Biomedical PhDs

In our first Career Seminar of the summer, Pitt alums, Kelly Poe and Paul Carlson, came back to talk about their current jobs at the NIH and FDA, respectively, and the paths that led them there. Dr. Poe is a Scientific Review Officer for the National Institute of Allergy and Infections Diseases (NIAID), while Dr. Carlson is a PI at the FDA. Both of them carefully chose post-docs that would help them attain their end goals. Dr. Poe chose to work for a PI who had started a non-profit which she then worked in after she finished her Ph.D. Dr. Carlson went to University of Michigan and did research in a leading anthrax lab. Both Dr. Poe and Dr. Carlson emphasized how important it was to choose post-docs based off where you want your career to go, and how vital it was to apply for grants early on. They also recommended to check usajobs.gov frequently if you want to work for the NIH, as job listings are often only on there for a short period of time (such as a week or two). It is challenging to get a job at the NIH, so one recommendation was to work as a contractor for the NIH by applying through Zintellect and then you have a connection with someone at NIH. It was great to hear from University of Pittsburgh alum and to get to pick their brains on how to succeed after graduate school.



Paige Rudich, CBMP



Anti-gravity Pilates

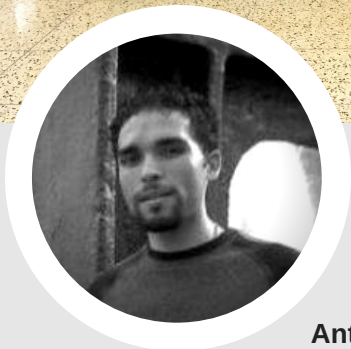
On July 29th, BGSA members got a great workout at the AntiGravity Pilates class at Sthiel Pilates! AntiGravity Pilates utilizes Harrison AntiGravity Hammocks created by Christopher Harrison, which allow participants to be suspended as they perform strength and flexibility exercises. Although most of us were new to AntiGravity, our wonderful instructor Steph was very impressed with our abilities.

We even went upside down in our hammocks for multiple exercises! The class also included decompression of the spine and joints as well as a time of relaxation at the end. Everyone had a blast at the class, and everyone is encouraged to check out Sthiel Pilates! A variety of classes are offered each week, and each class costs only \$12 for students! Please check out the studio's website for more information: <http://www.sthielpilates.com>.



**Lisa Clark,
Pharmacology**

Mars Elementary School Science Fair



Anthony Otero, CMP

The annual Mars Area Elementary School Science Fair was held on April 11th. Students in grades 4-6 worked in small groups and had the opportunity to test their hypotheses in a tried and true fashion befitting a scientist. The eager young researchers were more than willing to delve into their projects such as “Which metal makes the best magnet”, “How to dry nail polish quickly”, “Which popcorn pops the best”, and “Which water tastes the best” (spoiler, it’s not Pittsburgh city water). Their audience? University of Pittsburgh graduate students and parents. While we attentively listened to the young scientist’s rationales and methods, the school so kindly provided us with some much need sustenance (pizza, cookies, and water). As the evening drew to an end, the participants were given awards to acknowledge their scientific breakthroughs.

Past Events



Eileen Wong, MVM

March for Science, DC



Early in the morning of April 22, before the sun had even begun to rise, dozens of BGSA students filed onto chartered buses along with students from Pitt Chemistry, Duquesne Chemistry, and staff and faculty from Pitt to support scientific research funding at the nationwide March for Science in Washington, D.C. To prepare for the big day, BGSA sponsored an event at the Pittsburgh Center for Creativity the evening of April 20 to write postcards to government representatives and make posters for the march. After a long bus ride, BGSA students joined 40,000 other citizens around the Washington Monument for a rainy morning of notable science speakers, including Bill Nye, and musical performances.

At 2 o'clock in the afternoon, the march from the Washington Monument to Capitol Hill began, with umbrellas, science signs, and chants filling the streets. "Despite the rain and the cold, it was inspiring to be part of a movement in which so many people across the country from so many disciplines in the scientific community came together to make their voices heard and united. This is what democracy looks like," described Justin Wendzicki.

Exhausted after a long day, BGSA students left the march to head back to Pittsburgh, and enjoyed sandwiches and snacks provided by BGSA on the bus ride, as they recovered and warmed up from a cold and rainy day marching to support evidence-based policies and government funding for research. "It was lovely to see so many people come together, all ages, for the importance of science. Plus I got buttons," excitedly exclaimed Mondraya Howard.

BGSA students also joined the local March for Science in Pittsburgh that occurred simultaneously on April 22, starting their march from the Cathedral of Learning, and marching around Oakland to engage the Pittsburgh community and showcase the scientific research of Pittsburgh.

Student Spotlight



**Alison Nagle,
Pharmacology**

Ali has a strong passion for her translational research in breast cancer. She collaborated with Cemal Erdem (graduate student in Computational Biology) which was recently published in Mol Cell Proteomics, and recently received a fundable score on a NRSA F31 Fellowship on this work. Ali gave an oral presentation at the 2017 Gordon Research Conference on IGFs in Physiology & Disease for which she received a travel award, and a poster the UPCI Annual retreat where she won 1st place prize in pre-clinical research. Last year she mentored a high school student in the UPCI Summer Academy program, and she offer support to all of her lab and graduate school colleagues. Ali is a member of the leadership team of Women in Bio, serving as the Vice Chair and Secretary, and working hard to promote young female interest in the STEM fields. Outside of her busy work schedule, Ali finds time to run marathons and recently completed the Hell Hath no Hurry 50k race to become an ultra-marathoner! Go Ali!

Adrian V. Lee, PhD



**Miranda Culley,
CMP**

It is with great enthusiasm that I nominate Miranda Culley for the BGSA Student Spotlight. Miranda is a gifted MSTP (MD/PhD) student who has been working in my lab for the past year. She has made tremendous progress in deciphering the molecular mechanism of how deficiency of the iron-sulfur biogenesis protein frataxin can promote pulmonary vascular metabolic dysfunction and pulmonary hypertension. In just her first year, Miranda has accumulated multiple awards for her work including a competitive award on the Angiopathy Training Grant (sponsored by Cell and Molecular Pathology 2016-2017) and 2nd place at the AHA Fellows Research Day (January 2017). Most impressively, Miranda was awarded a NIH Ruth L. Kirschstein F30 graduate student award (PI Culley) only after one year in graduate school. With this trajectory, I expect that Miranda will be in a unique position in the future to translate her laboratory discoveries to direct clinical application in pulmonary hypertension and beyond.

Stephen Chan, MD, PhD

BGSA Symposium 2017

Save the date!

October 11 at the University Club
from 7:45 am – 4:30pm

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.

Abstracts should be submitted to:

<https://goo.gl/forms/hl1rAKVBNv9WzXc82>

Award nominations should be submitted to:

bgsa.symposium.2017@gmail.com



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>



Deadlines:

- Oral Presentations – Abstract Deadline August 25
- Poster Presentations – Abstract Deadline September 8
- Stephen L. Phillips Award – Deadline September 13
- Distinguished Mentor Award – Deadline August 31
- Most Well Rounded Student Award – Deadline September 8

We are seeking faculty and post-docs to serve as poster judges.

Sign up here: <https://goo.gl/forms/QnQpo8pQLY8NGDb33>

Questions? Contact Sarah Najjar at
bgsa.symposium.2017@gmail.com

Travel Grants

Congratulations to BGSA Travel Grant awardees!

Congratulations to Cemal Erdem winner of the BGSA Travel Award for August! Cemal utilizes experimental and computational modelling techniques to study insulin and insulin-like growth factor I (IGF1) in breast cancer cells. Cemal gave oral and poster presentations on this research at the International Conference on Systems Biology 2017!

July: Chelsea Merkel studies the adherent junction, an important junctional complex connecting cardiomyocytes. She presented her work at the American Heart Association Basic Cardiovascular Science 2017 in Portland, OR!

June: Stephanie Ander studies how the placenta works as a barrier to *T. gondii* vertical transmission. She presented her work at the 14th International Congress on Toxoplasmosis and Toxoplasma gondii Research in Tomar, Portugal!

May: Michael Chiang and Vera Procaccia are the winners of May BGSA Travel Awards. Michael presented his work at the 36th Annual Scientific Meeting of the American Pain Society. Vera presented her research at Atherosclerosis, Thrombosis and Vascular Biology - Peripheral Vascular Disease 2017 (ATVB-PVD).

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

MBSB

Studying protein-DNA interactions using atomic force microscopy. **Beckwitt EC, Kong M, Van Houten B.** Semin Cell Dev Biol. 2017 Jun 30. pii: S1084-9521(17)30127-1.

Single-Molecule Methods for Nucleotide Excision Repair: Building a System to Watch Repair in Real Time. **Kong M, Beckwitt EC, Springall L, Kad NM, Van Houten B.** Methods Enzymol. 2017;592:213-257.

Fibril polymorphism affects immobilized non-amyloid flanking domains of huntingtin exon1 rather than its polyglutamine core. Lin HK, **Boatz JC**, Krabbendam IE, Kodali R, Hou Z, Wetzell R, Dolga AM, Poirier MA, van der Wel PCA. Nat Commun. 2017 May 24;8:15462.

Monomeric Polyglutamine Structures That Evolve into Fibrils. Punihaole D, Jakubek RS, Workman RJ, Marbella LE, **Campbell P**, Madura JD, Asher SA. J Phys Chem B. 2017 Jun 22;121(24):5953-5967.

Structural characterization of membrane-bound human immunodeficiency virus-1 Gag matrix with neutron reflectometry. **Eells R, Barros M, Scott KM, Karageorgos I, Heinrich F, Lösche M.** Biointerphases. 2017 May 16;12(2):02D408.

Cataract-associated P23T γ D-crystallin retains a native-like fold in amorphous-looking aggregates formed at physiological pH. **Boatz JC**, Whitley MJ, Li M, Gronenborn AM, van der Wel PCA. Nat Commun. 2017 May 5;8:15137. doi: 10.1038/ncomms15137. PMID: 28474685

Immunology

Novel protective mechanism for interleukin-33 at the mucosal barrier during influenza-associated bacterial superinfection. Robinson KM, Ramanan K, Clay ME, McHugh KJ, **Rich HE**, Alcorn JF. *Mucosal Immunol.* 2017 Apr 12.

Interferon- γ Drives Treg Fragility to Promote Anti-tumor Immunity.

Overacre-Delgoffe AE, Chikina M, Dadey RE, **Yano H**, Brunazzi EA, Shayan G, Horne W, Moskovitz JM, Kolls JK, Sander C, Shuai Y, Normolle DP, Kirkwood JM, Ferris RL, Delgoffe GM, Bruno TC, Workman CJ, Vignali DAA. *Cell.* 2017 Jun 1;169(6):1130-1141.e11.

Tbet and IL-36 γ cooperate in therapeutic DC-mediated promotion of ectopic lymphoid organogenesis in the tumor microenvironment. **Weinstein AM**, Chen L, Brzana EA, Patil PR, Taylor JL, Fabian KL, Wallace CT, Jones SD, Watkins SC, Lu B, Stroncek DF, Denning TL, Fu YX, Cohen PA, Storkus WJ. *Oncoimmunology.* 2017 Apr 28;6(6):e1322238.

MGDB

Bim gene dosage is critical in modulating nephron progenitor survival in the absence of microRNAs during kidney development. Cerqueira DM, Bodnar AJ, Phua YL, Freer R, **Hemker SL**, Walensky LD, Hukriede NA, Ho J. *FASEB J.* 2017 Aug;31(8):3540-3554.

Wnt8a expands the pool of embryonic kidney progenitors in zebrafish.

Naylor RW, **Han HI**, Hukriede NA, Davidson AJ. *Dev Biol.* 2017 May 15;425(2):130-141.

Secondary Somatic Mutations Restoring RAD51C and RAD51D Associated with Acquired Resistance to the PARP Inhibitor Rucaparib in High-Grade Ovarian Carcinoma. Kondrashova O, Nguyen M, Shield-Artin K, Tinker AV, Teng NNH, Harrell MI, Kuiper MJ, Ho GY, Barker H, Jasin M, Prakash R, Kass EM, **Sullivan MR**, Brunette GJ, Bernstein KA, Coleman RL, Floquet A, Friedlander M, Kichenadasse G, O'Malley DM, Oza A, Sun J, Robillard L, Maloney L, Bowtell D, Giordano H, Wakefield MJ, Kaufmann SH, Simmons AD, Harding TC, Raponi M, McNeish IA, Swisher EM, Lin KK, Scott CL; AOCs Study Group. *Cancer Discov.* 2017 Jun 6.

CNUP

Targeting a Potassium Channel/Syntaxin Interaction Ameliorates Cell Death in Ischemic Stroke. **Yeh CY**, Bulas AM, Moutal A, Saloman JL, Hartnett KA, Anderson CT, Tzounopoulos T, Sun D, Khanna R, Aizenman E. *J Neurosci.* 2017 Jun 7;37(23):5648-5658.

ISB

Proximal tubule apical endocytosis is modulated by fluid shear stress via an mTOR-dependent pathway. Long KR, **Shipman KE**, Rbaibi Y, Menshikova EV, Ritov VB, Eshbach ML, Jiang Y, Jackson EK, Baty CJ, Weisz OA. *Mol Biol Cell.* 2017 Jul 18.

MMG

A Herpesviral Immediate Early Protein Promotes Transcription Elongation of Viral Transcripts. **Fox HL**, Dembowski JA, DeLuca NA. *MBio.* 2017 Jun 13;8(3).

Mol Pharm

In vivo delivery and activation of masked fluorogenic hydrolase substrates by endogenous hydrolases in *C. elegans*. Dube S, Dube H, Green NB, Larsen EM, **White A**, Johnson RJ, Kowalski J. *Chembiochem.* 2017 Jul 12.