

FORUM ON GRADUATE STUDENT AFFAIRS

AMERICAN PHYSICAL SOCIETY

Hello and welcome to our newly revamped FGSA newsletter! We will be publishing this newsletter biannually and have planned for a variety of topics and recurring items to be included in each edition.

Each release will feature a career column by Dr. Crystal Bailey, Careers Program Manager at the American Physical Society, highlights from recent APS meetings, news about upcoming FGSA events, and a number of guest articles from a wide range of FGSA members.

FGSA published a newsletter sporadically from 2001 through 2015, but we haven't had a newsletter released in over two years and have never attempted a recurring publication at regular intervals. Because this is a new endeavor for us, we welcome any feedback or constructive criticism, topic suggestions, and guest article submissions via email to FGSA at fgsaexec@aps.org or this [Google Form](#). We're looking forward to having you join us on this new journey!

CONTENTS

- 02** A Mile in my Shoes
[Crystal Bailey](#)
- 03** Conversations about
Mental Health
[Andrea Welsh](#)
- 03** Graduate Student Unions
[Cathleen Fry](#) and [John Ware](#)
- 05** Fall Feature:
Eclipse Experiences
[Stephanie Hamilton](#) and
[Anthony Kremin](#)
- 06** 2017 Canadian-
American-Mexican Conference
[Midhat Farooq](#)
- 07** Updates/Announcements

NEWSLETTER

FALL 2017



MEET THE CO-EDITOR

Midhat Farooq

Hello Grad Students!

Hope everyone has had a wonderful summer! We at FGSA Exec are excited to bring you our Fall Newsletter.

A little about me: I am a physics graduate student at the University of Michigan, now starting my sixth year. After switching from particle physics to a quantum optics lab, I ended up right back where I started and found myself using my new quantum optics skills for a particle physics experiment! I am making an optical magnetometer to cross check the calibration of the magnetic field measurement for the muon g-2 experiment at Fermilab.

Besides spending time in the lab playing with lasers, I became a very active member of the physics department over my graduate school career, serving a few years on the grad student council and participating in outreach and volunteer work with the Society for Women in Physics. My hunger for advocacy led me to join the graduate student government earlier this year and to visit D.C. to advocate on the Hill for graduate student issues, as well as join fellow Fermilab scientists in asking Congress for research funding for physics. Most recently, my passion for improving climate issues fostered a partnership with a fellow graduate student to organize a Diversity & Inclusion panel at Fermilab. When I have free time despite these activities, I enjoy yoga, swing dancing, and being co-editor of the FGSA newsletter.



MEET THE CO-EDITOR

Anashe Bandari

Hi FGSA members! I am so excited to be co-editing the newly revamped FGSA newsletter along with Midhat!

I am a fourth year physics graduate student at the College of William & Mary doing my research in experimental nuclear physics at the Thomas Jefferson National Accelerator Facility. In addition, I currently serve as Secretary of FGSA. I am extremely passionate about physics outreach and education, and aim to provide a voice for underrepresented groups within our community. Outside of physics, my interests include bar trivia, rollerskating, playing with puppies, and, of course, being co-editor of the FGSA newsletter. I believe that FGSA is an invaluable resource for physics graduate students, and look forward to serving our forum to the best of my abilities.

The articles in this issue represent the views of the Forum on Graduate Student Affairs (FGSA) and are not necessarily those of individual FGSA members or the APS

A Mile in my Shoes:

The Story of my Personal Journey to a Fulfilling Physics Career, and What You Can Learn from It



About the Author:

Crystal Bailey is careers program manager at the American Physical Society. She completed her PhD in nuclear physics in 2009 and has been working on ways to help students broaden their career horizons ever since. You can reach her at bailey@aps.org.

By Crystal Bailey, Careers Program Manager at APS

In my role at APS, I'm often in the position of advising students about the career outcomes they might expect once they receive their degree.

A big part of my mission at APS is helping students to expand their vision beyond the confines of academia to encompass a much broader spectrum of possibility (as an aside, did you know that out of all physics PhDs initially employed in potentially permanent positions, 70% were in the private sector? You can read a lot more about that in this [AIP Statistical Research Center report](#), and in this [article I wrote in 2013](#) for the FGSA Newsletter).

In the process of advising students about careers I am also occasionally in the position to share details about my own personal career journey from a nuclear physics graduate student to a program manager at one of the largest physics societies in the world – and the “cautionary tales” that come along with that story. So I would like to take a moment to share three key pieces of advice that I wish someone had been there to give me as I embarked on my graduate education in physics.

Have a Good Reason to be There

The primary reasons I went to graduate school were: a) I was good at and enjoyed doing research, and grad school was a good way to continue that, and b) it's what everyone expected me to do. At no point did I consider whether a PhD in physics was actually necessary for me to achieve a future career goal (believe it or not, I actually wasn't interested in a permanent career in academia, which of course I (wrongly!) believed was the only thing I could do with a PhD).

As you advance in your education, your goals and priorities will change, but having a “guiding star” – at least one career outcome that you think you might enjoy – which actually requires the degree you're pursuing will give you resilience in the face of difficulty. When things got tough for me as a graduate student, not actually wanting the career outcome I thought my degree would lead to did nothing to motivate me to stay engaged. You don't have to stick to your plan, but having some sort of plan – a reason for being there – is hugely important.

Choose Your Advisor Very, Very, Carefully

All of us have heard horror stories about heartless research advisors who seem to be on a mission to make their graduate students miserable. But you don't have to be working for someone like that to still have a problematic relationship. In my case, my thesis advisor was a great person – there was just a mismatch between his style of management and what I needed in order to be productive and happy. This was a stressor which, combined with my lack of purpose in being in grad school, as well as some technical setbacks in my research, eventually drove me to leave the program (spoiler alert: I did come back and finish the PhD several years later. But not until after having to take my qualifying exams a second time to re-establish my candidacy. Not fun. More about that below).

The truth is, things may have been very different if I had considered talking to my advisor about the issues, or better yet, had sought out a new research advisor – someone who was more hands-on. Students are often very reluctant to seek out new mentorship, especially when they feel that their current advisor has invested years of resources into them. But at the end of the day, it is your life you're leading, not your advisor's, and your needs must take priority. Besides, most advisors are genuinely invested in the well-being of their students, and would rather see you be successful with someone who is a good fit than see you continue to struggle in a dysfunctional situation.

If You Leave, Leave FOR Something

My decision to leave the grad program with my Master's happened abruptly, and without much thought to what I might do instead – I was unhappy and I just wanted out. What happened next was an adventure which I don't regret, despite the tough consequences it brought for me: I moved to Nova Scotia, played the banjo, and “lived free” for several months. But I was also unemployed for the majority of the time I was there, and had to worry constantly about scraping together enough money for rent and food. It was very disheartening to have an advanced physics degree and not be able to secure a job as a line cook or bartender (I didn't have any experience), which were the only jobs available where I was living.

Eventually I moved back to the states and reconnected with my passion for teaching physics by filling in as an instructor for undergraduate labs and discussions at my old university. This led me to pursue a PhD in physics with the purpose of going into the field of Physics Education Research (PER). And though this meant retaking the quals – after having already passed them eight years prior – I felt so passionate about this goal that I was willing to tackle anything (if only I had had that level of determination starting out, things would have gone more smoothly for me!). And though I didn't ultimately end up working in the PER field, in my role at APS I am still engaged in the act of teaching on a daily basis – only instead of Maxwell's Equations, I'm teaching physics students how to pursue successful careers.

And though I did eventually finish the PhD, there would have been loads of great career options available to me with a physics MS or BS, if I had known about them. So if you happen to be considering leaving grad school, my advice is to take the time first to really form an alternate plan before you take the plunge – because that decision can be hard to reverse. Use self-assessment tools to learn about other things which might be a good fit, and conduct informational interviews to get the “inside scoop” on what those careers are like. If you can be as intentional and well-informed about your options as possible, whether you're entering the workforce with a BS, MS or PhD, you have a much higher likelihood of connecting with a career path that truly works for you.

Conversation about Mental Health

About the Author:

Andrea Welsh is a physics graduate student at Georgia Institute of Technology. Her work focuses on pattern formation and coordination in biophysical systems. Outside of work, she likes to make costumes for conventions and play video games.



By Andrea Welsh

Mental health is a topic often not openly discussed due to much pushback in society. When someone attempts to talk about their mental health issues, they often hear phrases along the lines of “just suck it up,” “walk it off,” “work is the best medicine,” “it’s all in your head,” “just be happy,” and many more, which invalidate the struggles and pains of very real illnesses. Typically, these are aimed at people dealing with depression, anxiety, or ADHD, where those making such statements don’t fully understand how these sorts of illnesses affect a person in very physical ways. Even without the harsh, demanding hours of graduate school and academia, people suffer from mental illnesses for many different reasons. Much of the lifestyle of academia—late hours, unstructured work environment, competition, publish or perish mentality—may exacerbate these issues for those who are already struggling, causing these people to feel even more isolated and often compounding their illnesses.

It is my hope that with bringing up this discussion in our academic setting, graduate students who are struggling can feel more comfortable talking about their problems, seeking help, and learning better self-care. Many people that I know in this situation haven’t sought help yet because of the various stereotypes surrounding talking to a medical professional about their struggles, or have talked to a medical professional and stopped their treatment after one negative experience. Due to a lack of communication with others in a similar situation, they may not know

what is a normal or non-normal experience with therapy and equate their negative experience with one professional as therapy not working in general.

My other hope is that academic advisors can be more aware of these issues, so that they can modify their demands to something more reasonable and fitting to their graduate students that may be suffering. For some, this could mean cutting back hours, or having more flexible hours that allow students the freedom to step out for weekly treatments.

Recently after some discussions at the 2017 March Meeting and my Physics Today article [“It’s time for physicists to talk about mental health.”](#) I started a group for not only students but all people in physics. The purpose of the group is to provide everyone a platform to communicate with each other concerns regarding their mental health issues, share tips, and discuss difficult situations. I hope that this will be a start to a healthier physics community. If you are interested in having access to the Mental Health in Physics Google Group, a private group where students, faculty and researchers in physics talk openly about their mental health situations, email awelsh8@gatech.edu with the email you want added. Please note that this should not be in place for proper treatment, which comes in many forms and is different for everyone. If you are in crisis, please seek a medical professional or call the National Suicide Prevention Line: 1-800-273-8255.

Graduate Student Unions

Graduate student unions are becoming more and more active all over the country. While some unions are strong and thriving, others are struggling to stay alive. And at some schools, where such unions don’t exist, students are working hard to start them. Whatever the case may be, the fact remains that graduate student unions have a direct and crucial impact on the students they serve. Here, we have two guest authors, Cathleen Fry and John Ware, tell us about the very different situations of their respective student unions in the same state of Michigan!

About the Author:

Cathleen Fry is a physics graduate student at Michigan State University. Her work focuses on experimental nuclear astrophysics. Outside of work, she likes to put a lot of energy into volunteer work, then pass out in front of Netflix.



About the Author:

John Ware is a physics graduate student at the University of Michigan. His work focuses on methods for quantifying greenhouse gas emissions from urban areas. Outside of work, he enjoys cooking, rock climbing, and board games.



By Cathleen Fry and John Ware

While unions have offered protections for many graduate students, as well as other workers across the country, they have been constantly under attack. In the labor law case [Abood v. Detroit Board of Education](#), the Supreme Court upheld the decision to require all Detroit Public School teachers to pay union fees. The dissenting argument was made on the grounds against public sector

collective bargaining and political actions of the union. The decision on this case affirmed the legality of public sector unions, including employees at public universities.

Since the Abood case, attacks against unions have not relented. So far, the Supreme Court has upheld this precedent at the federal level. However,

28 states have passed some form of so-called right-to-work laws. These statutes prevent unions from having clauses in their contracts compelling non-union members to pay union fees. Hence, non-members still have the right to union representation in workplace disputes, but they are not obligated to pay dues that would cover those expenses.

My state, Michigan, passed right-to-work legislation in 2012. Fortunately, this law did not require the Michigan State University's Graduate Employees Union to immediately reopen our contract and re-bargain our membership clauses. However, during our next bargaining session in 2015, we were not allowed to keep this clause. As a result, people were no longer required to pay any union fees, while we were still legally obligated to represent them. We were fortunately allowed to keep a fee payer category that teaching assistants could opt in to, if they were in a situation where they did not wish to be a union member, but still wanted to offer financial support for contract administration duties.

Our first contract under right-to-work began in May 2015. During the bargaining period for this contract in spring semester of 2015, the university administration tried to weaken our contract in every way possible. The university argued that going to grad school is about "making hard decisions" to justify taking away dependent health care, completely ignoring the fact that many graduate students already depend on this health care for their children.. The administration also rebuffed our efforts to discuss stronger anti-discrimination policies, fought against raises, and tried to decrease our tuition waiver.

While our revenue stream has seen a slight decrease, due to the lack of union fees from non-members, our membership rate is at an all-time high. Having steady income from all members of our bargaining unit, whether or not they were union members allowed us to be somewhat complacent. Along with an increase in membership, we've also seen an increase in the number of active members. Especially given this uncertain political climate, we have more graduate students that are willing to volunteer some of their time to fight for the rights of their fellow students.

While the Graduate Employees Union and other Michigan unions have retained their strength through state anti-union legislation, a Supreme Court decision has the potential to be devastating. Such a decision would render collection of union fees from non-members unconstitutional, and any such collection would need to immediately cease. These cases continue to be brought to the Supreme Court: Just last year, arguments were heard in [Friedrichs v. California Teachers Association](#), where the Abood decision was upheld. Currently, [Janus v. AFSCME](#) is waiting to be heard by the Supreme Court. Unions offer important protections for graduate students, but remain under constant attack. Hence it is highly important for graduate students to stay vigilant and work together to protect our rights.

By Cathleen Fry

I consider myself pretty fortunate. Even as rents increase, I can afford to live less than a mile from campus. I pay no premiums for excellent health insurance coverage, which pays for my therapy and for rehabilitation of a back injury (from poor desk posture — oops!). When I get a teaching assignment, I'm protected from overwork, so I can be confident I'll still have time to continue my research and to take care of myself. These benefits and protections keep my life running smoothly, they keep me happy, healthy, and productive, and I owe them to my union.

University of Michigan graduate students were some of the first in the country to unionize, founding the Graduate Employees' Organization (GEO) in 1974. In the 43 years since, generations of GEO members have fought to make our university a better place to work. We're carrying on

that fight, building on their success, trying to leave a better university for the people who come after us. That's the least we can do with the gift we've been given.

In April, we signed a new three-year contract with our university administration. That agreement increases paid parental leave from six to eight weeks for parents who give birth and from three to six weeks for those who don't; it protects international grads from having to work in violation of their visas; it lengthens bereavement leave for those who must travel long distances. Our new contract puts an annual limit on copays for mental health services. And, for the first time ever, the University is now required to hire graduate students, with full funding, to improve diversity, equity, and inclusion in our schools and colleges. The first nine of those hires start this fall term.

Reading that list, you might notice something: we're making graduate school a place where everyone can thrive. Our union is a force for justice. It's a privilege and a tremendous opportunity to work in science, to be paid to learn and to produce knowledge. We want that opportunity to be open to everybody: US and international students, those with families, students with chronic illnesses or disabilities, members of marginalized groups to whom our universities are still not welcoming enough.

We want graduate education to be accessible, too, to those without family wealth to fall back on, who must live (and, in many cases, support their partners or children) solely on their stipend checks. For grad school to be a financial possibility for everyone, our work has to pay a living wage. That's why our new union contract also includes salary increases of at least 3.3% per year -- not because we're entitled or ungrateful, but just the opposite: because we recognize what a privilege graduate school is and because we want to share that privilege more fairly.

Only with hundreds of graduate students working together within our union were we able to make these improvements to our benefits and working conditions. Most of us will only be personally affected by one or two of our gains, but we kept showing up anyway, whether our issue was on the table or not. Even students who were about to graduate, who would never work under the new contract, came out in support. I think we could all see that it was the right thing to do.

This year, 2017-2018, will be a challenging one for GEO. For the first time, we will be affected by so-called "Right to Work" legislation in Michigan. I think the law might better be called "Right to Freeload;" it requires unions to continue representing all employees in similar jobs, but makes it illegal to require those employees to pay for that representation. Legislators' intent is to weaken and ultimately destroy the union through a vicious cycle: if workers don't pay dues, the union will not have the financial resources it needs to pay staff, rent meeting space, obtain legal advice. The weakened union will be less successful in bargaining, which will make it appear less valuable to workers, more of whom will stop paying dues. That's a frightening prospect.

The only way to remain strong under these conditions is to reverse the cycle. A strong, just, democratic union that makes important gains for graduate employees is worth supporting, and a union that has the support of workers can remain strong. At the University of Michigan, graduate students have supported the union for decades, giving their time and taking risks to stand up for one another. I have faith that they will continue to do so, because our experience shows that when we do work together in an organized way, we can make our universities more just, healthy, and equitable places to work and to study.

By John Ware

Fall Feature: Eclipse Experiences

We asked graduate students who traveled to see this year's eclipse to share their experiences. Here are two responses:

By Stephanie Hamilton and Anthony Kremin

JUST...WOW.

That was the extent of my verbal functions as I watched the total eclipse from the Oregon high desert on August 21st. There aren't words to do the experience justice. Living in modern times, when phenomena like eclipses are precisely predicted, we experience feelings of excitement and awe during totality. But it's not difficult to imagine the terror ancient peoples must have felt when their sun disappeared in the middle of the day.

The whole experience is incredible. The sun is so impossibly bright that nothing appears to be happening until it's mostly covered. Then, you might start to notice a drop in the air temperature. Or, the world around you might appear a tiny bit dimmer, but you can't be sure because the effect is so slight. In those last five minutes before totality, however, it is noticeably dimmer and colder, and stars begin to appear. If you're lucky you might see the shadow of the moon racing toward you impossibly fast from the west. Then, suddenly, it's sunset in the middle of the day, but not just in the west. No, it's sunset a full 360 degrees around, and the white corona of the sun is shining around the black hole of the moon. The last five minutes and through totality are what distinguish total eclipses so completely from partial eclipses, and I now understand why people travel across the world to see them. It's a sight I'll never forget and one I'll be yearning to see until the next total eclipse in April 2024.

For a more detailed story, please see the author's blog post on her website about this experience: <http://stephaniejhamilton.com/blog/great-american-eclipse/>

By Stephanie Hamilton

Though Nashville did an amazing job hosting people for the eclipse and had viewing parties all over town, we opted to view the eclipse north of the city, where totality would last a few seconds longer. The scenery on the ground was not very picturesque – we were situated in a blacktop parking lot between a McDonald's and a Walmart in the 95-degree sunshine – but that didn't deter anyone from enjoying themselves. The atmosphere was not unlike a sporting tailgate. People were camped out with chairs, telescopes, NASA t-shirts, and the stylish cardboard glasses that protected our eyes from the sun. If I'm being honest, as someone who is passionate about public outreach in astronomy and cosmology, I was more excited to see that enthusiasm about science than I was to see the first part of the eclipse (prior to totality). But once the



About the Author:

Stephanie Hamilton is a physics graduate student at University of Michigan. Her work focuses on studying the orbits of the small bodies beyond Neptune in order learn more about the Solar System's formation and evolution, in addition to searching for a hypothetical new massive planet in the distant Solar System -- Planet Nine! Outside of work, she likes to read sci-fi books, binge TV shows, write about her travels or new science results, and play tennis.



About the Author:

Anthony Kremin is a physics graduate student at University of Michigan. His work focuses on observational cosmology using clusters of galaxies to better understand the makeup of the Universe and the behavior of dark energy. Outside of work, he likes to read, exercise, and spend time outside when Michigan weather permits.

moon took its place in front of the sun, there was no longer a way to make an accurate comparison. I wasn't prepared for just how other-worldly the experience would be. Nearby shop signs flickered on as the darkness increased. The horizon acted as though there was a sunset happening in every direction simultaneously. And that isn't even considering the star of the show itself, a burning ring in the sky, with its corona stretching out into the emptiness of space.

I was excited for the trip, but it ended up exceeding all of my expectations. It was a much-needed energy boost that I used to press onward with my PhD research.

By Anthony Kremin



*Photographs
courtesy of
Stephanie
Hamilton (top)
and Anthony
Kremin (left)*

2017 Canadian-American-Mexican Conference

Students from Cuba participated this year for the first time

By Midhat Farooq, co-editor

On the morning of August 17th, almost 100 physics graduate students from Mexico, United States, Canada, and Cuba sat in a room together at the first session of the 2017 APS Canadian-American-Mexican Graduate Student Physics Conference (CAM), held in Washington D.C. Quiet anticipation filled the air as the students waited for the conference to begin, looking around at their international peers with friendly smiles, excited to meet each other and share their research and experiences in the following days. One might wonder what brought such a diverse group of students together.

Back in 1994, the Canadian Association of Physicists (CAP), APS, and Sociedad Mexicana de Física (SMF) jointly hosted the first international North American physics conference, in Cancun, Mexico, which provided a platform for physicists from all over the continent to come together for intellectual discussion, professional development, and the opportunity to form collaborations. In subsequent years, CAM was redesigned to serve graduate students exclusively. Since then, it has taken place biennially, with the previous two held in Waterloo, Canada (2013) and Oaxaca, Mexico (2015). This past August, CAM2017 embraced the theme “Transcending Boundaries.”

As the conference is largely run by and for graduate students, CAM’s unique design allows these students to give research presentations to an audience of their peers, providing a less intimidating environment than other conferences, while simultaneously challenging them to explain technical work in terms accessible by any physics graduate student. Additionally, the conference offers attendees the chance to meet people from around the continent and to learn about each other’s experiences. Hence the young scientists are able to share not only stories about life in graduate school, but also their distinct perspectives developed in different cultures. This year, in addition to attendees from Canada, U.S. and Mexico, a delegation of 15 Cuban students was invited to CAM for the first time, marking a historic moment and giving additional meaning to the theme of the conference by transcending a political boundary.

The conference kicked off with opening remarks from Mathias Moreno from SMF, Christopher Pugh of CAP, and APS CEO Kate Kirby. A plenary session featuring Eduardo Gómez García from Universidad Autónoma de San Luis Potosí, México and Melissa Franklin from Harvard University, USA, followed. The room was packed with the kind of energy one experiences at the beginning of a big journey. This energy was reciprocated by the speakers. García gave an outstanding talk explaining the importance of precision measurements and how his research group studies the weak force using laser cooled francium atoms. The talk transcended a disciplinary boundary by engaging students with backgrounds in both particle physics and quantum optics. Franklin gave a broad overview of particle physics and its future, interactively challenging the audience by asking questions like “What do you guys think about at night [if not particle physics and the universe]?” Her energy, humor, and thought-provoking questions captured the attendees’ attention that morning and set a positive tone that carried throughout the conference.

CAM’s agenda included four more plenary sessions, several graduate student poster and oral presentations, and two panels. The first panel featured professionals in physics, and the second had student panelists.

While the talks and presentations promoted research discussions, the panels provided an avenue for comparing and contrasting the four countries’ academia, politics, and cultures. The first panel emphasized the value and various benefits of scientific collaborations, and all four panelists recognized that international collaboration is necessary for the success of science. Specifically, García pointed out that collaborations provide indispensable resources that enable more competitive research to take place in Mexico. María Sánchez Colina, president of the Cuban Physical Society, explained that science and collaborations in Cuba tend to be more heavily focused on biological and medical fields, and that future collaboration with the U.S., both scientific collaborations and conferences such as CAM, could help in the development of physics research and technology in Cuba. In contrast to the serious discussions during the day, the evenings were full of lighthearted conversations at both the welcome reception and the conference banquet in the foyer of the Rayburn House building on Capitol Hill. This gorgeous high-ceilinged room where legislators often meet made for a memorable experience for both the local and international attendees.

It is impossible to do the entire conference justice as CAM consisted of many great moments. Most notable, however, were those showing that the physics community is becoming more aware of societal issues. This was exemplified when Pauline Barnby, from University of Western Ontario, started her plenary talk on astrophysics by acknowledging that we were gathered on the former lands of the Native American people, setting an example for all to follow. Another interesting moment came when the graduate student panel discussed how in the United States, the topic of diversity is often focused on people of color, but that this might not necessarily be the case elsewhere. Panelist Ana Avilez-Lopez told us that indigenous people for whom Spanish is not their native language are an underrepresented group in Mexico, and they are often left behind by science. Such discussions taking place at CAM demonstrates that physicists around the continent are actively working towards the goal of a diverse and inclusive scientific community.

Another area in which academics are gaining awareness is the number of available academic jobs, or rather lack thereof. APS Careers Program Manager Crystal Bailey served on the first panel and presented statistics showing the high percentage of graduate students that are currently transcending a career boundary by working outside of academia.

Whether graduate students choose to carry on with research in academia, work in industry, or pursue careers in policy or advocacy work, the field of physics continues to thrive, and APS conferences like CAM enhance it by providing a place where young scientists can come together to learn and share their research and experiences, as well as develop personal and professional connections.

CAM 2017 was jointly funded by [CAP](#), [CAP Foundation](#), [SNOLAB](#) (the expansion of the Sudbury Neutrino Observatory) [SME](#), The National Council For Science and Technology in Mexico ([CONACYT](#)), [APS](#), the APS Forum on Graduate Student Affairs ([FGSA](#)), the National Science Foundation [NSF](#), the APS [Office of International Affairs](#), and the U.S. Liaison Committee for the International Union of Pure and Applied Physics. The international organizing committee was led by Krista Freeman, Past Chair of APS FGSA.

FGSA Updates:

FGSA ELECTIONS ARE HAPPENING NOW!

Please remember to vote by following the link you should receive in a separate email.

FGSA TRAVEL GRANT

Did you know that FGSA offers travel awards for our members each quarter of the year? Here are the winners from FGSA's 4th Quarter Travel Award:

Min Kyung Shinn

Washington University in St. Louis

Ryan Plestid

McMaster University

Heather McCarrick

Columbia University

Romit Maulik

Oklahoma State University

Pontus Laurell

University of Texas at Austin

Oscar Avalos-Ovando

Ohio University

Dante O'Hara

University of California, Riverside

Francesca Bernardi

University of North Carolina at Chapel Hill

Olga Harrington

University of South Florida

Gerald Wang

Massachusetts Institute of Technology

Marguerite Matherne

Georgia Institute of Technology

Fatma Ayancik Cinoglu

Lehigh University

Sarah Cuddy-Walsh

Carleton University

CONGRATULATIONS TO YOU ALL!

HAVE FEEDBACK?

Would you like to write for us?

Let us know by filling out the [Google Form](#).

GET TO KNOW YOUR CURRENT FGSA EXECS:

Joshua Einstein-Curtis is the FGSA Chair.

Krista Freeman is our Past Chair. She recently completed her PhD at Carnegie Mellon University and started a postdoc in the University of Pittsburgh's Biology Department, where she is studying the physics of viruses. She enjoys cooking, singing, and dabbling in many varieties of arts & crafts.

Ruth Barrera is our Treasurer.

Anashe Bandari is the FGSA Secretary. She is in the fourth year of her PhD program at the College of William & Mary, where she does research in experimental nuclear physics. She is also co-editor of the new FGSA newsletter, and her longer bio is above.

Julia Gonski is the Councilor for FGSA, as well as for the newly formed Forum for Early Career Scientists (FECS). She is a PhD student and NSF Graduate Research Fellow at Harvard, working on the ATLAS experiment at the Large Hadron Collider. She is excited to find more ways for students to be involved within APS, specifically focusing on inclusion of underrepresented groups.

Andrea Welsh is an FGSA Member-at-Large. She is in the physics PhD program at Georgia Institute of Technology, studying nonlinear dynamics in biophysical systems. She is particularly interested in doing work related to diversity in physics and making physics more inclusive.

Cathleen Fry is an FGSA Member-at-Large. She is a PhD student at Michigan State University, where she performs nuclear physics experiments motivated by astrophysics. She is particularly interested in advocating for vulnerable groups.

Rachael Mansbach is an FGSA Member-at-Large. She is a sixth year graduate student at the University of Illinois at Urbana-Champaign. She does computational research on self-assembly of electronic biomolecules during the day and moonlights as a fantasy writer in her free time.

Lesya Horyn is an FGSA Member-at-Large. She is a third year PhD student at the University of Chicago working on the ATLAS Experiment at the LHC. Outside of her research, she works on Expanding Your Horizons, a STEM conference for middle school girls; she also loves to dance, get lost in new cities, and think about the intersection of science and politics.

Lucas Hackl is the APS Student Representative to the AAAS Science and Human Rights Coalition. He is completing his PhD in mathematical physics at Penn State and is currently a visiting student at the Perimeter Institute for Theoretical Physics. Originally from Germany, he took time off before graduate school to teach mathematics in Senegal.

Joyprokash Chakraborty is the International Student Affairs Officer.

Zlatko Minev is the FGSA Ex-Officio Advisor to the APS Committee on Careers and Professional Development.

Midhat Farooq is the FGSA representative to the APS Committee on membership, as well as one of the two co-editors of this newsletter. See longer biography above.