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CSWP & COM

Gazette

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Newsletter of the Committee on the Status of Women in Physics & the Committee on Minorities of the American Physical Society

INSIDE

Guest Editorial: Women in Physics Groups

Ashley DaSilva, Postdoctoral Associate, University of Texas at Austin, Chair of the APS Committee on the Status of Women in Physics

In graduate school, several women in the department and I got together to form a women in physics group at Penn State University: Physics and Astronomy for Women. We began by meeting for tea once a month and having a pot luck dinner or group outing a couple times each semester. With support from the department leadership, we added outreach and professional development activities. I led the group as president for the first year. Seeing the enormous energy and positivity of my fellow physicists, I realized the great impact such groups could have not only on the physicists already in a department, but on the recruitment of new women into the field.

Despite equal representation and achievement of women in science and math up through the high school level, women remain underrepresented in physics at the undergraduate level and beyond. Women in physics groups at colleges, universities, and national labs are working to impact women physicists at all levels by forming local networks of support. This fall, the APS Committee on the Status of Women in Physics awarded its first round of grants to recognize and support women in physics (WiP) groups working towards improved recruitment and retention of women in physics. In this editorial, I want to share some of the benefits WiP groups provide to women physicists, physics departments, and the field.

Social gatherings help Women in Physics groups grow a sense of community. Physics and Astronomy for Women at Penn State hosts different events throughout the year, including a pumpkin carving party. Photo: PAW at Penn State.

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What Makes a Physicist?

Shannon Palus is a staff writer at Retraction Watch and a freelance writer. She has a degree in physics from McGill University, with a minor in anthropology

APS March Meeting 2015 — How do you spot the physicists at a cocktail party? What do they wear to work, and what do they do when they get home? To a packed room at the March Meeting — some attendees in jeans, some in dresses, some in heels, some with thick-framed glasses and blunt stylish bangs, and many crowding in the back, standing — three researchers painted a picture of what it means to be a "physics person" with surveys, interviews, and an anthropological study of a physics department.

They each repeated the same observation: Physics largely seems stuck in a state of maleness. Each year, just 20 percent of all physics bachelor's and doctoral degrees are awarded to women. The field is very white, too: There are fewer than 75 African American and Hispanic female physics and astronomy faculty in the entire United States. A feeling of belonging is what often separates talent that stays in physics from talent that stays out, recent research underscores. And it goes beyond those who end up pursuing a physics

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Publication Information

The COM/CSWP GAZETTE, a newsletter of the American Physical Society Committee on Minorities (COM) and Committee on the Status of Women in Physics (CSWP), is mailed free of charge to all those listed on the Roster of Women and Minorities in Physics, all U.S. physics department chairs, and others upon request. Because editorial responsibility rotates among COM and CSWP members, please address all correspondence to: COM/CSWP Gazette, American Physical Society, One Physics Ellipse, College Park, MD 20740-3844, or email to: ratnikova@aps.org. Opinions expressed are those of the authors and do not necessarily reflect the views of the APS or of the COM and CSWP.

CSWP recognizes 12 outstanding physicists in 2015

The APS Committee on the Status of Women in Physics (CSWP) began a program to highlight exceptional female physicists in January 2012. Each month a new woman is the face of www.WomenInPhysics.org and her brief bio is featured on the website.

In 2015, the following women were featured by CSWP (in order of feature):

Marjorie Corcoran, Rice University
Dawn Williams, University of Alabama – Tuscaloosa
Qudsia Quraishi, Army Research Laboratory
Sheila McBreen, University College Dublin
S. Burcin Bayram, Miami University
Chiara La Tessa, Brookhaven National Laboratory
Kathy Prestridge, Los Alamos National Laboratory
Connie Wells, Pembroke Hill School
Karin Dahmen, University of Illinois at Urbana-Champaign
Jessica Kirkpatrick, Hired.com
Angela Laird, Florida International University
Clara Moskowitz, Scientific American

The CSWP Woman Physicist of the Month award recognizes female physicists who have positively impacted other individuals' lives and careers. The award is not restricted to just research physicists, but open to students, teachers or any woman doing physics-related work. Nominations are accepting on a rolling basis.

To nominate someone, the name, institution/facility/company, and email of both the nominee and nominator should be emailed to women@aps.org. The nominee's CV and a nomination statement up to three paragraphs should also be included in the email as attachments. ■

2017 CUWiP Sites Announced

The 2017 APS Conferences for Undergraduate Women in Physics (CUWiP) will be held Friday, January 13 through Sunday afternoon, January 15, 2017 at the following locations:

Harvard University
Montana State University
Princeton University
Rice University
University of California Los Angeles
University of Colorado Boulder
University of Wisconsin
Virginia Tech
Wayne State University

The CUWiP goal is to help undergraduate women continue in physics by providing them with the opportunity to experience a professional conference, information about graduate school and professions in physics, and access to other women in physics of all ages with whom they can share experiences, advice, and ideas. Learn more at: *www.aps.org/programs/women/workshops/cuwip.cfm*

Student applications are accepted starting in September, and acceptance notifications are sent by December 1. Stay tuned to www.WomenInPhysics.org for updates on the application process! ■

Guest Editorial *continued from page 1*

Forming a Community

Typically, WiP groups are grassroots efforts – women come together hoping to reduce isolation and increase their sense of belonging. Some women join to seek advice on dealing with discrimination or bias they face, or simply a safe space to vent. Some women want to encourage the next generation of scientists by increasing the visibility of female physicists as role models. Many women, myself included, join WiP groups for a few reasons. The goal of the APS WiP grant is to encourage and support WiP groups in a way that is unique to each institution and its members.

Although role models at all levels are certainly important, peer groups provide a sense of community and inclusion. Casual gatherings for tea, coffee, or meals provide opportunities to discuss problems and solutions, and to celebrate each other's successes. Formal mentoring programs, such as the one hosted by the WiP at the University of Maryland, College Park, allow undergraduate women to get to know a graduate student mentor. They meet several times a year to exchange advice and have a friendly face to talk to. Whether formal or informal, the relationships formed through WiP groups allow women at all levels to receive feedback in a comfortable setting. Ultimately, this community reduces impostor syndrome and improves confidence.

Most physics departments work hard to foster diversity. Departmental leadership can tap into WiP groups to assess how efforts can be improved upon. WiP groups also help raise awareness about diversity issues and the work the department puts into ensuring an inclusive environment. For example, the Physics Women Society at the University of Central Florida hosted a seminar about women in STEM, targeted to the entire department, to provide information about women and minorities in physics and other STEM fields. A greater understanding of how unconscious bias plays a role in how we see and interact with diverse groups is important, and not otherwise present in a typical physics curriculum. In addition to topics of diversity and underrepresentation, many WiP groups host professional development events such as career panels or resume workshops, frequently open to all gender identities. These events are a valuable resource for physics students, since about 43% of physics bachelors and PhDs find employment outside of academia after graduation.[1]

Role Models and Recruiting

Outreach is becoming increasingly important in physics departments. Physicists love to share the exciting world we live in with kids and adults alike, and it's important to reach out to the next generation of scientists who are just beginning to explore career options. WiP groups provide a good source for volunteers, ensuring there are always women available to be role models when working with kids interested in science. Many WiP groups plan new activities and host their own outreach events targeted especially to young women.

Young women lose interest in physics around middle school and high school.[2] This makes it an ideal time to try to intervene by showing 6th through 12th graders that women make excellent physicists. One recent study showed that the most effective way to improve interest in science for women in high school physics was to talk explicitly about women's underrepresentation.[3] I believe that graduate and undergraduate students can provide a valuable bridge between younger students and professional physicists in discussions of underrepresentation in physics. Their personal experiences will be similar to those of the younger students. They can talk about how they prepared for opportunities that came their way, and how they overcame situations where things didn't quite work out as expected.

I am very excited to see how WiP groups change their departments, and improve diversity in physics. As a former WiP group leader, I am especially happy to have been a part of this movement. Looking forward, I expect the APS grants for women in physics groups to help strengthen the groups, and encourage them to share ideas and best practices. ■

A member of Physics and Astronomy for Women at Penn State discusses careers in science with middle school students. PAW AT PENN STATE.

[1] *American Institute of Physics Statistical Research Center, http://www.aip.org/statistics, accessed 12/31/15. Data is from classes of 2011 and 2012.*

[2] *T. Hodapp and Z. Hazari, "Women in Physics: Why so few?" APS News 24, 10 (2015).*

[3] *Z. Hazari, G. Potvin, R. M. Lock, F. Lung, G. Sonnert, and P. M. Sadler, Phys. Rev. ST Phys. Educ. Res. 9, 020115 (2013).*

Members of Physics and Astronomy for Women plan and participate in outreach events, such as a color wheel demonstration at arts fest in State College, Pennsylvania. PHOTO: PAW AT PENN STATE.

What Makes a Physicist? *continued from page 1*

career: Skills learned from taking even just a handful of college physics courses are highly useful in a number of fields.

In a survey of 6,772 undergraduate students from all majors, Florida International University researcher Geoff Potvin quantified the underpinnings of the "physics identity," and connected it to the likelihood that a student will pick physics as a career. He explored three main factors: performance, interest, and recognition.

As expected, interest in physics is correlated with a strong physics identity. But for women, competence in physics was slightly negatively associated with the identity. "Just doing well is not enough," Potvin explains.

A student's feeling of belonging — an example of what Potvin calls "recognition beliefs" — was the number one predictor to whether or not a student, of any gender, would go on to study physics. Recognition can come from teachers or peers; it can be as simple as an acknowledgement of a strong performance in a lab or on an exam.

A student's feeling of belonging — an example of what Potvin calls "recognition beliefs" — was the number one predictor to whether or not a student, of any gender, would go on to study physics.

That praise needs to accumulate to translate to a strong sense of belonging, said Michigan State University physics education researcher Vashti Sawtelle. "It is insufficient to have one positive experience." Sawtelle offered the session's refrain: "The data that I have is sad."

To look at the specifics of what might alter the physics identity for students and faculty of different genders, McGill University education researcher Allison Gonsalves spent seven months in 2007 embedded in a physics department at a large North American university for her doctoral dissertation. She published some of that work in her 2014 paper, "'Physics and the girly girl—there is a contradiction somewhere: doctoral students' positioning around discourses of gender and competence in physics."

For her research, Gonsalves asked graduate students to keep photo diaries of what it meant to them to be a physicist. They brought her snapshots of tea and cookies from department meetings, and of machines. One woman took a picture of her toilet, and explained that she had fixed it. A physicist, she explained, can fix things. "Being a good physicist entails performing physics," says Gonsalves, "just in the same way that gender involves repeatedly performing things that signal our gender."

The way that gender wraps into that identity came in her interactions and interviews with graduate students. After a tour of the scanning tunneling microscope, one told her that women rarely use the machine, joking: "We'll have to perform a cleansing ceremony when you leave."

In an interview, a female grad student told her: "People don't wear dresses, people don't wear high heels" she told Gonsalves. "If I did those things, I would feel out of place."

That student's fears were echoed in a panel at the end of the session in San Antonio. One leader of a women-in-physics group noted that their group had a discussion about whether or not it is appropriate to wear high heels — regarded by most of North America as a standard option for business casual office wear — to an interview. On the reddit.com discussion website, one thread about the March Meeting gave gendered advice on what to wear. One entry suggests flip flops. But when casualness is linked to gender, it may not be as accepted: Another entry warns not to wear a skirt that's too short, lest the wearer not be taken seriously.

Those stereotypes are knit into who students consider to be a physicist. In research published in 2009, Potvin found that female teachers received lower evaluation ratings, on average, than their male counterparts — regardless of actual classroom behaviors. New research from Potvin paints a "worrying picture": Students who score higher on the physics identity scale exhibit bias against female teachers more strongly.

There's little consensus on how to attract more women to the field of physics. In a survey of 7,505 students, Potvin looked at the effects of several approaches: single-sex classrooms, women-scientist guest speakers, role models, and discussions of the problem. Discussing the issue of underrepresentation was the only method that increases the likelihood of pursuing a physics career.

For Gonsalves, looking at gender alone is not sufficient. "If you are really truly going to understand peoples' experiences, you need to use a more intersectional lens." That means taking forces like race and class into account, and expanding the diversity issue beyond just women in physics. ■

This article was originally printed in APS News.

Blewett Fellowships Help Women Return to Physics

Emily Conover, APS Staff Writer

In July, APS announced the winners of its 2015 M. Hildred Blewett Fellowships. These awards help women to return to careers in physics research after an interruption. Blewett was an accelerator physicist who had worked at Brookhaven National Laboratory and CERN, and when she died in 2004, her bequest to APS endowed this award. Since then, the yearlong fellowships, which provide up to $45,000 for dependent care, salary, travel, equipment, and tuition and fees, have helped nearly 20 women get their physics careers back on track.

The APS Committee on the Status of Women in Physics selected two new fellows this year: Huey-Wen Lin, and Nicole Lloyd-Ronning. Two others, Monique Tirion and Ani Tshantshapanyan, are returning as fellows, after their selection last year.

Nicole Lloyd-Ronning

For some women, childcare can be an all-consuming task. So it was for Lloyd-Ronning, an astrophysicist who took ten years off to care for her three children. Now that the youngest is in grade school, she feels ready to jump back into research. "I knew ever since I was very young that I wanted to do astrophysics," Lloyd-Ronning says. "I never stopped loving it — I just wasn't finding the balance I wanted to when the kids came along."

After studying physics and astronomy as an undergraduate at Cornell University, Lloyd-Ronning earned her Ph.D. from Stanford University. She then went on to a postdoc at the Canadian Institute for Theoretical Astrophysics in Toronto, during which she had her first child. She continued her research, working from home and part time as necessary. She then moved on to a second postdoc at Los Alamos National Lab (LANL) in New Mexico and had her second child.

But balancing work and home life left her feeling unsatisfied. "I was really bad at switching gears," Lloyd-Ronning says. "I was just thinking about work all the time when I was at home." So she decided to take a hiatus from research. All the while, Lloyd-Ronning says, she was still keeping up with the field, staying in touch with colleagues, and reading new papers on the arXiv every night.

Lloyd-Ronning studies gamma-ray bursts, extremely intense flashes of gamma rays that can occur when massive stars violently explode and collapse. A few years ago, she started dipping her toe back into research, working with one of her postdoc advisors at LANL. In her year as a Blewett Fellow, Lloyd-Ronning plans to use computational techniques to better understand how particles are accelerated in gamma-ray bursts and how they radiate. "The details of the physics are really not understood well," she says.

The Blewett Fellowship will allow Lloyd-Ronning to commit her time to research again. "It's giving me resources to be at work all day and find childcare when I need it for the kids," she says.

Huey-Wen Lin

Physicist Huey-Wen Lin encountered a "two-body problem" that made it challenging to keep her career on track as well as her husband's, especially when coupled with the demands of caring for their two children. As a visiting assistant professor at the University of California, Berkeley, Lin works when she can, but usually is able to make it into the office only one day a week. She says that the fellowship will help her get her children in full-time day care and get herself back to a regular work schedule.

In 2006, Lin received her Ph.D. in physics from Columbia University. This was already a complicated undertaking for Lin, who is from Taiwan. "No one in my whole family tree has ever lived as far as America," she says, and it was a particularly difficult move for a daughter to make. "It's more acceptable if a son tries to do something wild."

She then went on to a postdoc at Jefferson Lab in Newport News, Virginia, before becoming a research assistant professor at the University of Washington (UW). Each time she moved, she says, her husband, also a physicist, would follow a year or two later. But the bouncing around wasn't good for her husband's career, she says — each time he'd have to start over again in a new place, sometimes leaving previous projects unfinished.

In July 2014, when Lin had her second child and her position at UW ended, things got more complicated. Her husband decided to take a job outside of physics, working for Google in Mountain View, California, where the couple now lives. Lin tried to keep up with research, but it was a challenge. Housing in the area turned out to be incredibly expensive, she says, and finding day care for an infant was very difficult. "A lot of things didn't really work out as we had planned.

Lin's research is in lattice gauge theory, using supercomputers to calculate the strong interactions between quarks and gluons. The work, she says, is relevant for providing standard model inputs for experiments at the LHC and also for low-energy precision experiments (e.g., measurements of the neutron electric dipole moment). Lin also plans to work in collaboration with Lawrence Berkeley National Laboratory, taking advantage of the supercomputer located there to enable the search for physics beyond the Standard Model.

Being selected for the Blewett fellowship means a lot, Lin says — and it's not just about the money. "This fellowship gives me hope to move forward." Now that she can work full time again, Lin hopes to make the final push to publish the research that she has accumulated in the past few years. And she's optimistic about her prospects: "I think with just a couple more years I should be able to have a tenure-track position." ■

This article was originally printed in APS News.

Nicole Lloyd-Ronning

"The Blewett Fellowship is giving me resources to be at work all day and find childcare when I need it for the kids"

Huey-Wen Lin

"This fellowship gives me hope to move forward."

Women and Minorities Named to Fellowship

Each year, APS members are nominated by their peers to Fellowship in the Society. New Fellows are elected after careful and competitive review and recommendation by a fellowship committee on the unit level, additional review by the APS Fellowship Committee and final approval by the full APS Council. Only half of one percent of the total APS membership is selected for Fellowship in the Society each year.

DIVISION OF ASTROPHYSICS

Laura Baudis

University of Zurich

For leadership and outstanding contributions to experimental searches for astrophysical dark matter by direct detection and for double beta decay.

Fiorenza Donato

Turin University, Italy

For extensive ground breaking contributions in astro particle physics and indirect dark matter searches.

Feryal Ozel

University of Arizona

For pathbreaking theoretical and observational contributions to understanding the behavior of high energy astrophysical systems in the universe, including neutron stars, magnetars and black holes; and for leadership in the astrophysics community.

DIVISION OF ATOMIC, MOLECULAR & OPTICAL PHYSICS

Gretchen Campbell

National Institute of Standards and Technology

For pioneering contributions to the study of superfluidity in atomic-gas Bose-Einstein condensates using ring-shaped condensates.

Diego Alejandro Dalvit

Los Alamos National Laboratory

For original contributions to the interpretation of Casimir physics experiments, including fluctuation-induced interactions in nanostructured materials, thermal Casimir forces, and patch effects.

Jelena Vuckovic

Stanford University

For major and field opening contributions to nano photonics and its application to information science; including the design and fabrication of 2D photonic crystals with integrated quantum dot structures.

DIVISION OF CONDENSED MATTER PHYSICS

Erica Carlson

Purdue University

For theoretical insights into the critical role of electron nematicity, disorder, and noise in novel phases of strongly correlated electron systems and predicting unique characteristics.

Vidya Madhavan

University of Illinois, Urbana

For major contributions to the study of topological phases of electronic matter using advanced spectroscopic imaging STM.

Vesna Mitrovic

Brown University

For pioneering contributions to NMR study of low energy excitations in emergent quantum phases.

Janet Tate

Oregon State University

For contributions to structural, transport, and optical properties of a wide variety of electronic and superconducting materials.

Latha Venkataraman

Columbia University

For pioneering contributions to measurement and understanding of electron transport through single organic molecules.

DIVISION OF FLUID DYNAMICS

Anne DeWit

University Libre De Brussels

For pioneering contributions to our understanding of the coupling between chemical reaction, hydrodynamics, and pattern formation driven by coupled reacting-hydrodynamic systems.

DIVISION OF LASER DYNAMICS

Xiaoqin (Elaine) Li

University of Texas, Austin

For contributions to quantum information, multidimensional coherent spectroscopy, nanophotonics based on AFM assembly, and spin dynamics in ferromagnetic nanostructures.

DIVISION OF MATERIALS PHYSICS

Jaime Fernandez-Baca

Oak Ridge National Laboratory

For seminal neutron scattering studies of magnetic materials, especially the spin and lattice dynamics of colossal magnetoresistive manganites.

Carlos Meriles

City College of CUNY

For creative contributions to the development of novel techniques in magnetic resonance, including ex-situ MRI scanning, spin hyperpolarization and optical detection.

Tanusri Saha-Dasgupta

S. N. Bose National Centre for Basic Sciences

For development of fast and accurate electronic structure methods allowing the combined study of material-specific and many-body aspects, and their application in understanding the transition-metal oxides and quantum spin systems.

Liling Sun

Chinese Academy of Science

For outstanding contributions in the study of iron-based superconductors and other quantum correlated materials, and in the development of state-of-the-art systems for in-situ high pressure measurements.

DIVISION OF NUCLEAR PHYSICS

Filomena Nunes

Michigan State University

For developing new standards in relating nuclear reactions, nuclear structure, and astrophysical reaction rates by the implementation of non-perturbative treatments of nuclear breakup.

Kai Vetter

Lawrence Berkeley National Laboratory

For pioneering contributions to fundamental radiation detection techniques, particularly gamma-ray imaging, and important societal applications.

DIVISION OF PARTICLES & FIELDS

Maurice Garcia-Sciveres

Lawrence Berkeley National Laboratory

For leadership in the development of vertex detectors at hadron colliders that enabled studies of the top quark and discoveries including B meson oscillations and the Higgs boson.

Vivian O'Dell

Fermi National Accelerator Laboratory

For leadership in CMS operations and upgrades, the Run IIb DZero detector upgrade; th DZero and CMS QCD physics groups and major contributions to the CMS Data Acquisition system.

DIVISION OF PLASMA PHYSICS

Yuan Ping

Lawrence Livermore National Laboratory

For pioneering experiments exploring the nature, equilibration, and use of nonequilibrium plasmas strongly driven by coherent and incoherent sources.

Edward Thomas

Auburn University

For pioneering contributions and leadership in the development of particle-image velocimetry in the study of dusty plasmas and for exemplary service to the plasma physics community.

DIVISION OF POLYMER PHYSICS

Liliane Leger

College de France

For masterfully pioneering experiments about the fundamentals of polymer diffusion, adhesion, and rheological flow.

Rachel Segalman

University of California, Santa Barbara

For pioneering contributions to the understanding of conjugated, polypeptoid, and ion-containing polymers and co-polymers.

TOPICAL GROUP ON ENERGY RES & APPL

Sue Carter

University of California, Santa Cruz

For contributions to the science required to improve production and utilization of energy, and efforts to exploit this understanding in both the world of commerce and in public policy.

TOPICAL GROUP ON FEW BODY SYSTEMS

Jose D'Incao

University of Colorado - Boulder

For contributions to our understanding of fundamental low-energy few-body physics, including Efimov physics, and its application to ultracold atomic and molecular gases.

TOPICAL GROUP ON GRAVITATION

Laura Cadonati

Georgia Institute of Technology

For leadership of the gravitational-wave data analysis and astrophysics efforts of the LIGO Scientific Collaboration, including work connecting numerical modeling of sources to observations with the LIGO, Virgo, and GEO detectors.

TOPICAL GROUP ON HADRONIC PHYSICS

Xiaochao Zheng

University of Virginia

For advancing the measurement of parity violating asymmetry in electron-nucleon deep inelastic scattering.

TOPICAL GROUP ON INSTRUMENT AND MEASUREMENT SCIENCE

Hsiao-Mei Cho

SLAC - National Accelerator Laboratory

For outstanding contributions to the development of sensitive bolometers and superconducting amplifiers, and leadership in their application to the measurement of the polarization of the cosmic microwave background.

TOPICAL GROUP ON MAGNETISM

Roland Kawakami

Ohio State University

For pioneering advances in understanding the magnetic properties of graphene, including mechanisms of spin lifetime and spin transport, and the role of adatoms in magnetic moment formation.

TOPICAL GROUP PRECISION MEASUREMENT & FUNDAMENTAL CONSTANTS

Ricardo Decca

Indiana University -Purdue University

For pioneering precision experiments that have led to a deeper understanding of the Casimir force, and stringent constraints on new fundamental interactions at sub-micron ranges.

TOPICAL GROUP ON QUANTUM INFORMATION

Kae Nemoto

National Institute of Academic Degree

For pioneering the theory for quantum optical implementations of quantum information processing and communication.

TOPICAL GROUP ON STATISTICAL & NONLINEAR PHYSICS

Mary Silber

Northwestern University

For contributions to bifurcation theory in the presence of symmetries, and its application to the theory of pattern selection in nonlinear, spatially extended, dissipative physical systems

FORUM ON INTERNATIONAL PHYSICS

Jorge Morfin

Fermi National Accelerator Laboratory

For uniting theorists and experimentalists, particle and nuclear physicists, and physicists from North, Central and South America in understanding strong interactions in the nucleon, in the nucleus, and in neutrino interactions on nuclei.

For information on nominating women and minorities for APS prizes and awards, please visit www.aps.org/programs/honors/nomination.cfm

Special Events Focusing on Women & Minorities in Physics

APS March Meeting • Baltimore, Maryland

SUNDAY, MARCH 13

Professional Skills Development Workshop for Women Physicists
Workshop for developing communication and negotiation skills; for post docs and early-career women physicists (participants must be pre-registered).

NMC Get-together
The APS National Mentoring Community (NMC) provides support for successful mentoring relationships with undergraduate students who are underrepresented minorities in physics. NMC participants and those who wish to learn more about the NMC are welcome. Light refreshments served.

TUESDAY, MARCH 15

Sexual and Gender Diversity issues in Physics
The APS ad hoc Committee on Lesbian, Gay, Bisexual, and Transgender Issues will present their new report on the obstacles to inclusion of LGBT physicists and recommendations for building a more inclusive physics community.

WEDNESDAY, MARCH 16

CSWP Meet-and-Greet
Unwind after a long day of sessions by networking with women physicists from the APS Committee on the Status of Women in Physics (CSWP) and members of the APS Panel on Public Affairs. Learn about the new statement on women in physics and other programs designed for women physicists.

NSBP Meetup
The National Society of Black Physicists (NSBP) meetup will provide opportunities for NSBP members and those interested in the work of the society to gather, network, and learn about NSBP initiatives. All are welcome. Students and postdoctoral researchers are especially encouraged to attend.

NSHP Meetup
The National Society of Hispanic Physicists (NSHP) meetup will provide opportunities for NSHP members and those interested in the work of the society to gather, network, and learn about NSHP initiatives. All are welcome. Students and postdoctoral researchers are especially encouraged to attend.

COM/CSWP Diversity Networking Reception
Learn about the work of the Committee on Minorities in Physics and the Committee on the Status of Women in Physics, network with colleagues, and unwind after a long day of sessions. All are welcome.

Please check dates of all events on the Meetings and hotel calendars, as they may change nearer the time.

APS April Meeting • Salt Lake City, Utah

SUNDAY, APRIL 17

Communication and Negotiation Skills Workshop I
This workshop focuses on professional skills that students and postdocs need to effectively perform research, including: negotiating a position in academia, industry or at a national lab, interacting positively on teams and with a mentor or advisor, thinking tactically, articulating goals, enhancing personal presence, and developing alliances. Participants are invited to bring examples of difficult professional situations to discuss.

CSWP Meet-and-Greet
Unwind after a long day of sessions by meeting and networking with women physicists from the APS Committee on the Status of Women in Physics (CSWP).

Education & Diversity Networking Reception
Learn about the work of the Education & Diversity Department, network with colleagues, and unwind after a long day of sessions. Forum on Education Fellows and recipients of the Committee on Education's Award for Improving Undergraduate Physics will be recognized at this reception. All are welcome.

MONDAY, APRIL 18

Communication and Negotiation Skills Workshop II
This workshop is a repeat of the Communication and Negotiation Workshop from Sunday. See above description.

The University of Maryland's GRAD-MAP Program

GRAD-MAP Team: Ashlee Wilkins, Katie Jameson, Peter Megson, Neil Anderson, Lora Price, Gareth Roberg-Clark, Zeeve Rogoszinksi, Corbin Taylor, Tim Uher, Donna Hammer, Stuart Vogel, Suvi Gezari, and Jimmy Williams

Physics and astronomy have a shameful history of systemic exclusion that persists today, as evidenced by the nearly-flat, well-below parity participation of Black, Latinx, and Native American men, women, and gender-nonconforming people. This is an unjust status quo, and it keeps our field from being truly excellent, by shutting out (or shoving out) capable contributors. Graduate Resources for Advancing Diversity with Maryland Astronomy and Physics (GRAD-MAP) at the University of Maryland, College Park (UMD) is a diversity initiative spearheaded by graduate students and aimed at building strong, sustainable connections between our university faculty, students, and researchers and their counterparts at mid-Atlantic Historically Black Colleges and Universities (HBCUs), Minority-Serving Institutions (MSIs), and community colleges; we strive to change that status quo by promoting equity and inclusion in physics and astronomy.

GRAD-MAP began as a pilot program funded in summer 2013 by the internal UMD Office of Diversity and Inclusion. GRAD-MAP has three key goals: 1) Improve the representation of, and climate for, underrepresented minorities in physics and astronomy, particularly at UMD; 2) Build a diverse, collaborative community among the physics and astronomy faculty, researchers, and students at UMD and mid-Atlantic HBCUs, MSIs, and community colleges; and 3) Provide graduate students with experience mentoring a diverse group of students and experience developing and implementing a diversity initiative, preparing them to practice allyship and be agents of change throughout their careers.

The centerpiece of our three-pronged program is our innovative Winter Workshop. Over winter break, we hold a ten-day workshop for 10-12 students (selected by application) from our partner institutions and elsewhere, primarily first- and second-year URM undergraduates who have done little or no research, and may have few opportunities to do research at their home institution. We give them the experience of being a scientist, introduce them to foundational research and computing skills, and facilitate discussions on professional development and climate in science. Most importantly, we foster a cohesive, supportive cohort among the students and connect them with a large support network that will follow them throughout their careers.

The two other prongs of the program are the Fall Collaborative Seminar Series and the Spring Symposium. GRAD-MAP differs from other successful undergraduate-focused, graduate-student-led equity programs (e.g. The Compass Project and Pre-MAP) in that we reach outward to connect with the many students and faculty in physics fields at traditionally under-supported and/or overlooked institutions. In the fall, we visit our partner institutions to begin building connections between their institutions and ours; during these visits, UMD faculty present research happening at UMD and UMD graduate students present what undergraduates should be doing to get to graduate school in physics or astronomy, including why they might want to go and the many career paths available to a PhD-holder. Finally, in the spring, we invite faculty and students from our partner institutions to UMD for a one-day symposium that combines research talks from professors (of UMD and the partner institutions), Winter Workshop student presentations, and facilitated faculty and student discussions on student experiences, mentoring, and effecting change.

GRAD-MAP leadership; left to right: Ashlee Wilkins, Katie Jameson, and Peter Megson.

We have built partnerships with larger coalitions, including the National Astronomy Consortium and DCA STARS, which allow us to connect our students with more mentors, support, and research opportunities. Our program has helped win funding through the NSF PIRE and CAREER programs, and we are significantly funded in 2015-16 by the Maryland Space Grant Consortium. We also gave three invited sessions at the National Society of Black Physicists conference in 2015.

Organizing GRAD-MAP requires significant investment from many graduate students, but its benefits are numerous and measurable. Seven of the eight 2015 Workshop attendees did research in summer 2015. Two of our community college students transferred into UMD Physics and seamlessly entered our S-STEM program, which gives them year-round support, and one has been working in the same lab as his Winter Workshop research project. Our graduate programs are seeing an increase in URM and HBCU/MSI applicants to our graduate programs, and this year we have our first alumnus in a graduate program (most of our students are still undergraduates). Addressing inequities in representation and climate requires far more than just getting more minority students involved in research, and both departments are working toward changes in exclusionary culture and policies.

We hope that GRAD-MAP may serve as an example to others who wish to start a program like ours, and also more broadly to graduate students who wish to make a difference now. Having faculty and staff allies is vital, but graduate students can drive diversity initiatives and change conversations about how we do physics and who we keep in -- or out -- of the field. ■

Organizing GRAD-MAP requires significant investment from many graduate students, but its benefits are numerous and measurable.

2016 undergraduate Winter Workshop participants.

The APS Committee on LGBT Issues: Findings and Recommendations

Savannah Garmon, Assistant Professor, Osaka Prefecture University and Elizabeth H. Simmons, Dean and Professor, Michigan State University. Both are members of the APS Ad Hoc Committee on LGBT Issues

In 2014, the Executive Officer of the American Physical Society (APS), Kate Kirby, created the Ad-Hoc Committee on LGBT Issues (C-LGBT), charging it to "advise the APS on the current status of LGBT issues in physics, provide recommendations for greater inclusion, and engage physicists in laying the foundation for a more inclusive physics community." This charge responded to the work of the grassroots organization lgbt+physicists [http://lgbtphysicists.org], from whom much of the committee's membership was drawn. Note that while LGBT is generally an acronym for lesbian, gay, bisexual and transgender communities, the report interprets it to signify sexual and gender minorities in a broader sense.

About 40% of survey respondents reported there was pressure in their department to "not act too gay."

The committee, chaired by Prof. Michael L. Falk of Johns Hopkins University, has recently reached its conclusions, drawing on focus groups held at APS meetings, a survey undertaken in 2015, interviews with individuals who self-identify as LGBT, and the committee member's own varied experiences and observations. Committee members also reviewed relevant APS policy documents and public statements in order to recommend updates. The C-LGBT delivered its report to Dr. Kirby in January 2016; the report will also be publicly released at go.aps.org/lgbtphysics and the findings will be presented at the 2016 March and April Meetings of the APS.

The C-LGBT reported nine major findings and, based on these, made six recommendations for actions by which the APS can improve the climate for LGBT community members in physics. One key finding is that the degree to which LGBT physicists felt welcome in their workplace was highly variable. About 40% of survey respondents reported there was pressure in their department to "not act too gay," as if their identities were something to be ashamed of. Experiencing this type of pressure was specifically correlated with a more general sense of discomfort in their department.

Another finding was that LGBT physicists with additional marginalized identities faced greater levels of discrimination. In particular, LGBT women reported exclusionary behavior at three times the rate of men, while open-ended responses and interviews revealed particular difficulties faced by LGBT people of color. Transgender and gender-noncomforming individuals consistently reported the highest levels of exclusionary behavior, adverse climate, and unsupportive policies. The specific challenges faced by these scientists included lack of health benefits, lack of access to safe bathrooms, and a lack of respect and awareness from others.

The impact of these issues is highlighted by the finding that over a third of the total survey respondents considered leaving their workplace or university in the last year, and that this strongly correlated with those who also reported adverse climate for LGBT individuals.

Based on these findings, the report outlines six specific, actionable recommendations for the APS that would represent significant steps forward in enhancing the inclusivity and safety of the physics community for its LGBT members. These include the need to promote LGBT-inclusive practices in academia, national labs, and industry as well as to implement LGBT-inclusive mentoring programs.

Another key recommendation is to more effectively accommodate name changes in publication records, an issue that particularly (but not exclusively) impacts transgender physicists. A transgender physicist who transitions during or after graduate school may experience a mid-career change of their first (rather than family) name. This person then faces a difficult choice: either they can include early publications appearing under a differently gendered name, which outs them as transgender and risks discrimination, or they can omit those publications and risk appearing less accomplished. Either choice may leave them significantly disadvantaged in the workplace.

With the rise of unique digital identifiers for researchers (such as ORCID [http://orcid.org]) and online publication systems, this should be a fruitful time for the APS to explore the issue with publishers. It is also notable that the APS Committee on the Status of Women in Physics (CSWP) has previously considered the issue, because many physicists (of various genders) experience mid-career name changes due to alterations in marital status.

The final recommendation was that the APS support the establishment of an APS Forum on Diversity and Inclusion. This body would continuously promote a more inclusive, diverse and equitable climate for all physicists, including those who identify as LGBT, women, racial and ethnic minorities, and/or persons with disabilities. It would facilitate broader engagement of APS members around equity and inclusion, and more naturally address issues of intersectionality, i.e. individuals with two or more marginalized identities. If other constituencies later come forward with concerns, the Forum would offer an established starting place for addressing these in a timely fashion.

As the report itself emphasizes, "LGBT physicists are a remarkably diverse collection of individuals with great capacity to contribute to the physics enterprise… people of every nationality, ethnicity, race, creed and religion … [who] exist throughout the U.S. and around the world." Indeed, its recommendations naturally fit within the goals of promoting participation by a diverse membership and ensuring equal opportunity that are so clearly expressed in the core mission statement of the American Physical Society. ■

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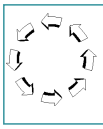

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