

## MESSAGE FROM THE DIRECTORS

As the Brown IMSD program moves into its eleventh year, we're taking a moment to celebrate the first decade of success. With our first cohort of trainees advancing into their careers, we are witnessing amazing outcomes. For example, five IMSD graduates have now moved into the faculty ranks at institutions like Yale University, Bard College and Rhode Island College, where they will mentor the next generation of scientists. Other IMSD alumni have brought their talents into industry, working at companies and organizations such as L'Oreal, Biogen, and the American Physiological Society. Over half of our graduates are pursuing further training as postdoctoral trainees at academic institutions such as University of Colorado, University of Massachusetts, Harvard University, Dana Farber Cancer Institute, as well as the World Wildlife Fund. We were delighted to showcase these achievements during our IMSD Alumni Panel in May. This provided an opportunity for current students to meet graduates who stood in similar shoes, and ask questions to gain perspective about the journey through graduate training and the transition into career. Being able to host an event like this represents the steady stride towards fulfilling our mission -- developing skilled, diverse scientists who successfully contribute to the scientific workforce and the world beyond. We continue to appreciate the collaborations, both on and off campus, that help make IMSD successful. This issue then highlights trainee accomplishments as we move forward into the next decade.

Elizabeth O. Harrington, Ph.D.  
IMSD Co-PI  
Associate Dean, Office of Graduate & Postdoctoral Studies  
Professor of Medicine

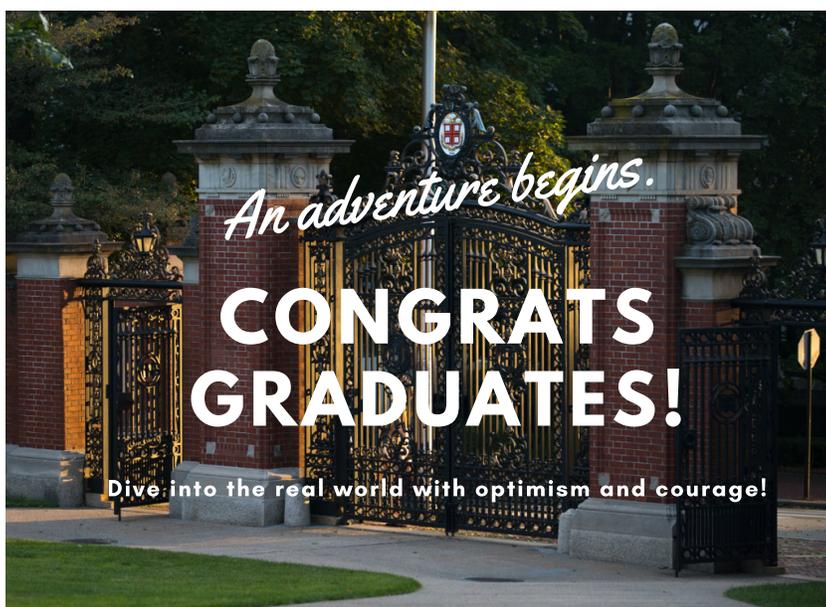
## IMSD Congratulates New PhDs 2019

Three IMSD trainees and/or seniors scholars were conferred the degree of Doctor of Philosophy at Brown University's 251st Commencement on May 26, 2019. Congratulations and best wishes to all degree recipients as they continue on their career journeys!

**Alger Fredericks** - Ph.D., Molecular Biology, Cell Biology and Biochemistry

**William Jordan** - Ph.D., Molecular Biology, Cell Biology and Biochemistry

**Rosa Martinez- Garcia** - Ph.D., Molecular Biology, Cell Biology and Biochemistry



## Save the Dates!

- Module: Designing and Delivering Scientific Presentations- July 15- 17
- Summer Bash - July 18
- Module: Creating a Science Based Web Presence- August 1, 8 & 15
- Module: Demystifying the PhD- Late August, TBD

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# Excellence

## Awards

Two members of the IMSD Community, **Ashleigh Lovette**, a past trainee and current doctoral candidate in Behavioral and Social Health Sciences, and **Kira DiClemente**, a senior scholar and current doctoral candidate in Behavioral and Social Health Sciences, have both received the **2019 Nora Kahn Piore Award**. Ashleigh's dissertation work critically examines resilience among

young women and girls by using quantitative data from an evaluation study of combination HIV prevention programming, integrated with qualitative data collected in Cape Town, South Africa. Results from Ashleigh's research will foster international collaboration, and advance our understanding of how strength-based approaches can be used in health promotion efforts among under served populations. Kira's project addresses the research question: how do pre-migration exposures and post-migration stressors behave within the complex and dynamic system of resettlement to produce high sustained rates of trauma, depression and anxiety in African refugee women living in the U.S.? Throughout the development of this project, Kira has collaborated with Providence-based non-profit organization Women's Refugee Care, run by Director Aline Binyungu. Together, they will work together to address the mental health burden faced by refugee women in our community.



Ashleigh Lovette collecting data in Cape Town, South Africa



(L-R) Kira DiClemente & Aline Binyungu

**Nicholas Drachman**, a current trainee in Physics, was awarded the Ruth and William Silen M.D. Award First Prize at the New England Science Symposium for best oral presentation. "The New England Science Symposium was a fantastic experience," Nicholas says. "I was able to learn from a diverse group of students and share my work. And I'm thankful to the IMSD program for providing me with the opportunity to attend".



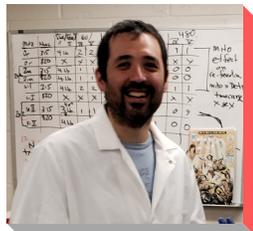
Nicholas Drachman receiving his award

**JJ Lomax**, a past trainee and current doctoral candidate in Ecology and Evolutionary Biology, has received the Grad Student Award for the 2019 DIAP Community Awards. These awards recognize students, staff, and faculty as well as an administrative and an academic department that used the DIAP as a vehicle to actively create positive change within the university community.



JJ Lomax

**John Santiago**, a former IMSD trainee and current graduate student in Molecular Biology, Cell Biology and Biochemistry, has been honored for excellence in teaching. On campus, John has assisted teaching and refining IMSD modules and working with undergraduates during the summer with the Leadership Alliance. Off campus, he started the Brown Junior Researchers program, which is finishing its 4th year of providing weekly science enrichment for first through fifth graders at Agnes B. Hennessey Elementary School in East Providence and at Francis J. Varieur Elementary School in Pawtucket. John credits his experiences in the IMSD Program and SACNAS for alerting him to the need for such programs and his own impact on the community.



John Santiago

Senior Scholar, **William Jordan** was awarded a Joukowsky Family Foundation Outstanding Dissertation Award for Life Sciences. Jordan completed his dissertation in Molecular Biology, Cell Biology and Biochemistry (MCB). Remarkably, Jordan completed his PhD and AM within five year's time. Jordan earned his bachelor of science degree at Virginia Tech, then joined a biotech company, where his mentors recognized his talent and encouraged him to apply for PhD programs. Jordan's research focused on how the three-dimensional structure of a chromosome influences gene activity. He examined the X chromosomes in fruit flies in his thesis, "Drosophila Dosage Compensation as a Model for Combinatorial Transcriptional Regulation." He defines how the shape of the X chromosome and its patterns of intrachromosomal contacts contribute to the systematic two-fold increase in gene activity in male fruit flies.



William Jordan

## Jeremy "JJ" Lomax receives HHMI Gilliam Fellowship



JJ Lomax

I was awarded the HHMI Gilliam Fellowship, for my research into the feeding habits of Serrasalmid fish, better known as the hypercarnivorous piranha and the herbivorous pacu. I study their feeding habits so that I can understand the fundamental biomechanics principles associated with varying feeding styles, carnivory, herbivory, granivory, or what have you, in all species. I am honored that my work was selected by a medical institute, and I really do think the work I'm doing fits into the sphere of research emphasized by the HHMI, albeit non-conventionally.

However, while my research was compelling enough for the selection process, what HHMI really cared about for this award was the student's commitment to increasing diversity at the graduate level. At the HHMI meeting, we attended workshops and breakout sessions focused on helping us increase our impact at our respective institutions when it came to increasing diversity. I know that I work my hardest to make sure that this campus is a more welcoming space for students of color and have since started adopting some of the techniques I learned from HHMI. While I am happy to have my efforts recognized, I have to thank people like Dean Duncan, Dean Campbell, The IMSD office, and Provost Locke for helping me find ways to get my ideas, and the ideas of the amazing students I work with off the ground. The Gilliam Fellowship is a great opportunity that I feel Brown students are primed to receive. If someone were interested on what tips could get them this fellowship, I'd tell them that they have to do is get involved with the work being done across the campus to make Brown a more diverse and inclusive space. -JL

## Trainee Publications

Adia AC, **Restar AJ**, Lee CJ, Payawal MP, Quilantang MI, Nazareno J, Operario D. *Sword and Shield: Perceptions of law in empowering and protecting HIV-positive men who have sex with men in Manila, Philippines*. Glob Public Health. 2019 May 28;1-12. doi: 10.1080/17441692.2019.1622762. PMID: 31134838

**Grizotte-Lake M**, Zhong G, Duncan K, Kirkwood J, Iyer N, Smolenski I, Isoherranen N, Vaishnava S. *Commensals Suppress Intestinal Epithelial Cell Retinoic Acid Synthesis to Regulate Interleukin-22 Activity and Prevent Microbial Dysbiosis*. Immunity. 2018 Dec 18;49(6):1103-1115.e6. doi: 10.1016/j.immuni.2018.11.018. PMID: 30566883

# Community

## IMSD Training Module Faculty Leaders



Andrew Creamer

**Andrew Creamer** (Scientific Data Management Specialist, University Library) has led the training module on research data management, rigor and reproducibility, author rights, and researcher recognition since 2014 (under various titles as the curriculum has developed). This module develops number of skills including planning for managing research project data, best practices for storing data, planning for

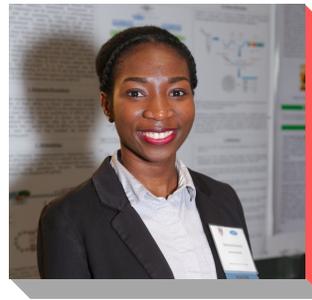
research products after a project ends, and connecting them with University Library as a resource throughout their academic careers. "Leading this module has been one of my most rewarding professional experiences," Creamer explains. "My colleagues and I have gotten the opportunity to partner and collaborate with two extremely talented IMSD senior scholars, John Santiago and J.J. Lomax, to shape the curriculum and from the student participants we have learned a great deal about out the University Library can better support them and their research." Creamer has also cited the positive impact of the IMSD Program on graduate education by developing student skills, the practice of which has helped him to publish an open-access data paper. "I am very certain that the research practices I have shared in these workshops have inspired many students to recognize the value of research data management, its connections to rigor and reproducibility, and how openly shared protocols, data, metadata, and code with the public helps to move science forward."

Another long-standing training module is "Scientific Writing: Abstracts, Articles, and Proposals", which **Anita Zimmerman, Ph.D.** (Vice Chair of Molecular Pharmacology, Physiology and Biotechnology and Graduate Program Director for the Molecular Pharmacology & Physiology Program) has co-led since 2014, first with Julie Kauer (2014-2016), then with Rashid Zia (2017), and currently with Derek Stein. As the title would suggest, the workshop focuses on developing writing skills, both as writer and reader. "A successful IMSD module is one with extensive student involvement and activities, rather than one that consists of just a professor standing at the front of the room lecturing," she adds. This has led to increased hands-on student participation in the curriculum and feedback from senior scholars. "The hard work of and wonderful attitudes of our senior scholars have made a huge contribution to the success of the module," Zimmerman points out. There have been a few senior scholars since 2014, including Cyrena Gawuga, Hawasatu Dumbuya, Elizabeth Evans, and Michelle Muzzio. John Santiago has filled the position for three years and Zimmerman credits him with a major role in the development of the module. The modules are about more than just the development of skills. "The sense of community the IMSD Program provides extends into the modules themselves, with the participants, leaders and senior scholars forming their own small communities as well," she elaborates. "The connections made in modules persist long afterward, and I think everyone involved in the modules benefits in both the short and long term."



(L-R) IMSD students Kavin Nunez and Kristen Fregoso with Anita Zimmerman

## Conferences



Blessing Akobundu at her poster presentation

Blessing Akobundu attended the New England Science Symposium, April 6, 2019 at the Harvard Medical School in Boston, Massachusetts with funding support from the IMSD Program. This symposium was her first graduate school outside presentation which she found to be a truly fulfilling and humbling experience. She explains, "It provided me with an opportunity to explain my research to a broader audience beyond the comfort zone of my lab and peers. I was also able to learn about other amazing and mind-blowing research from fellow attendees and the keynote speaker, Dr. Donald Ingber." We hope Blessing continues to have many successful conference presentations!

**Amanda Ruiz** attended the Schistosoma spp. Life Cycle Training Course, April 3-5, 2019 at the Biomedical Research Institute, Rockville Maryland with an IMSD Travel Award. "[It] was a phenomenal introduction to the field of schistosomiasis as a first-year graduate student," IMSD trainee Amanda Ruiz reports. "I was able to work with the three major species which cause human disease, as well as learn how to maintain the three species in a laboratory setting. Moreover, it was an invaluable experience to meet other graduate students and researchers in the field and become aquatinted with novel and ground-breaking approaches in schistosomiasis research."



Amanda Ruiz working in the lab



Alicia Minor

**Alicia Minor** attended the National Society of Black Engineers' (NSBE) 45th Annual Convention in Detroit, Michigan, where she presented her research evaluating calcium sensitivity in human induced pluripotent stem cell (hiPSC)-derived cardiomyocytes. Calcium is a key mediator in translating electrical stimuli into contractile force generated by cardiomyocytes and her research group hypothesize that physiological concentrations of calcium will improve the maturation of hiPSC-cardiomyocytes via improved calcium handling. This was her first time attending a NSBE national conference. "I definitely enjoyed having the opportunity to engage with other black graduate students in engineering and expand my network beyond Brown," Alicia notes. "The Career/Grad School Fair was one of the main events and I was fortunate to serve as one of two student representatives for Brown to recruit undergraduates interested in pursuing graduate education. I'm thankful for the travel award granted by IMSD as well as the School of Engineering for providing me this opportunity."

# Collaboration

## IMSD Welcomes Back Alumni for Panel

The IMSD Program welcomed back four alumni on May 21st to speak in a panel about their experiences both during and after graduate school. JJ Lomax, a current EEB graduate student, moderated the panel while Diana Borgas (Patent Agent at Wolf, Greenfield & Sacks, P.C), Kirk Haltaufderhyde (Postdoc at University of Rhode Island), Chima Ndumele, (Assistant Professor of Health Policy Yale School of Public Health) and Anika Toorie (Assistant Professor in the Biology Department at Rhode Island College) took questions from the moderator and an audience of current graduate students and postdocs. Following the panel, Program Manager Amanda Monaghan encouraged attendees to network with panelists and each other through a one hour reception. IMSD would like to extend a special thank you to our student moderator and all of our panelists!



(Clockwise from top left) IMSD Panelists Anika Toorie, Chima Ndumele, Diana Borgas & Kirk Haltaufderhyde

## SACNAS - "Empowering Latinx Femme For Shared Prosperity in STEM"



IMSD Community and SACNAS members Amanda Ruiz (left), Dr. Lynn Hernandez (third from left), and Kristen Fregoso (blue shirt) with event attendees.

SACNAS (Society for Advancement of Chicanos/Hispanics and Native Americans in Science) held "Empowering Latinx Femme For Shared Prosperity in STEM" on April 8th with Dr. Lynn Hernandez, Assistant Professor in the School of Public Health, this past semester. Dr. Hernandez gave a phenomenal talk regarding imposter syndrome and stereotype threat. The event provided a platform for Latinx femme, undergraduates, graduate students, and postdocs in STEM to discuss hallmarks of the phenomena, as well as strategies to overcome them. -AR

## Teresa Ramírez Visits Brown for Career Talk and Panel



Teresa Ramírez

The IMSD Program would like to thank program alum Teresa Ramírez, who returned to Brown University to participate in an IMSD Career and Research Talk and a Career Exploration Panel (co-sponsored with the Office of Graduate and Postdoc Studies) with a focus on science policy and government. The Career and Research Talk provided an opportunity for informal discussion for graduate students and faculty around career paths, the graduate experience, supporting students in their academic journey, and preparing for opportunities post-graduation. We would also like to congratulate Dr. Ramirez on her new position as Program Manager in the Education Department at the American Physiological Society following her role as Diversity & Inclusion Policy and Outreach Specialist at the Federation of American Societies for Experimental Biology (FASEB).

## Funding Opportunities

### Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (Parent F31)

Application Deadline: F Series Fellowship Deadlines: Apr. 8, Aug. 8, Dec. 8.

### Individual National Research Service Awards (Standard)

AIDS Deadlines: Jan. 7, May 7, Sep. 7.

### PhRMA Foundation – Predoctoral Fellowships

Application Deadline: September 1, 2019

### Leakey Foundation - General Research Grants (to support research into human origins)

Application Deadline: July 5, 2019

### National Science Foundation - Science, Technology, and Society (STS)

Application Deadline: August 5, 2019

The IMSD program at Brown titled "Advancing the culture of PhD learning and scholarship in Biology and Health Sciences" provides research training support for students in underrepresented groups to significantly increase the participation of these groups within the fields of biomedical and behavioral research. The program is funded by grant R25GM083270 from the National Institute of General Medical Sciences of the National Institutes of Health since April 2008.

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### PARTNER INSTITUTIONS

- St. John's University, New York, NY
- York College of the City, University of New York (CUNY), Queens, NY
- North Carolina A & T State University, Greensboro, NC
- The College of Mount Saint Vincent, Bronx, NY
- Morgan State University, Baltimore, MD