

IMSD View

INITIATIVE TO MAXIMIZE STUDENT DEVELOPMENT

VOLUME 5 ISSUE 2



MESSAGE FROM THE DIRECTOR

STEM Diversity and 'The Causal Loop'

The greatest threat to STEM workforce expansion through diversity may be our failure to recognize that employing decades old approaches to training can only yield the same outcomes. This is the case of a causal loop.

Causal loops are 'Predestination paradoxes'* exemplified by the case of an individual who travels back in time to discover the source of a famous fire. While at the site where the fire started, the traveler accidentally knocks over a lamp that causes the fire that inspired him, many years later, to travel back in time. Current efforts to achieve STEM-field trainee and workforce diversity resemble a predestination paradox in that the approaches taken may in fact be contributing to the poor outcomes. As scientists we pride ourselves on ensuring reproducibility by eliminating variables, outliers, and unknowns. While this works well in the test tube and at the bench, it does not work as well in broadening the scientific workforce. In fact, applying such criteria to training is inconsistent with achieving diversity, and it serves only to replicate the past.

Unlike predestination paradoxes, training practices can be changed. Doing so requires 'outside of the box' thinking and incorporating methods that move away from the prescriptive and top-down approaches to program design and practice. Many of the current training

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IMSD students and senior scholars gathered for a photo following a community meeting
 L to R: Lawrence Were, John Santiago, Rosa Martinez Garcia, Cyrena Gawuga, Ann Saunders, Hawa Dumbuya, Maya Almaraz, Heather Bennett, Adeola Adebayo, Virginia Gwengi, Anika Toorie, Kirk Haltaufderhyde, Rafael Gonzalez Cruz, Ayed Allawzi, Vérida Léandre

WINTER INTERCESSION PROVIDES OPPORTUNITIES FOR PROFESSIONAL DEVELOPMENT

The winter intercession provided numerous opportunities for graduate students and postdocs to develop skills in areas such as "Designing and Delivering Scientific Presentations" and "Defending Your Research Proposal and Critiquing Those of Others". The IMSD Program also introduced a new training module on "Navigating a Successful Graduate Career: Professionalism & Etiquette" to help students recognize and acquire behaviors that promote success in graduate school

and beyond. The module was developed and led by Professor Diane Hoffman-Kim and postdoc Chris Ciarleglio with the assistance of senior scholar Danya Qato (Brown PhD 2013) and focused on interpersonal communications and ways to maximize your impact in professional settings. IMSD faculty and students have created on-line discussion groups to facilitate continuing conversation on these timely topics.. -KZB

SAVE THE DATES!

Training Modules:

Essential Lab Calculations March 10, 17 & 24
 Resources, Tools and Basic
 Techniques in Molecular Biology . . April 23 - May 14

Career Development:

SACNAS "Inspiring Women in
 STEM" Panel March 11
 Conversations about Science Careers March 12

Guest Seminars:

Dr. Nikia Laurie (Northwestern U.) April 24
 Cedric Uytingco (U. of Maryland,
 Baltimore) April 28

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BROWN

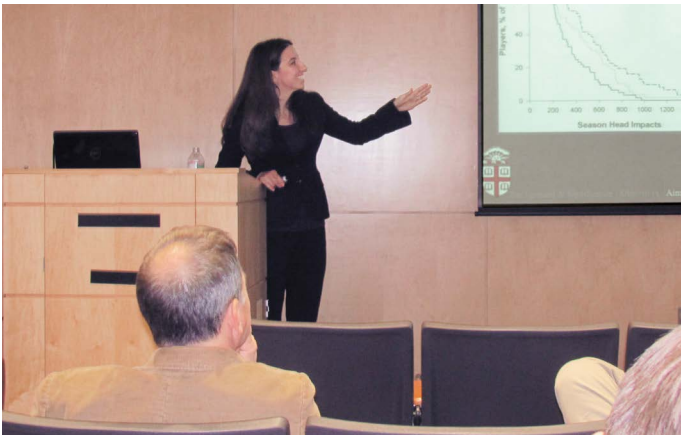
Excellence

CONGRATULATIONS

Congratulations to our New Ph.D.s!

Diana Lizarazo, IMSD trainee in Molecular Pharmacology & Physiology successfully defended her doctoral thesis entitled “*AAH Regulation and Function in Liver Disease*” on November 11th, 2013. Diana, a former mentee of Professor Suzanne de la Monte, has transitioned to a postdoctoral position at the Providence VA Medical Center where she is working with Dr. Qing Lu, Assistant Professor of Medicine (Research), Alpert Medical School of Brown University.

Bethany Wilcox, IMSD trainee in Biomedical Engineering, successfully defended her doctoral thesis on December 9th, 2013. Beth discussed her research on “*Head Impact Exposure: The Biomechanics of Sports-Related Concussions*”. Beth is currently a Postdoctoral Research Associate in the Department of Orthopaedic Research at the Warren Alpert Medical School of Brown University and Rhode Island Hospital, where she is continuing to work in the lab of her mentor, Professor Joseph “Trey” Crisco.



Bethany Wilcox at her recent doctoral defense presentation.

Teresa Ramirez, IMSD trainee in Molecular Pharmacology & Physiology, successfully defended her PhD thesis entitled, “*Contributions of Insulin Resistance, Endoplasmic Reticulum Stress, and Ceramides in Alcoholic Liver Disease*” on December 11th 2014. Teresa conducted her dissertation research in the lab of Professor Suzanne de la Monte at the Liver Research Center. She recently transitioned to an (IRTA) Intramural Research Training Award postdoctoral position at the National Institute on Alcohol Abuse and Alcoholism (NIAAA)/NIH.

Stacy-Ann Allen-Ramdial, former IMSD senior scholar and recent PhD in Pathobiology, recently wrote an article for [The Poston Collective](#) sharing her personal perspectives on the importance of mentorship. [Falling between the cracks: a personal story and a lesson about the importance of mentorship | The Poston Collective](#). The Poston Collective is a group of scholars, educators, organizers, and scientists committed to illuminating common diversity, policy, and education issues and challenges associated with science, technology, engineering, and math.

FELLOWSHIPS AWARDS & ACHIEVEMENTS

Michael Lopez, IMSD trainee and doctoral candidate in Biostatistics, has been awarded a Ruth L. Kirschstein predoctoral NRSA F31 fellowship by the National Institutes of Health (NIH) for his proposal *Treatment Choice for Aging Population: Causal Inference with Multiple Treatments*. Mike’s mentor for this project is Roe Gutman, Assistant Professor of Biostatistics.

Jennifer Johnson, IMSD trainee and doctoral candidate in Molecular Biology, Cell Biology & Biochemistry, has been awarded an NIH NRSA F31 Fellowship for 2014. Jennifer’s research project will focus on *Defining a mechanism for targeting the X-chromosome during dosage compensation* and will be conducted in the lab of her mentor, Assistant Professor of Biology Erica Larschan,

Angel Byrd, IMSD senior scholar and MD/PhD student in Pathobiology, received a \$500 prize in a competition jointly sponsored by the Education Committee and MAC Committee American Society for Cell Biology (ASCB) for outstanding research presentation by a graduate student. Angel presented her research on *Characterization of NETosis in patients with primary immunodeficiencies: evidence for a ROS-independent pathway* at the 2013 ASCB annual meeting held in New Orleans in December.

Eric James, IMSD doctoral candidate in Neuroscience, has conducted research in the lab of Associate Professor Carlos Aizenman, that reveals the first tadpole model of autism. Eric received a travel award to present his research at the 2013 [SACNAS](#) conference and also gave a poster presentation at the 2013 annual meeting of the Society for Neuroscience. His research was recently highlighted on the web pages of the [Society for Neuroscience](#) and [Brown University](#).

Maya Almaraz, IMSD trainee in Ecology & Evolutionary Biology, presented her research on *Measuring ecosystem nitrogen status: a comparison of proxies* at the American Geophysical Union Annual Meeting in December.

TRAINEE PUBLICATIONS

Lizarazo D, Zabala V, Tong M, Longato L, de la Monte SM. [Ceramide inhibitor myriocin restores insulin/insulin growth factor signaling for liver remodeling in experimental alcohol-related steatohepatitis](#). *J Gastroenterol Hepatol.* 2013 Oct;28(10):1660-8. doi: 10.1111/jgh.12291. PMID: 23802886 [PubMed - in process]

Adewopo JB, VanZomeran C, Bhomia RK, **Almaraz M**, Bacon AR, Eggleston E, Judy JD, Lewis RW, Lusk M, Miller B, Moorberg C, Snyder EH, Tiedeman M. [Top-Ranked Priority Research Questions for Soil Science in the 21 Century](#). *Soil Sci. Soc. Am. J.* 2014. doi:10.2136/sssaj2013.07.0291

PARTNER INSTITUTIONS HOST BROWN VISITORS

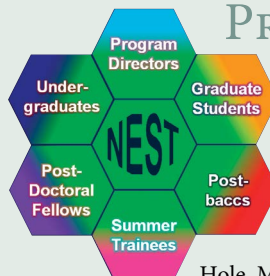


IMSD Co-Program Director Beth Harrington (Center) with undergraduate students at St. John's University. L to R: Tyler Williams, Irene Orejudos, Jayla Thomas, Steven Hernandez, Alana Ladson and alumnus Victoria Ruiz (Brown Ph.D. 2012).

Brown University faculty, students and administrators had the opportunity to visit several of our IMSD partner institutions this past Fall. Dean Elizabeth Harrington (IMSD Co-PI) attended the North Carolina A&T 2013 MORE-STEM Fair along with IMSD trainee and former NC A&T student, Vérica Léandre. Jabbar Bennett, Associate Dean of Recruiting and Professional Development for the Brown Graduate School, also met with faculty in the Department of Biology and spoke with students in the course entitled "Biology Orientation II". The goal of this class is to increase students' awareness of career options in the biological sciences. Emphasis is placed on study skills, career planning, and professional development. Dean Harrington also traveled to New York and met with students and faculty at St. John's University (pictured above) and at York College-CUNY. These reciprocal visits are helpful to foster communication and understanding of the unique strengths, needs and cultures of our partner institutions. -KZB

NORTHEAST SCIENTIFIC TRAINING (NEST)

PROGRAMS RETREAT LAUNCHED



The 1st Annual NORTHEAST SCIENTIFIC TRAINING (NEST) PROGRAM RETREAT at the Marine Biological Laboratory (MBL) in Woods Hole, MA USA will be held on the weekend of

March 7 – 9th, 2014. The impetus for this Micro-

retreat/Microconference was the need to create a venue dedicated to open discussions across training levels and between trainees and trainers. The goal of the program is to catalyze transformative and long-term changes in scientific training, program development and practices that begin at the undergraduate level and extend through to the advanced postdoctoral level – and to give voice to the seldom heard and unfiltered views of trainees. The retreat allows for candid discussions related to the challenges trainees face transitioning from one career training stage to another. Trainees and trainers will also discuss their perspectives of the scientific training process and expected outcomes so as to increase understanding of individual and group perspectives. By understanding the factors that influence career choices and success, the hope is to establish guiding principles that will help to refine intervention practices leading to improved career access, pursuit, persistence and success.

Andrew G. Campbell, Ph.D.
PI and Program Co-Organizer



Message from the Director continued from page 1

program practices are thought experiments, which presuppose that the STEM trainers' decades old experiences still have merit in training today's trainees. As scientists we use the experimental tools of 2014. The same should be done to train the next generation of scientists–

minimizing the training modalities used 25 years ago. Today's trainees process information and interface with the world differently than we did a quarter of a century ago.

(*Wikipedia and many other attributions)

Andrew G. Campbell, Ph.D.
Associate Professor of Medical Science
Brown IMSD PI & Program Director



Collaboration

FUNDING AND TRAINING OPPORTUNITIES

F31 Predoctoral Individual National Research Service Award (NRSA)

Annual Diversity Deadlines: Apr. 13, Aug. 13, Dec. 13

AIDS-related applications: May 7, Sep. 7, Jan. 7

Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellowships (F31) provide support for promising doctoral candidates who will be performing dissertation research and training in scientific health-related fields relevant to the missions of the participating NIH Institutes and Centers. Individual opportunities may have different deadlines, please check the sites:

http://grants.nih.gov/training/F_files_nrsa.htm

Dissertation Support

The National Institute on Aging (NIA) announces a continuing initiative to provide R36 dissertation awards to increase diversity in the scientific research workforce engaged in research on aging and aging-related health conditions within NIA's strategic priorities. Standard application deadlines apply.

Standard Deadlines: June 16, Oct. 16, Feb. 16

AIDS-related applications: May 7, Sept. 7, Jan. 7

Conference Travel Awards

ASCB MAC, FASEB MARC, Keystone Symposia

The Federation of American Societies for Experimental Biology (FASEB) provides information on their web site about science training and education awards made available through FASEB's member societies for students, trainees and science mentors. A complete list of upcoming eligible national meetings for travel awards can be found at:

<http://www.faseb.org/MARC-and-Professional-Development/Travel-Awards/Eligible-Meetings---Conferences.aspx>

Eligible National Meetings	Mtg. Location	Mtg. Dates	Adv. Reg. Deadlines	MARC Deadlines
Society for Developmental Biology 2014 Northeast Regional Meeting	Woods Hole, MA	Apr 11-13, 2014	3/7/14	3/7/14
IMMUNOLOGY 2014™ Annual Meeting of The American Association of Immunologists	Pittsburgh PA	May 2-6, 2014		3/14/14
ASM 2014 - 114th American Society for Microbiology General Meeting	Boston MA	May 17-20, 2014	4/7/14	3/28/14
ACSM's 61st Annual Meeting, 5th World Congress on Exercise is Medicine® and World Congress on Inflammation in Exercise, Health and Disease	Orlando FL	May 27-31, 2014	3/19/14	4/4/14
GSA: 16th International Conference on the Cell and Molecular Biology of Chlamydomonas	Pacific Grove CA	Jun 8-13, 2-14	3/13/14	3/28/14
ICE-ENDO 2014 (The Endocrine Society Annual Meeting)	Chicago IL	Jun 21-24, 2014		5/9/14

The National Cancer Institute Symposium on Integrative Cancer Biology and Genomics

Third Symposium on Translational Genomics will be held March 20-21, 2014, at the NIH in Bethesda, MD.

Registration is free, but is required. Registration closes and abstracts are due March 13, 2014.

The 2014 International Symposium on Minority Health and Health Disparities

is scheduled for December 1-3, 2014 at the Gaylord National Resort and Convention Center in National Harbor, Maryland. Abstract submission deadline is May 16, 2014.

Society for Developmental Biology: Northeast Regional Meeting

will take place April 11 - 13 in the prestigious Marine Biological Laboratory (MBL), located in historic Woods Hole, Massachusetts. Abstract Deadline: March 1. Registration Deadline (without abstract): March 21.

The Compact for Faculty Diversity is a partnership of regional, federal and foundation programs committed to increasing the number of minority students who earn doctoral degrees and become college and university faculty. The SREB-State Doctoral Scholars Program is now accepting applications for their 2014-2015 fellowship. Deadline: March 31, 2014.

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PARTNER INSTITUTIONS:

St. John's University,
New York, NY

York College of the City
University of New York

North Carolina A&T
State University

The College of Mount
Saint Vincent

Brown University's Initiative to Maximize Student Development (IMSD) is a predoctoral research training initiative that aspires to significantly increase the number of PhDs from groups underrepresented in biomedical and behavioral research. The program is funded by a five-year continuation grant (2 R25 GM083270) by the National Institute of General Medical Sciences, National Institutes of Health (NIGMS/NIH).

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