



RUSH INITIATIVE TO MAXIMIZE STUDENT DEVELOPMENT (RUSH IMSD)

Promoting inclusion and diversity in the
Graduate College at Rush University
through Rush IMSD efforts in

2015-16

ABOUT RUSH IMSD

THE RUSH INITIATIVE TO MAXIMIZE STUDENT DEVELOPMENT (RUSH IMSD)

is a National Institutes of Health (NIH)-funded PhD training grant for underrepresented minority (URM*) students. Rush recognizes that the biomedical workforce does not reflect the diversity of our nation. Minorities continue to be underrepresented in biomedical PhD programs. Rush IMSD is an institutional effort to enhance the recruitment, retention and training of URMs in the Graduate College at Rush University.

Fostering URM success in the modern age of biomedical research involves the classical training of graduate students to be productive scientists, and the development of professional tools that are increasingly relevant to navigate a rigorous PhD program and a successful career thereafter. Rush IMSD integrates scientific and professional training activities to ensure that participants are fully prepared to complete a PhD program and enter the biomedical workforce.

Rush IMSD training focuses on key tools necessary to develop into a productive PhD student and a scientist, including effective presentation skills, grant writing, time management, conflict resolution and emotional intelligence. The program also focuses on operational expertise, including budgeting and fiscal management of a laboratory. Rush IMSD is uniquely positioned to play this important role due to a relatively small university setting that can facilitate meaningful interactions between nationally recognized faculty and Rush IMSD participants.

A MESSAGE FROM THE DIRECTOR

WHAT AN EXCITING YEAR for the inauguration of Rush IMSD this has been!

In March 2015, Rush was awarded a \$1.4 million grant through the National Institute of General Medical Education to promote PhD training of underrepresented minority students (URMs) in biomedical sciences. This award places Rush among elite universities that have an IMSD program, including Duke University, Brown University, Columbia University, UCLA, the University of California at Berkeley, the University of California at San Diego, the University of Michigan, Northwestern University and the University of Chicago.

The establishment of Rush IMSD is an unprecedented accomplishment given the relatively small size of our university. Already, we have made great strides in increasing the URM applicant pool and admission to our Integrated Biomedical Sciences (IBS) PhD program. Sustainability of this program depends on all of us — administrative support and faculty who are engaged in higher education and research. Working together, I envision Rush as a renowned center of excellence for training URM PhDs.

Lena Al-Harhi, PhD



**According to the NIH, the following groups are underrepresented in biomedical research: African-Americans, Hispanics, Native Americans and Alaska Natives who maintain tribal affiliation or community attachment, Hawaiian natives and natives of the U.S. Pacific Islands.*

Top row from left: Aeja Jackson; Kelly Boles; Giselle Sandi, PhD; Lena Al-Harhi, PhD; Gabriella Cs-Szabo, PhD; and Janet Zayas. Bottom row from left: Isadora Calma, Sa'Rah McNeal, Oscar Jimenez, Kareisha Robinson and Catherine Carvajal.

RUSH IMSD FACULTY AND STAFF



LENA AL-HARTHI, PHD, DIRECTOR

Lena Al-Harthi, PhD, is the associate chair of the Department of Immunology/Microbiology at Rush University. Al-Harthi is a nationally recognized neuroAIDS scientist with considerable research, administrative and education experience. She served as the director of Rush's Division of Immunology and Microbiology from 2000-08, and served as the chair of the neuroAIDS and other end-organ diseases study section. She has chaired or co-chaired many national and international study sections and meetings.

Al-Harthi's research program continues to be NIH-funded with several active R01s. She has more than 70 peer-reviewed publications and reviews, and serves on editorial boards for several journals. She has been the primary mentor for eight graduate students and 13 postdoctoral fellows, including recipients of highly competitive F31/F32 training fellowships. She has been nominated for Rush University's Mentor of the Year award three years in a row. Al-Harthi received the 2013 Rush Excellence in Research Award.

In addition, Al-Harthi is dedicated to promoting diversity and gender equality in biomedical training and leadership. She was involved in the Rush University provost's committee on gender issues, which hosts a number of workshops on gender issues in faculty appointment and promotion. She is also an active committee member of the Diversity and Inclusion Society of Neuroimmune Pharmacology and of the Junior Scientists and Women in NeuroVirology committees of the International Society of NeuroVirology.



GABRIELLA CS-SZABO, PHD, PROGRAM COORDINATOR

Gabriella Cs-Szabo, PhD, is associate dean of the Graduate College at Rush University and the program director for the college's Master's in Biotechnology program. She has more than 25 years of research, teaching and mentoring experience. Cs-Szabo has published more than 50 peer-reviewed articles and presented her work in numerous national and international meetings.

She was recognized by the Orthopedic Research Society for her research accomplishments and by students and faculty of both the Graduate College and Rush Medical College for her educational excellence.

Cs-Szabo has trained and mentored numerous graduate students. She is a member of Rush's Women Leadership Council and the University's Diversity and Inclusion Committee. She has implemented new marketing and recruiting strategies for the Graduate College to raise the number of URM students. Her efforts helped increase the URM ratio in the student body from single digits to 20 percent during the last five years.

GISELLE SANDI, PHD, MENTORING LIAISON

Giselle Sandi, PhD, is the director of the Office of Mentoring Programs at Rush University, which provides support for postdoctoral research fellows and junior faculty. She amassed more than 25 years of productive research experience at several national and international institutions before joining Rush in 2013.



Sandi has significant community partnerships with a number of STEM programs (science, technology, engineering and mathematics), including Great Minds of STEM (formerly HENNAC, which attracts predominately Hispanic participants at graduate and job school fairs). She has extensive experience in mentoring junior investigators.

Prior to her role at Rush, she was a principal scientist for 19 years at Argonne National Laboratory, where she mentored seven doctoral and four master's students. She was also the manager of the lab-wide postdoctoral program (350 postdoctoral fellows from 15 different areas of research) — a program that, under her direction, was ranked No. 5 in the country by *The Scientist Magazine*. Additionally, Sandi was one of the founders of the Hispanic-Latino club at Argonne, which was developed to mentor middle school students and to help researchers serve as role models for STEM career opportunities.

RUSH IMSD STUDENTS



ISADORA CALMA

Calma joined Rush's Master of Science in Biotechnology program after earning a bachelor's in biology with a minor in chemistry and psychology from the University of Illinois at Chicago. Now in her second year at Rush, Calma's research interests include the role of gut microbiota and the enteric nervous system in neurodegenerative diseases and in drug addiction.



CATHERINE CARVAJAL

Carvajal is a first-year student in Rush's Integrated Biomedical Sciences (IBS) PhD program. She earned a bachelor's in biology from Northeastern Illinois University, where she worked as a lab technician and assisted on a study observing and recording growth characteristics and patterns of different microbes.



AEJA JACKSON

Jackson, a first-year student in Rush's Integrated Biomedical Sciences (IBS) PhD program, worked as an assistant laboratory technician for the Wastewater Pollution Control Center in Monroe, Louisiana shortly after graduating with a bachelor's in toxicology from the University of Louisiana at Monroe. She was a laboratory technician before beginning her journey as a doctoral student at Rush.



OSCAR JIMENEZ

Jimenez, a first-year student in Rush's Integrated Biomedical Sciences (IBS) PhD program, earned his bachelor's in 2013 from Knox College in Galesburg, Illinois. He earned his master's in biotechnology from Rush in 2015. Jimenez's research interests include neurologic diseases and molecular mechanisms of disease.



SA'RAH MCNEAL

McNeal earned a bachelor's in biology/prehealth with a minor in chemistry at Saint Xavier University in Chicago, where she conducted research in microbiology. She is a graduate of Rush's Master's in Biotechnology program. Currently, she is a second-year student in Rush's Integrated Biomedical Sciences (IBS) PhD program. McNeal has a research interest in tumor immunology.



KAREISHA ROBINSON

In her second year in Rush's IBS PhD program, Robinson earned a bachelor's in biochemistry in 2007 from Bradley University in Peoria, Illinois, and a master's in biotechnology in 2009 from Northwestern University in Evanston, Illinois. She worked as a research technician for the University of Chicago from 2010 to 2015. Her research interests include defining mechanisms driving HIV-associated neurocognitive disorders.



JANET ZAYAS

Zayas is in her second year in Rush's Integrated Biomedical Sciences (IBS) PhD program. She earned a bachelor's in biology from the Universidad Nacional Autonoma de Mexico in Mexico City in 2007 and a master's in biotechnology and chemical science from Roosevelt University in Chicago in 2013. Zayas' areas of interest include immunology, cancer and wound healing.

2015-2016 RUSH IMSD ACTIVITIES

INTRODUCTION TO RUSH IMSD: In September 2015 and 2016, Rush IMSD leaders and first-year students met to form a cohesive support group and build camaraderie among students and program leaders. This activity is repeated yearly for incoming students.

EFFECTIVE TIME MANAGEMENT: Two Rush faculty, Susan M. Breitenstein, PhD, RN; and Hannah Lundberg, PhD, facilitated an interactive session on effective management of time in relation to graduate school responsibilities and work-life balance. This module consisted of an initial assessment of time management habits/styles of participants and a discussion about how to improve time management to maximize productivity. This is a yearly recurring workshop.

EFFECTIVE PRESENTATION SKILLS: Program participants took part in an eight-hour workshop on effective presentation skills. The workshop

was administered by Carol Anthony, who conducts workshops on this topic both locally and nationally. Anthony focused on reviewing presentation basics (including organizing material), creating engagement, effective communication techniques and presenting with physical comfort and style, as well as how to handle challenging situations. The participants also practiced their presentations, which was videotaped for the purpose of providing feedback.

WELLNESS CHECK-IN AND ADVISING MEETINGS: Individual meetings with core Rush IMSD program faculty were organized for each student to discuss their progress in the program and offer guidance on next steps.

SELECTING A RESEARCH ADVISOR: A meeting by Rush IMSD leadership was held with first-year students in the spring semester to discuss the best way to select research advisors.

UPCOMING INITIATIVES

A **GRANT-WRITING WORKSHOP** for second-year students is taking place in spring 2017 to develop student skills in scientific writing, specifically grant-writing, before they submit F-31 grant proposals.

The course aims to clarify the grant writing process. Specifically, it helps participants understand the following:

- Components and rhetorical structure of an aims page
- Logic flow of specific aims
- Critical best writing practices to enhance document readability
- Funding agency criteria for significance, innovation and approach, and how those criteria connect to their research goals
- Best practices in using figures, graphs and tables

A **RETREAT** will be held, providing a long weekend together for all Rush IMSD students and leadership to bond and share experiences. The retreat will also include discussions and training for the following: soft skills, personality surveys, workplace situations and research student presentations.

INDIVIDUAL WELLNESS CHECK-IN AND ADVISING MEETINGS in the spring semester for all students, and a meeting for first-year students on how to choose a research advisor.

