

Training News

At the Hypertension & Vascular Research Center

Fall 2012

Welcome Brazil Students!



Five students from McKenzie University in São Paulo, Brazil arrived in August as part of the Translational Biomedical Training for Underrepresented Minorities program (BIOST), a training partnership between schools in the U.S. and Brazil.

The students will be here for six months, studying with School of Medicine faculty and researchers. Leonardo Castro is working with Dr. Weiling Zhao on a project titled "Effects of radiation on head and neck muscles: mechanisms underlying voice and swallowing difficulties in head and neck cancer patients after radiotherapy." Sofia Leal is also working with Dr. Zhao; her project is titled "Dysregulation of lipid metabolism in alveolar macrophages is associated with the development of

radiation-induced lung injury." Anna Zaia Rodrigues is working on a project titled "The role of JNK signaling in maintaining neuromuscular junction innervation" with Dr. Ron Oppenheim and Dr. Carol Milligan. Dr. Mark Chappell is the faculty mentor for both Deborah Hukuda and Rariane Silva deLima, and Deborah is pursuing a project titled "Influence of high glucose on CB-1 receptor expression in the NRK52E cells." Rariane Silva deLima's project is "CB-1 receptor activation and expression of angiotensinogen in proximal tubule cells."

From left to right, the students are: Rariane Silva deLima, Anna Zaia Rodrigues, Sofia Leal, Leonardo Castro, and Deborah Hukuda.

Meet the 2012-2013 PREP Scholars

The Wake Forest School of Medicine and Wake Forest University Graduate School of Arts and Sciences is pleased to welcome the 2012-2013 participants in the Postbaccalaureate Research Education Program (PREP Scholars). This program is funded by the National Institute of General Medical Science, and is designed to provide a transition between undergraduate and graduate school for underrepresented minorities.

The program's curriculum includes one to two years of research, a lecture series featuring presentations by faculty and guest speakers, and a journal club. Participants work closely with a faculty mentor in preparation for post-graduate work in the biomedical sciences.



Maigen Bethea is originally from Dillon, South Carolina and received a BS in biology in May 2012 from Frances Marion University in Florence, SC. Through her research experience in college, Maigen has grown increasingly interested in cancer biology and would like to work on applications of research focused on infectious diseases and

tumor metastases. She also has an interest in pursuing research in heart disease and stem cells. Maigen is working with Dr. Shay Soker and Dr. Tracy Criswell in the Institute for Regenerative Medicine. She plans to enroll in graduate school to pursue a PhD after completion of the PREP Scholars program.

Anthony Elworthy is a native of Alexandria, Virginia and graduated from Shepherd University in Shepherdstown, West Virginia with a BS in psychology. He also studied chemistry at UCLA, and is pursuing a doctorate in neuroscience. Anthony's undergraduate thesis was written on the topic of cyberpsychology and was presented at the 2012 Eastern Psychological Association Conference in Pittsburgh. As a research assistant, he studied executive functioning by administering



psychological tests to participants and developed on-campus resources for college students diagnosed with ADHD. Anthony is working in the Department of Neurobiology and Anatomy with Dr. Christos Constantinidis.

Anabel Flores joins the PREP Scholars program for a second year. She grew up in California and received her BS in biology and Spanish with a minor in chemistry from California Baptist University. Anabel is continuing her work with Dr. George Kulik in Cancer Biology. Her presentation at the 2011-2012 PREP Symposium was titled "Potential Activation of the Pro-apoptotic BIM Protein by Combination of PI3K and Protein Synthesis Inhibitors." She plans to pursue a doctorate degree after completing the PREP Scholars program.



Also participating in PREP for a second year, **Lourdes Flores** earned a BS in biology from California Baptist University and is a past participant in the Excellence in Cardiovascular Sciences summer program. Lourdes is continuing her work with Dr. Jorge Figueroa in the Obstetrics and Gynecology department. Her presentation at the

2011-2012 PREP Symposium was titled "Effects of Antenatal Glucocorticoids and Diet Induced Obesity on Skeletal Muscle Insulin Signaling Pathways." After completing the PREP Scholars program, Lourdes plans to begin working on her PhD.

Courtney Giannini is a native of Cincinnati, Ohio who loves dancing, enjoying the outdoors and cooking. She received her BS degree from Columbia University with a major in Chemical Engineering. Throughout her undergraduate years she pursued a variety of



2012-2013 PREP Scholars, continued from page 2

summer research experiences, including an independent project titled "A Prospective Examination of Family Functioning and its Association with Victimization and Bullying as it Relates to Obesity Persistence in Youth" which she presented at the Undergraduate STEP-UP Research Symposium in Atlanta. After completion of the PREP Program, she plans to pursue an MD degree and a career in biomedical research. She is working with Dr. Joey Skelton at Brenner FIT (Families in Training).



Research in Biology Program at Pepperdine University. There she worked under the direction of Dr. Thomas Vandergon. Her goal is to be a research scientist and teach at a historically black college or university, where she could introduce underrepresented students to a career in research. TaNeshia is working with Dr. Dave Roberts in Physiology/Pharmacology.



Originally from Hickory, NC, **Christopher Lott** earned a BS in biology and a chemistry minor from Winston-Salem State University in May 2012. His research interests are in the area of regenerative medicine, and he plans to apply to the WFIRM after successfully completing the PREP Scholars program. Chris is working with Dr.

TanYa Gwathmey-Williams in the Hypertension & Vascular Research Center.

Kara Morrison comes to us from Troutman, NC. She earned a BA in psychology and a sociology minor from Winston-Salem State University, and has been doing translational research in the Maya Angelou Center for Health Equity (MACHE). Kara recently attended the American Public Health Association Conference in San Francisco and presented, as first author, her poster entitled "The Prevalence of comorbid depression and anxiety with increased BMI in patients with uncontrolled type 2 diabetes." She will continue working with Dr. David Mount in the Maya Angelou Center for Health Equity.



Katelyn Williams is originally from Wilmington, Delaware and graduated from Hampton University in May 2012 with a major in biological sciences and a minor in leadership studies. Her interest in rehabilitation sciences was partly inspired by her mother's misfortune of being struck by a hit and run driver; she sustained a C-2 fracture which required many years of rehabilitation with braces and a multitude of occupational assisting devices. Katelyn became fascinated with the different types of prosthetics and the people in need of these devices. Katelyn studied under Dr. Jennie Leach at the University of Maryland Baltimore County in the Leach Biomaterials and Tissue Engineering Lab, and also at the University of North Carolina at Chapel Hill at the McAllister Heart Institute. In the PREP Scholars program, she is working with Dr. Thomas Smith and Dr. Beth Smith in the Department of Orthopedics.



A graduate of Benedict College, **TaNeshia Washington** is from Columbia, SC. She received her BS in Biology in May 2010 and has participated in several summer research opportunities, including the Student Undergraduate

2012 Mentor of the Year: K. Bridget Brosnihan Simmons, PhD



We would like to congratulate Dr. Brosnihan as the recipient of the 2012 Mentor of the Year Award, presented by the Leadership Program of the Women's Health Center of Excellence for Research, Leadership, Education (WHCOE). Dr. Brosnihan has participated as a WHCOE mentor since 2006, serving on the Leadership Program committee, as well as the Liaison and Special Projects committees. Dr. Brosnihan has successfully mentored and served as a role model for a number of women faculty members, who have since been promoted to a higher faculty status and had numerous successes in their individual research endeavors, thanks, in part, to Dr. Brosnihan's outstanding guidance.

In addition to being an exemplary mentor, Dr. Brosnihan has held a number of leadership roles within the institution. She is currently the co-Director of the Molecular Medicine and Translational Science Graduate Program, Director of the Hypertension Core Laboratory, and serves on the Dean's Research Advisory Committee and the Division of Surgical Sciences Research Committee. Externally, Dr. Brosnihan has shared her talents by serving on a number of editorial boards, sits on the Board of Directors of the Inter-American Society of Hypertension, served on the Executive Committee of the Council for High Blood Pressure and is a member of the Marketing Committee for the American Heart Association. She has chaired and served on study sections for both NIH/NHLBI and the American Heart Association. In 2009, Dr. Brosnihan received the Irvine Page-Alvin Bradley Lifetime Achievement Award of the Council for High Blood Pressure of the American Heart Association.

Dr. Brosnihan's primary area of research concerns the role of the renin-angiotensin system in pregnancy and preeclampsia. Current research focuses on rodent models, their uteroplacental unit and the interactions of the renin-angiotensin system with cytokines, growth factors and angiogenic factors.

Congratulations again to Dr. Brosnihan, 2012 WHCOE Mentor of the Year!

Resources for Students Training in the Biological Sciences

SACNAS – Devoted to Advancing Hispanics, Chicanos & Native Americans in Science

<https://www.sacnas.org>

Educational Training Service Organization

<https://www.ets.org/gre/>

Winston-Salem State University Test Prep Academy

<http://www.wssu.edu/testprep>

Annual Biomedical Research Conference for Minority Students

<http://www.abrcms.org/index.html>

Wake Forest University Graduate School of Arts & Sciences

<http://www.graduate.wfu.edu>

The Graduate Student Survive and Thrive Guide

<http://graduate.wfu.edu/organizations/documents/shared/SNTG%20rev0509.pdf>

Graduate School Association (GSA)

http://graduate.wfu.edu/organizations/index_gsas.html

Black Graduate School Association (BGSA)

<http://graduate.wfu.edu/organizations>

Training Opportunities at the Hypertension & Vascular Research Center

Do you know a student with an interest in the biological sciences? Do you want to serve as a mentor for a trainee? Please contact Nobie Sarver at 336-716-1080 and nsarver@wakehealth.edu.

The Hypertension & Vascular Research Center has several opportunities for undergrads and graduates:

Post-Baccalaureate Research Education Program (PREP Scholars)

Duration: one year

Designed for: recent graduates; under-represented minorities

Number of openings: 9

Application deadline: March 1, 2013

Program Director: Debra Diz, PhD, ddiz@wakehealth.edu/336-716-2150

Excellence in Cardiovascular Sciences (EICS Program)

Duration: one summer

Designed for: undergraduates; under-represented minorities

Number of openings: 12

Application deadline: February 10, 2013

Program Directors: Debra Diz, PhD, ddiz@wakehealth.edu/336-716-2150

and E. Ann Tallant, PhD, atallant@wakehealth.edu/336-716-2108



Translational Biomedical Sciences (TBS Program)

Duration: one semester; study abroad in Brazil

Designed for: undergraduates and graduate students; under-represented minorities

Number of openings: flexible

Application deadline: flexible; apply for either fall or spring semester

Program Director: Mark Chappell, PhD, mchappel@wakehealth.edu/336-716-9236

For more information on these or other training and research programs with the Hypertension & Vascular Research Center, please use the contact information above or visit the website at <http://www.wakehealth.edu/Hypertension-and-Vascular-Research-Center/>



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