

Nutritional Sciences

Veronica Mullins, MS, RDN, CSCS Wins Teaching Award



Ronnie Mullins with NSC Department Head Dr. Scott Going

Veronica (Ronnie) Mullins was selected as the recipient of the Bart Cardon Early Career Faculty Teaching Award. Ronnie is an Assistant Professor of Practice in the Nutritional Sciences Department of the College of Agriculture and Life Sciences at The University of Arizona. Since joining the University in November of 2015, she has developed the curriculum and is currently teaching four new undergraduate sports nutrition courses including: NSC 497a Sports

Nutrition Workshop and NSC 415R Advanced Sports Nutrition. Additionally, she developed a Sports Nutrition Minor, which is currently in the review process.

Ronnie has spent her career working with athletes, including USA Track and Field and the National Football League, using nutrition to improve physical performance. She has written many publications on nutrition and body composition related to athletes and performance including co-authoring, Winning Sports Nutrition 2nd Edition, a continuing education course for sports and nutrition professionals published in 2013. In addition to her work with athletes, Ronnie is passionate about food and environmental nutrition issues and is teaching a new undergraduate course which she developed in sustainable nutrition and food systems. She is currently the State Policy Representative for the Arizona Academy of Nutrition and Dietetics. Ronnie can be reached at:

vamullins@email.arizona.edu

Congratulations!



Melissa Lopez-Pentecost was awarded the CALS Outstanding GTA - master's level. Melissa is a second year Master's student in Nutritional Sciences with an interest in cancer prevention and control, specifically among the Hispanic population. She currently works in the lab of Dr. Cyndi Thomson. Melissa has been a TA for NSC 301, NSC 170C1, MNT 435 and NSC 101. Recently, Melissa has also taken on the role of lead instructor in one of the online sections of NSC 101.



Jacob Sosa was selected as the Fall 2017 Outstanding NSC senior. At right, Jacob can be seen volunteering as an EMT at the Z Mansion in downtown Tucson, which serves as a day shelter for the local homeless community. Jacob has also volunteered at the Community Food Bank of Southern Arizona, the UA Department of Sports Medicine, and Banner UMC hospital. On campus, Jacob served as a preceptor for many NSC courses as well as organic chemistry. After graduating, Jacob will attend Physician's Assistant school at Johnson & Wales University in Providence, Rhode Island.



THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE & LIFE SCIENCES

Nutritional Sciences

Research

Faculty Research Brief: Dr. Richard Simpson



Dr. Simpson, Associate Professor in the Department of Nutritional Sciences, studies how stress and exercise influence the human immune system. Major cross-cutting themes of his work include aging (immunosenescence), immunotherapy, cancer and human space exploration. His current work includes four NASA funded projects that aim to examine the impact of long duration spaceflight and extreme isolation on astronaut immune function and illness rates, and the effects of simulated microgravity on viral infectivity and host immune evasion.

The Simpson laboratory is currently focused on finding new ways to improve patient outcomes following stem cell transplantation. Cancer patients often require stem cells from healthy relatives to help cure their disease. Stem cells are usually collected from the bone marrow of a healthy person, but the procedure is invasive and uncomfortable. An alternative method of obtaining stem cells is to give the donor a drug called Filgrastim, which helps mobilize stem cells to the blood for easier collection. However, collecting stem cells following Filgrastim treatment also results in the collection of mature immune cells which can cause debilitating side effects and life threatening disease (known as graft-versus host disease, or GvHD) after transplantation to the recipient.

Recently, Dr Simpson found that both a single exercise bout and a beta-agonistic drug called isoproterenol (which behaves similar to exercise-induced epinephrine release) reduce the number of immune cells known to cause GvHD, while increasing the number of immune cells known to elicit viral protection and anti-tumor activity following transplant. Dr. Simpson and his team then attempted to 'block' these beneficial effects by administering various beta-blocker drugs to donors prior to exercise or infusion. These experiments revealed that the beneficial effects were mediated through the beta-2 adrenergic receptor. Consequently, Dr. Simpson, in collaboration with Dr. Katsanis in the Department of Pediatrics, will attempt to target beta-2 adrenergic receptors in transplant donors to improve clinical outcomes in transplant recipients. They will initially determine the effects of isoproterenol infusion on the composition of donor immune cells when given in conjunction with Filgrastim. It is hypothesized that when isoproterenol and Filgrastim are given together, the composition of the donor blood stem cell grafts will be more suitable for transplant. Promising results may lead to a Phase I clinical trial in matched related donors and allogeneic stem cell transplant patients.

Joint Appointed Faculty Highlight: Dr. David Garcia

Dr. David Garcia is an Assistant Professor in the Mel and Enid Zuckerman College of Public Health. He is also joint-appointed in Nutritional Sciences and is the Director of Community Health and Outreach for the UA Health Sciences Center for Health Disparities Research. Dr. Garcia has extensive experience in short and long-term intervention trials in the areas of physical activity, diet, and weight management over the past 11 years. He has worked on numerous research projects funded by industry, National Institutes of Health (NIH), and foundations. This includes working as a lifestyle interventionist/exercise physiologist in several clinical trials with overweight and obese adults, morbidly obese adults (Class II and III obesity), and individuals with type 2 diabetes. More recently, Dr. Garcia's research is grounded in lifestyle behavior change in physical activity, nutrition, and weight management to reduce the burden of obesity and obesity-related chronic disease in Hispanic adults.

Dr. Garcia's research focus stems from early life experiences in which an abundance of low-nutrient, energy-dense foods combined with sedentary lifestyle resulted in a high prevalence of obesity-related chronic disease in his family and community. Since

arriving at the UA, Dr. Garcia has been on an upward trajectory for establishing himself as a health disparities/obesity-related chronic disease prevention and control researcher. He established "Nosotros Comprometidos a Su Salud-Committed to Your Health", a program to support research through active community engagement. This community-based effort assures regular access to health communications and information for Hispanics, as well as an opportunity to participate in tailored lifestyle-promotion interventions. In fact, the Nosotros team completed two clinical trials over the past 18 months including 1) the ANIMO study was a pilot randomized controlled study which compared a 12-week gender- and culturally-sensitive weight loss intervention to a wait-list control in 50 sedentary, overweight/obese Hispanic males; and 2) The VERDE study was a pilot randomized controlled study to assess the feasibility and acceptability of a beverage intervention in 50 Hispanic adults randomized to one of three beverages: Mediterranean lemonade, Green Tea, or flavored water control.



Graduate Program

Featured Students



Andrew Kunihiro, a 4th year doctoral candidate, was awarded the DeBell Research Enhancement Award for the summer of 2017. Andrew's studies under this award build upon his work in the lab of Dr. Janet Funk, which is focused on understanding the effects of curcuminoids, dietary polyphenols isolated from turmeric, as effective agents for preventing bone destruction

caused by breast cancer bone metastases. Specifically, these funds were used to investigate how curcuminoids interrupt bone-metastatic, tumor-cell signaling pathways underlying bone lysis. These findings will aid in understanding the role of dietary polyphenols as adjuvant therapies to treat bone-metastatic breast cancer. Andrew will be presenting the results of this award as a poster at the American Association for Cancer Research annual conference in April 2018.



Victoria Bland, second from left, and others from the University Fellows Program at Biosphere 2. Photo by David Bradshaw.

UA Graduate Center and led by Dr. Meg Lota Brown. Students in the fellowship engage in unique and valuable experiences beyond what is normally offered in a graduate program. The primary goal of the program is to foster interdisciplinary collaboration, leadership skills, and professional development. Fellows attend a weekly class to discuss topics ranging from mentorship skills to unconscious bias to grant writing. They also complete grant applications and present their projects to the cohort to build technical writing and communication skills. Outside of the classroom each fellow participates in community engagement activities and mentors either a K-12 or UA undergraduate student.

Each year students are selected from different backgrounds and departments at the UA. To strengthen the cohort and have fun, fellows participate in activities like hikes and tours of Biosphere 2. Fellows also receive funding to attend conferences and collaborate in a grand challenge symposium. To learn more about the University Fellows Program contact Graduate Center Program Coordinator David Bradshaw: bradshad@email.arizona.edu

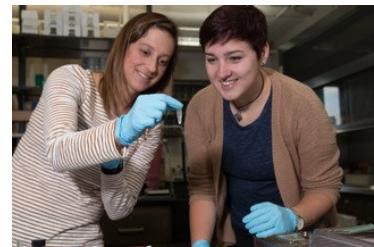
Alumni Update: Laura Hernandez



Laura L. Hernandez, PhD, MS, is an Associate Professor of Lactation Physiology in the Dairy Science Department at the University of Wisconsin-Madison. She is also a member of the Endocrine and Reproductive Physiology, Interdisciplinary Graduate Program in Nutritional Sciences, and the Comparative Biosciences Graduate programs at the UWM. She received her Ph.D. in May 2008 from the University of

Arizona under the direction of Dr. Bob Collier. Her research focused on characterization of the bovine mammary gland serotonergic system. She then went on to work with Dr. Nelson Horserman, at the University of Cincinnati College of Medicine in the Department of Molecular and Cellular Physiology as a post-doc from 2008-2011.

While at the University of Cincinnati, Dr. Hernandez and Dr. Horserman determined that serotonin was responsible for the production of parathyroid hormone related-protein by the mammary gland during lactation, and that this was critical for the release of calcium from bone to support milk formation during lactation. Upon completion of her post-doctoral fellowship, Dr. Hernandez was hired as an assistant professor of lactation physiology at the University of Wisconsin in the Department of Dairy Science.



Dr. Hernandez's research focuses on how serotonin controls the mammary gland and various aspects of lactation. She was recently promoted to Associate Professor with Tenure in July 2017. Dr. Hernandez combines basic research from the cell to whole-animal level in a variety of mammalian species to broaden the focus on the importance of the mammary gland and its contributions to and regulation of a successful lactation in dairy cattle, rodents, and humans. Her research has determined that serotonin is an important regulator of mammary gland, maternal calcium, and maternal energy homeostasis during lactation, and has obtained a patent for the use of a serotonin precursor to improve post-partum calcium homeostasis. Her research also focuses on the use of SSRIs during pregnancy and lactation and how this may reduce maternal bone density later in life. When she's not busy teaching or doing research, she enjoys running, yoga, playing with her children, and attending sporting events with her husband.

Undergraduates

Diversity & Inclusion Weekend



The UA Leadership Education and Ally Development Retreat (LEADR) is offered by the UA Office of Diversity and Inclusive Excellence to provide an opportunity for students to learn more about their peers at the UA. More specifically, LEADR brings students in leadership positions together for a

weekend to engage in “interactive training related to diversity concepts, knowledge, terms, and skill building,” as well as “networking and relationship building with other UA students, increasing collaboration between student organizations on campus, and skill-building in the areas of intercultural communication sharing diverse perspectives, critical-thinking, and civil discourse.”

Students from various groups on campus spoke to the benefit of participating in the event. ASUA Senator Anna Woolridge described LEADR as “a great way to get to know individuals that I never would have gotten the chance to meet.” Alyssa Little from Alpha Pi Omega Sorority, Inc. seconded that, saying, “It was a great experience to showcase my culture, learn about other cultures, and network with other individuals from the UA community.” ASUA president Matt Lubisich said LEADR “allowed ASUA to interact with the individuals that it represents. We covered various topics in the realm of social justice and how important diversity and inclusion is. I hope to pass along what we learned that weekend to future generations of ASUA students.”

What I found most interesting about this weekend was the culture night where participants at the retreat grouped themselves according to a dominant self-identity. These groups included ‘Asians,’ ‘Latinos,’ ‘LGBTQ+,’ ‘ASUA’, and ‘Greek Life’, among others. I learned a lot about each group, and that there is a lot of diversity as well as stereotypes for each group. When we left camp, I personally felt so much more connected to my peers and it honestly felt as if we were united as one, although so beautifully different as individuals. This weekend event inspired us to look outside the box and better treat people around us with compassion and support.

Contributed by NSC major and CALS Senator
Katie Christopher: khchristopher@email.arizona.edu

Volunteering at TMC

Hi, my name is Adena Osuna and I'm a sophomore in Dietetics. I'd like to share my volunteering experience at Tucson Medical Center (TMC) with you. I'm guessing all dietetic students can relate to how daunting the internship process is since it is highly competitive. Anticipating graduation and the dietetic internship application, I knew it would be a good idea to start volunteering sooner rather than later.

While at an AZ Academy of Nutrition and Dietetics committee meeting, I learned that TMC planned to begin offering dietetic internships in 2018. After researching the hospital, I realized how much they care about their patients, employees, volunteers, and the entire Southern Arizona community. I knew I wanted to be a part of it.



I now work closely with Ruth Halter, the Patient Services Manager of Food and Nutrition. When Ruth and I first started communicating she mentioned some of the things I would be doing as a volunteer, which had a lot to do with food service. I must confess, my initial reaction was disappointment, only because post-internship I don't want to work in food service, so I was hoping to work directly in Clinical Nutrition while volunteering. My outlook since volunteering has completely changed. I am more than grateful for the rewarding experience I am gaining in food service; Ruth Halter is an amazing supervisor and mentor. My opportunities include, but are not limited to:

- direct patient interaction
- understanding internal processes of the Food Service and Clinical Nutrition departments
- shadowing all areas within Food Services and Clinical Nutrition
- projects for the dietitians, the kitchen, and management

This invaluable experience has greatly contributed to being prepared for the internship and overall becoming a successful dietitian. I plan on volunteering with TMC through college and look forward to being introduced to more exciting experiences.

Contributed by NSC major Adena Osuna:
aosuna1@email.arizona.edu



Outreach

Nutritional Sciences at UA Food Day 2017

For the 5th year in a row, the Department of Nutritional Sciences participated in UA Food Day on November 1st, 2017. In addition to the department serving as a co-sponsor of the event in partnership with the Healthier Campus Coalition, the SNAC team (including Ashlee Linares-Gaffer and advisors Michelle Mendoza and Nita Ocansey) served on the event's planning committee. In all, over a dozen groups were represented at the event, with heavy involvement from Nutritional Sciences students.

Students participated as student volunteers and at educational and activity based tables as representatives for the Nutritional Sciences Club, Sports Nutrition Club and Veggie Cats. At these student-run tables, club members provided education on the importance of a balanced diet, vegan and vegetarian nutrition and physical activity and food products which support physical performance. The UA Campus Pantry, coordinated by nutrition major Kelly Clarken, hosted a food drive, collecting 75 lbs. of food. Kelly hopes to work collaboratively with the department on initiatives which increase awareness

of food insecurity that exists on the UA Campus and develop new initiatives which elevate the pantry's existence across campus. Another organization which has significant involvement by nutrition majors is the Campus Health Body Smart Initiative team which seeks to promote body positivity. Additionally, several ISPP dietetic interns and alumni of the department also participated in the event, focusing on little known facts about local agriculture and the promotion of *ugly produce* which is less visually appealing than the perfect items typically on the shelf at the store, but which are still nutritious and safe to eat.



Visit <http://www.wildcat.arizona.edu/article/2017/11/n-ua-food-day-story> to read more. Contributed by Assistant Professor of Practice, Ashlee Linares-Gaffer, MS, RDN: alinares@email.arizona.edu

UANN: Engaging UA Students in Volunteer and Work Experiences



The University of Arizona Nutrition Network (UANN) serves 45 schools and 35 community centers in Pima County. The UANN provides nutrition and physical activity lessons and supports special community events such as wellness fairs, carnivals, and fitness nights. In addition, the UANN conducts research and provides technical assistance to community organizations. Serving this many partners is only possible due to UA students who volunteer their time to promote health and wellness.

The UANN conducts volunteer training workshops for students each semester, resulting in the engagement of 100 nutritional science students who facilitate nutrition education booths and activities. This year, the School Health Program Coordinator, Trisha Bautista, collaborated with Jennifer Ravia, MS, a faculty member of the Department of Nutritional Sciences, to engage students to lead an after-school physical activity program at a low-income school served by the UANN. This past summer the UANN was awarded funding from the College of Agriculture & Life Sciences Summer Externship Program. The "extern" student conducted a community needs assessment by interviewing customers at local food retailer

stores located in low-income neighborhoods. The Food System Program Coordinator, Natalia Santos, trained students on research methods and data entry, while providing an opportunity for them to interview community members. During the school year, student workers assist with daily activities at the UANN office. They also support projects by creating newsletters for school teachers about how to incorporate nutrition and physical activity themes into their classroom.

The UANN worked with Ashlee Linares-Gaffer MS, RDN and Kayle Skorupski MS, RDN-AP, CSG, CNSC to provide a community educational experience for two ISPP dietetic interns this year. The UANN is committed to providing rewarding and meaningful experiences for students interested in supporting health and wellness in low-income communities.



The Co-Principal Investigator for the UANN Pima County campus unit is Dr. Vanessa A. Farrell and the Principal Investigator is Dr. Scottie Misner. For inquiries on student volunteer opportunities, contact Trisha Bautista: trishabautista@email.arizona.edu. Contributed by Trisha Bautista and Natalia Santos.

Extension

Garden Kitchen Grand Reopening



In the City of South Tucson resides The Garden Kitchen, a SNAP-Ed funded seed-to-table program that provides nutrition, gardening, and physical activity initiatives to Pima County residents. The Garden Kitchen, a satellite campus of Pima County Cooperative Extension, aims to empower participants and community organizations to live healthier lives through food knowledge, culinary skills, and gardening education. Since its opening in 2012, The Garden Kitchen has educated more than 250,000 participants in Pima County. In September of this year, The Garden Kitchen celebrated the completion of five new hands-on cooking stations; an expansion that makes it possible for The Garden Kitchen to broaden its programming to new audiences.



Rachael Hearne, a nutrition major at UA, started as a volunteer at The Garden Kitchen and is now one of our wonderful student workers. Rachael explains, "I love working for The Garden Kitchen. I have gotten to see The Garden Kitchen grow, from beginning the hands-on cooking station construction all the way through the Grand Re-opening event. I have gained valuable experiences by visiting sites like The Haven and Las Amigas, where I was forced out of my comfort zone and able to interact with and help a group of people I would not have had the opportunity to in normal day-to-day life. At Fit First Saturdays, I have been able to learn more about planning and organizing events and behind the scenes preparations involved in putting on a food demonstration. I have learned more about real life applications of cooking and nutrition through The Garden Kitchen. I am very grateful for this experience and hope that I am making an impact on The Garden Kitchen, just as it has on me."

For more information, please visit The Garden Kitchen's website: www.thegardenkitchen.org or email us at gardenkitchentucson@gmail.com.



Invest in Nutritional Sciences

Supporting the Department of Nutritional Sciences has never been easier! All contributions are made to the UA Foundation, a 501(c)3 organization. Through this foundation donors may choose how their gift is applied. All gifts are tax deductible. Visit <http://nutrition.cals.arizona.edu/invest> for direct links to the UA Foundation for secure, online giving.

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