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Nutritional Sciences

New NSC Advising Center Makes its Debut!

The Student Nutrition Advising Center (SNAC) is a new hub for Nutritional Sciences majors to gather for club meetings, advising appointments, and special events. SNAC is located in the Shantz Annex, room 238. Prior to the recent transformation room 238 was a wet lab used by Nutritional Sciences researchers, and later served as a temporary office space for UA Nutrition Network staff. Renovations for SNAC began in summer 2015 and wrapped up during the fall 2015 semester. The center is comprised of advising and faculty offices which surround a central common area designed for student use.

Beginning in the spring 2016 semester, SNAC plans to host Nutritional Sciences club meetings, guest speakers, educational workshops, student orientation sessions, social events, information sessions (study abroad, volunteer opportunities, etc.), tutoring (NSC courses and most sciences), and open hours for working on classwork (individually or in groups).

NSC students will be provided with a weekly SNAC schedule distributed through the NSC Undergraduate listserv and can schedule an appointment by visiting <https://sbs.arizona.edu/advising/scheduling.php>.

The SNAC staff (from left to right): Assistant Professor of Practice and ISPP Dietetic Internship Coordinator Ashlee Linares-Gaffer, MS, RDN; Undergraduate Academic Advisor Michelle Mendoza, MA, RDN; Undergraduate Academic Advisor Nita O'Cansey, BS; Student Academic Success Specialist Angela Botello, MA; Academic Advising Assistant and NSC Tutor Jacob Fleming; and Academic Advising Assistant Madeline Joy Maller.



Nutrition Navigators Program to Begin Spring 2016

Kelly Jackson, Ashlee Linares-Gaffer and Michelle Mendoza of the Nutritional Sciences Department were recently awarded a grant that will fund the training of Junior and Senior level Dietetics students on how to conduct grocery store tours. This initiative is a way to get future dietitians out of the classroom and into the real world where they can practice communicating their nutrition knowledge to others. The tours will focus on showing participants how to navigate the supermarket to identify various sources of fruits and vegetables located throughout the store. This initiative funded by the Produce for Better Health Foundation is scheduled to begin in spring 2016.



Faculty Publications

Please visit <http://www.cals.arizona.edu/nutrition/content/new-publications/> to view a list of recent faculty publications in peer reviewed journals.





Research

Faculty Research Brief: Dr. Ann Skulas-Ray

Inflammation affects all of us as we age. Painful joints in arthritis, artery-clogging plaques that cause heart attacks, and damaged tissues that become cancerous all have excessive, chronic inflammation as a central pathological factor. This has led to widespread interest in dietary strategies and supplements that may be able to reduce inflammation. Fish oil, which is a rich source of two potentially anti-inflammatory omega-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), is one of the most popular supplements for this purpose. Many cell, animal, and population studies have demonstrated health benefits with greater EPA and DHA intake. Unfortunately, in most clinical studies, taking concentrated EPA and DHA has not been effective for reducing inflammation, even with doses much higher than what people can achieve with diet. Ann Skulas-Ray, Assistant Professor in the Department of Nutritional Sciences, conducts research seeking to understand why.



A surprising finding has emerged from these studies. People with low blood levels of a less studied omega-3 fatty acid called docosapentaenoic acid (DPA) had higher concentrations of an inflammatory marker called C-reactive protein (CRP) which can be used to indicate autoimmune disease severity and is a risk factor for heart disease. This relationship was more apparent in women, who also had lower levels of DPA in their blood than men. This finding is notable because women are more likely to suffer from autoimmune diseases. It was also found that the duration of supplementation was a critical factor determining DPA blood level increases following supplementation. A study that administered lower dietary doses of omega-3 fatty acids for 5 months achieved greater increases than a study that used higher doses for 8 weeks. This effect was more pronounced for DPA as compared to other omega-3 fatty acids. Because fish oil supplements contain small amounts of DPA and little research has been conducted to examine the effects of DPA supplementation on inflammation, Dr. Skulas-Ray hopes to lead future studies that directly assess the health effects of increasing the intake of individual omega-3 fatty acids.

Mindfulness Research: Dr. Tami Turner



Want to feel less stress and more at ease? Mindfulness may help. Mindfulness is a state of consciousness in which individuals self-observe and experience the present moment without analysis or judgment. In other words, mindfulness can help you get out of your head and back to the present. Research indicates that developing a mindfulness practice through any number of methods such as meditation, yoga or physical movement can improve overall health and wellbeing.

Dr. Tami Turner, a Postdoctoral Research Associate in the Nutritional Sciences Department, has developed and is currently testing a mindfulness-based app in collaboration with an industry partner, Vignet, Inc. The app presents simple ways to learn and incorporate mindfulness into daily life in less than 10 minutes a day using animated videos intended to be humorous, relatable, and fun. A wide array of characters including a zombie who is trying to go vegan and an insomniac hippo teach easy to learn mindfulness techniques. The videos retained common elements used in successful face-to-face mindfulness-based programs such as learning self-observation skills, practicing techniques to elicit mindfulness states (e.g., meditation, body scans), and paying attention to oneself and the environment while eating and performing physical movement (e.g., walking, martial arts postures and forms, stretching).

Teens aged 14-18 years are currently enrolled in a 6-week pilot study testing the effects of mindfulness on dietary behavior, stress, and motivation as well as determining if the app is helpful and likable. For more information about the "B@ease Mindfulness App for Teens Study", please visit our website and view the video at: <http://nutrition.cals.arizona.edu/people/tami-turner-phd> and <https://www.youtube.com/watch?v=F8bHsXbH6ug> and read further details in the UANews article: <https://uanews.arizona.edu/story/app-teaches-teens-mindfulness-skills>

Contributed by Dr. Tami Turner; tamiturner@email.arizona.edu



Graduate Program

Congratulations!

The Nutritional Sciences Graduate Program would like to acknowledge the DeBell family for their gracious support of student research. Through their generosity, the DeBell Research Enhancement Award has been established to promote graduate student summer research. Selection criteria includes the student's ability to communicate the impact of the research they plan to conduct.



Doctoral student **Jamie Coborn** was selected to receive the DeBell Research Enhancement Award during the summer of 2015. Jamie submitted results from this project to the Obesity Society and received an award to travel to the annual scientific

conference for the Society to present her work in an oral presentation. Jamie's research extends work from Dr. Jennifer Teske's laboratory investigating the relationship between insufficient sleep and bodyweight gain. Jamie's project brings us one step closer to elucidating how current pharmacological sleep aids for treatment of sleep disorders affect not only sleep quality but also energy intake and expenditure, which regulates weight gain. This is a prerequisite to developing more effective therapies to treat disordered sleep.

Meghan Strom was selected by the College of Agriculture and Life Sciences as the recipient of the Master's Level Meritorious Graduate Teaching Award for the Fall of 2015. Meghan was nominated by the department for consistently going 'above and beyond' and for being an incredibly organized and effective Teaching Assistant.



Alumni Update: Maria Morgan-Bathke

I graduated in the summer of 2013 with a Ph.D. in Nutritional Sciences and a minor in Cancer Biology under the mentorship of Dr. Kirsten Limesand. I successfully defended my dissertation and graduated from the St. Mary's dietetic internship program on the same day - July 26th, 2013. I view this as one of the most important days of my life. In fact, I frequently confuse my wedding anniversary (June 23, 2012) with my "dissertation day," much to the chagrin of my husband. Shortly following my graduation from the University of Arizona, I successfully completed the CDR registration exam and I am now able to practice as a Registered Dietitian.



My dissertation, entitled "The Role of Autophagy in Salivary Gland Dysfunction Following Radiation", provided me with a wide range of basic-science bench skills as well as a strong understanding of cellular signaling pathways. This knowledge combined with my clinical nutrition work made me a unique candidate for a post-doctoral position with Dr. Michael Jensen's laboratory in the Endocrine Research Unit at the Mayo Clinic in Rochester, Minnesota.

My current research analyzes subcutaneous adipose tissue inflammation and its effect on fat metabolism and insulin sensitivity. I recently completed a study analyzing differences in these parameters between omnivores and vegetarians, and I am now working on study to determine differences in these parameters among lean, upper body obese, lower body obese, and type 2 diabetic individuals.

Currently, I am working as a tenure-track assistant professor in the Nutrition and Dietetics program at Viterbo University in La Crosse, Wisconsin and also as a research collaborator for the Mayo Clinic in Rochester, Minnesota. This combination of work provides me with a unique balance of teaching, clinical work and research.



Undergraduates

Outstanding Seniors

Please join us in congratulating Outstanding NSC Seniors, Tiffany Lee and Bernard Dime! Outstanding seniors from the Fall 2015 graduating class were selected by the NSC Undergraduate Programs Committee for their academic excellence and pursuit of knowledge in nutritional sciences beyond the classroom.



Tiffany Lee, left, and Dr. Jennifer Ricketts

Tiffany Lee is graduating with a B.S. in Nutritional Science and minor in Biochemistry. She will also earn a B.A. in Religious Studies with a double major in Creative Writing. A few notable achievements on Tiffany's resume include being a trained EMT, a home healthcare provider and research assistant for two different UA faculty in Plant Sciences and at the Center for Integrative Medicine. Additionally, Tiffany was selected as the recipient of the CALS Outstanding Senior award. Tiffany hopes to begin medical school in Fall 2016.

Since transferring to UA in 2013, Bernard Dime has pursued a B.S. in Nutritional Sciences with a 4.0 GPA. He has tailored the Flexible Nutrition Option to compliment his goal of attending veterinary medical school. Some of his many activities include working as a research assistant in the lab of NSC professor Dr. Kirsten Limesand. After a severe spinal cord injury in 2012, he also remains active in non-traditional sports and is currently involved in the USA Paralympic Bobsled Development program. Bernard hopes to begin veterinary medical school in Fall 2016.



Bernard Dime and Corky

Get Involved!

Nutrition is more than just a major, it's a lifestyle! See below for opportunities to get involved:

The Nutritional Sciences Club

This is a student-led organization committed to providing professional development, networking and quality volunteer opportunities for members both on and off campus. Meetings include guest speakers from nutrition-related professions, potlucks, social events, volunteer information sessions, trainings and more! Contact Jason Olig for more information at jpilig@email.arizona.edu.



AND Student Membership

Did you know that the Academy of Nutrition and Dietetics (AND) offers student memberships? Join now as a student member and add something new to your resume! For more information, please visit: <http://www.eatrightpro.org/resources/membership/membership-types-and-criteria/student-member>



A.S.P.E.N. Club

The University of Arizona is home to the first ASPEN affiliated club in the nation. Are you Pre-Health? Future Dietitian? This club is for you! The American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) is dedicated to improving patient care by advancing the science and practice of clinical nutrition and metabolism.

- Develop your knowledge base and skill-set related to nutrition support
- Gain access to ASPEN peer-reviewed journals
- Attend one complimentary webinar
- Network with professionals in the field



Contact Mary Marian, DCN, RDN for more info: mmarian@email.arizona.edu.



Outreach

UA LEAF and Iskashitaa Refugee Network Present Olive Curing Workshops

In October, UA LEAF (Linking Edible Arizona Forests) teamed up with Iskashitaa Refugee Network to deliver an olive curing and flavoring workshop. Iskashitaa is a non-profit organization working with UN refugees and the community to prevent food waste in Tucson. UA LEAF is an on campus project working to plant, conserve, and use edible trees to better the community. With the help of many volunteers, UA LEAF and Iskashitaa harvested over 15 gallons of black and green olives on campus. In a two part series, community locals interested in olive preservation attended an informative workshop held in the NSC department's Food Sciences Lab.



Iskashitaa founder Barbara Eiswerth displays olives as Mr. Ahmad demonstrates olive curing. Photos by Iskashitaa volunteer Dena Cowen.



Part one was led by Hamdi Ahmad from the CALS Food Products and Safety Lab. In this curing workshop, he demonstrated the industrial way of curing using lye. The curing of olives in lye solution prepares them for flavoring by making the skin more permeable. After a week of rinsing and neutralizing the olives with vinegar, participants returned for part two of the workshop.

Part two, led by Faeza Hilillian, demonstrated the various ways to flavor olives by using local fruits and herbs. The olives were taken out of the lye solution, rinsed, and placed in jars. Each jar received either lemon juice, date vinegar, or water. Other flavors such as garlic, herbs, and lemons were added. Participants helped in the flavoring by making their own unique jar of olives. This workshop taught participants simple ways to use local foods instead of letting them go to waste.

Contributed by NSC Major Alison Jordan: alisonjordan@email.arizona.edu

UANN: Building a Foundation for Healthy Lifestyles Among Children



As part of a comprehensive obesity prevention approach, the Pima County University of Arizona Nutrition Network (UANN) is offering two United States Department of Agriculture (USDA) evidence-based curricula: *Serving Up MyPlate: A Yummy Curriculum* and *Discover MyPlate* in over 20 Supplemental Nutrition Assistance Program Education (SNAP-Ed) eligible school classrooms during the 2015-2016 academic school year.

Program Coordinator Trisha Bautista began offering *Serving Up MyPlate* nutrition and physical activity lessons to teachers at the beginning of the school year. *Serving Up MyPlate* is a nine-session, common-core aligned elementary curriculum that integrates nutrition education into Math, Science, English Language Arts, and Health lessons. The lessons focus on the importance of eating from all five food groups by using *MyPlate*, hands-on activities, songs and staying physically active through games and activities. Trisha will have provided 153 lessons of the *Serving Up MyPlate* curriculum in the Sunnyside Unified School District (SUSD) classrooms by May, 2016. Trisha is also offering the USDA's *Discover MyPlate*; specifically designed to introduce kindergarteners to healthy food choices and to physically active lifestyles. This curriculum allows students to explore healthy choices, discover the colorful variety of fruits and vegetables, identify feelings of hunger and fullness, select healthy snacks and meals, and experience the fun of being physically active. This series of six lessons will be given to five classrooms in SUSD, Amphitheater Public School District, and Diocesan schools in 2016. The Pima County UANN compliments these curricula with school-based parent education groups to ensure that the healthy messages taught in school also reach children's caregivers.

The Co-Principal Investigator for the UANN Pima County campus unit is Dr. Vanessa A. Farrell and the Principal Investigator of the UANN is Dr. Scottie Misner. Contributed by UANN Program Coordinator Lauren McCullough: laurenmccullough@email.arizona.edu

Extension

Vanessa Da Silva: New Assistant Professor and Extension Specialist in NSC



Fresh spinach tasting at Coyote Springs Elementary School, in Prescott Valley, AZ, as part of National Farm to School Month in October. Photo courtesy of Les Stukenberg from The Daily Courier

Prior to joining the NSC department, Dr. Da Silva was an Assistant Professor and Nutrition Specialist at the University of Georgia, where she was the State Coordinator for the Expanded Food and Nutrition Education Program (EFNEP). As part of her on-boarding at the UA Cooperative Extension, Vanessa has been visiting county Extension offices throughout Arizona. Family, Consumer and Health Sciences Extension Agents are uniquely positioned to best understand the needs of their community, and to help address those needs through local partnerships.

Vanessa's research interest is developing evidence-based programs that focus on the prevention of chronic disease, particularly diabetes, through diet and physical activity. She plans to focus on groups that can benefit the most from such interventions. Certain minorities, as well as limited-resource populations, suffer disproportionately from health problems and chronic disease whose risk is modifiable through lifestyle changes. For example, the CDC recently reported a decline in the number of new cases of diabetes in the last 6 years. While this is great news, the reported decline was not statistically significant for Hispanics or African-Americans. Additionally, both Hispanics and African-Americans have consistently had higher incidence rates of diabetes as compared to Caucasians.

The diverse population in Arizona, together with above average rates of obesity, diabetes, and poverty, offer an excellent opportunity to address health disparities. Dr. Da Silva is interested in tailoring programs to the cultural customs of the different Arizona populations she will serve. One way to do this is by understanding dietary habits. Dietary assessments are frequently used as an evaluation tool for nutrition education programs, but can be useful for program development as well. It is important to be sensitive to the particulars of what certain groups eat, and why, when encouraging new dietary habits.

Vanessa holds a PhD in Nutritional Sciences from the University of Florida, and is a registered dietitian. She can be reached at vdasilva@email.arizona.edu or 520-621-1584.

Support 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/donate> for direct links to the UA Foundation for secure, online giving.



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