The University of Wisconsin-Madison is 10th among public institutions in U.S. News & World Report’s latest college rankings and we are also proud to be one of the best graduate programs in the nation!

Please help us keep in touch with our alumni and friends by passing this newsletter along to others who may be interested in our work. We also encourage you to share news about your career status or update your contact information by sending an email to: student-staff@nutrisci.wisc.edu

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Note from the Chair: Dr. David Eide

The science of nutrition has a long and storied history here at the University of Wisconsin-Madison. Starting with the work of pioneers such as Stephen Babcock, Edwin Hart, Elmer McCollum, Marguerite Davis, Harry Steenbock and Helen Parsons, some of the most significant discoveries in the field of nutrition have occurred on our campus.

As one early example, the so-called “single grain” experiment (1906-1909) overturned the dogma of the time regarding the essential constituents of food and demonstrated the existence of vitamin and mineral micrnutrients. Not long after that, fat-soluble and water-soluble vitamins (e.g., Vitamins A and D, niacin) were discovered opening the door for future advancements in our understanding of nutrition and the function of nutrients. The 1960s is also a landmark period in the history of nutrition on our campus. In 1965, Dean Glenn Pound recommended that food and nutrition programs should be emphasized in the future development of the College of Agriculture and Life Sciences. In 1968, his vision was realized by the formation of the Department of Nutritional Sciences.

Our very first chair was Alfred (Alf) E. Harper, professor of biochemistry. Alf was joined by six other faculty from across the campus. These pioneering faculty were Drs. Charlie Elson, Annette Gormican, Helen Linkswiler, and Dorothy Pringle from the Department of Food and Nutrition in the then School of Home Economics, Dr. Norlin (Ben) Benevenga from the Department of Animal Sciences, and Dr. Earl Shrago from the School of Medicine. Fast-forward to 2018 and this coming year represents another real milestone for the Department of Nutritional Sciences, our 50th anniversary as a department! We owe those seven founding faculty a great debt of gratitude; they started what has become one of the most successful departments in the college.
Notable Alumna: Mary Russell

Mary Russell has always had a passion and interest in nutrition. Growing up in Wauwatosa, WI, she has many memories of visiting farms and orchards for fresh produce, growing vegetables in their family garden, and learning how to cook and bake from her mom. From then on she has been extremely successful in the dietetics and nutrition field with some of her most recent accomplishment being the president elect of the Academy of Nutrition and Dietetics and receiving the 2011 Nutrition Support Dietitian Service Award from the American Society for Parenteral and Enteral Nutrition and the Academy’s Medallion Award in 2009.

Russell’s path to her successful career has not always been an easy one. Russell received her B.S. in Medical Technology from Marquette University. She began working as a medical technologist at a hospital but soon realized this was not what she wanted for her career. After speaking with a registered dietitian at the hospital she worked at, she realized that she wanted to pursue a career in nutrition. All throughout her teen years and her medical technologist career, she battled anorexia nervosa. As this was not a very well known or understood disorder at the time, she struggled with this for many years. It was not until years later when she was connected to an MD who specializes in eating disorder treatment at the UW Hospital, that she was able to overcome her anorexia and begin her career in the nutrition field!

After deciding to pursue a career in nutrition, she applied to the masters program here at UW-Madison. She was accepted into the program by Dr. Janet Greger and went on to receive her M.S. in Nutritional Science in 1981. Looking back at her time at UW, the courses Nutrition 610 and 611 still stand out to her today. She says she learned so much from these core nutrition student courses and still finds much of that coursework relevant and applicable today. She also recalls a medical nutrition therapy course, taught by Dr. Dorothy Pringle, that she thought was a great introduction to nutrition therapy for diseases like diabetes, renal disease, heart failure, and hypertension.

Upon graduation from graduate school, completing her dietetic internship at the UW Hospital and Clinics, and passing her RD exam, she moved out to New Jersey where she began her first RD job as an inpatient clinical dietitian at Mercer Regional Medical Center in Trenton, NJ. She stayed here for three and a half years before leaving and notes how she will never forget the “amazing interdisciplinary team of dietitians, nurses, food service workers, student dietitians, and others in almost every area of the hospital from the neonatal ICU to the outpatient radiation oncology clinic”.

As mentioned before, Russell has become the president elect of the Academy of Nutrition and Dietetics after holding numerous positions with the organization over the past 30 years. She has held positions within the organization in groups like the American Dietetic Association Foundation, Dietitians in Nutrition Support Dietetic Practice Group, North Carolina Dietetic Association, Durham-Chapel Hill Dietetic Association, and the Commission on Dietetic Registration. She calls the Academy of Nutrition and Dietetics her professional home for the past thirty years and recalls the numerous roles she has served and the many professional and personal connections that she has made through the organization over the years. More recently, Russell has been involved with Toastmasters International, which is a nonprofit educational organization that aims to empower individuals to become more effective communicators and leaders, and the Healthcare Businesswomen’s Association.

Continues on next page...
Notable Alumna: Mary Russell Continued

Looking back at her career, Russell notes that some of her most influential and memorable moments as a dietitian were her interactions with her patients and students. She explains how “Working with patients and helping them get well, or change their diets to improve their health, has been my passion. I spent quite a lot of years working in the adult ICU with patients who often were not able to eat regular food and had to be fed IV or via a tube. All of these patients were important; some of the most memorable were the motor vehicle crash patients who were so badly hurt and yet were able to recover and go to a rehab unit”. She also recalls the memorable moments that came when she managed two nutrition departments in academic medical centers. She loved the opportunity to learn about what motivates other people, and loves to see motivated and passionate students turn their talents into their professional roles. Her advice to young, aspiring nutrition students is to get involved and put yourself out there! She notes the importance of connecting with alumni, joining your schools student dietetic association, volunteering at local food banks or kitchens, and shadowing alumni or professionals in your area if interest. Russell explains that seeking mentors and following up with them are key steps to a successful career.

Remembering Robin Mittenthal

Robin Mittenthal, former Nutritional Sciences employee who managed the Undergraduate Certificate in Global Health, passed away in early December following an accident on his farm. Mittenthal was in his early forties and is survived by his wife Daniella Molle, and their two children.

Mittenthal was extremely involved with the Undergraduate Certificate in Global Health, working countless hours dedicated as a manager, advisor, mentor, and field course leader within the certificate. “The early success of the new program was due, in no small part, to his unfailing dedication and caring for the experience of each and every student” says Jonathan Patz, director of the Global Health Institute. He left this position in late spring 2017 to become the enter coordinator at the Upper Midwestern Regional Center of Excellence for Vector-Borne Disease.

Nutritional Sciences professor and director of the undergraduate certificate, Sherry Tanumihardjo, described Robin as a “very thoughtful, passionate family man,” and says "his family was the most important thing to him. Some of this passion rubbed off in his mentoring of hundreds of students.”

Mittenthal’s involvement in the Madison community does not stop there. He was also pursuing a Ph.D. in entomology, studying how organic fertilizer affected insect pests and he also previously served as the chairman of the board that oversees the Eagle Heights Community Gardens. Outside of Madison, he served as an agricultural advisor with the Peace Corps in The Gambia during the mid 1990s and worked as a librarian and teacher for K-12 students.

To read more about Robin's life visit http://ghi.wisc.edu/campus-mourns-loss-of-robin-mittenthal/

New clues to healthy bones for those with PKU

This article was obtained through the University of Wisconsin-Madison University Communications website on 12/21/17

By: Adityurup “Rup” Chakravorty

Certain kinds of foods prescribed to manage the rare metabolic disorder phenylketonuria (PKU) could contribute to skeletal fragility seen in many PKU patients, according to a new study by University of Wisconsin–Madison researchers.

Led by Waisman Center and College of Agricultural and Life Sciences investigator Denise Ney and her graduate student Bridget Stroup, the study represents the first human clinical trial to compare how different PKU-specific diets affect the bone health of people living with the disease. Skeletal fragility affects 40-to-50 percent of adults with PKU and 33 percent of children with the disease.

Individuals with PKU must adhere to a lifelong diet of medical foods that contain protein but are low in the amino acid phenylalanine. Their bodies are unable to metabolize phenylalanine, so without careful, lifelong nutritional management initiated in infancy, it accumulates at high levels in their blood, leading to intellectual disabilities, seizures and other serious health problems.

However, almost all naturally occurring proteins contain phenylalanine, so in order to get enough protein, people with PKU have traditionally eaten medical foods containing synthetic protein substitutes made from amino acids. Still, they often struggle to maintain adequate bone health. Just over a decade ago, Ney helped develop foods for PKU patients made from a protein called glycomacropeptide (GMP), a natural byproduct found in the whey extracted during cheese production. In one study, Ney showed that mice fed GMP-based diets had larger and stronger bones than mice on amino acid-based diets.

“It was a vital clue that there could be a link between amino acid medical foods and the skeletal fragility seen in many PKU patients,” says Ney.

For the current study, published in the Journal of Nutrition and Metabolism, Ney and her research team assigned eight individuals with PKU to a diet of amino acid-based medical foods. Then, these same patients switched to a GMP-based diet.

The researchers found that, compared to when on the GMP diet, PKU patients had higher amounts of calcium and magnesium in their urine while on the amino acid-based diet, which indicated that their bones were leaching elements critical for bone health.

“The amino acid medical foods have high acid loads, which can change the overall acid-base balance within the body,” says Stroup. Bones are able to buffer high acid loads in the body, but over time this leads to a breakdown and release of minerals. GMP medical foods, on the other hand, do not have high acid loads.

Although the researchers did not directly measure bone breakdown and density in this study, other studies have found that reducing the acid content of diets leads to lower urine-calcium excretion and increased bone density. The findings, Ney says, could help patients with other kinds of metabolic disorders, like maple syrup urine disease. And though the sample size of the study was relatively small, it is typical of rare diseases. Ney hopes to secure additional funding for further study.

Her work carries on a legacy of PKU research at the Waisman Center and at UW–Madison. Harry Waisman, after whom the center is named, championed mandatory newborn screening for PKU and dedicated his life to developing treatments for the disorder. Waisman was among the first to show that PKU can be managed by strictly adhering to a low-phenylalanine diet.

Today, Ney is working on a larger clinical trial to study the metabolism of calcium and other minerals in PKU patients consuming amino acid or GMP medical foods. “We will be looking at bone health, but also other physiological aspects, such as the gut microbiota,” says Ney.

The current study was supported by funding from the FDA Office of Orphan Products Development, the Department of Health and Human Services, and the National Center for Advancing Translational Sciences. Other authors include Emily Sawin, Sangita Murali, Neil Binkley and Karen Hansen, all at UW–Madison.
Nutritional Sciences Welcomes Adam Kuchina

Adam Kuchina recently joined the faculty in the Department of Nutritional Sciences as an assistant professor in August 2017.

What is your educational/professional background?
Doctoral Fellow, University of Minnesota, Department of Food Science and Nutrition
BSc – University of Wisconsin-La Crosse, Exercise and Sport Science
MSc – University of Wisconsin-Stout, Human and Clinical Nutrition
PhD – University of Minnesota-Twin Cities, Nutrition

How did you get into your field of research?
I was always interested in what I fed my body, but it wasn't until I noticed a direct relationship between my performance in athletics and diet that I really started to become a student of nutrition.

What are the main goals of your current research program?
Currently, my research focuses on clinical nutrition, lean tissue/muscle assessment, and protein metabolism in various clinical populations. I am particularly interested in novel applications to refine protein recommendations with the goal of preserving muscle mass and preventing malnutrition. My research also aims to develop noninvasive methods to accurately identify the development of malnutrition and monitor changes in muscle mass at the bedside while optimizing nutrition interventions throughout medical treatment. Overall, I am passionate about improving patient outcomes and quality of life in clinical populations.

What attracted you to UW-Madison?
I was very much attracted to the impressive reputation and the strong research environment of the Department of Nutritional Sciences, and of the University as a whole.

What was your first visit to campus like?
Having grown up only 1.5 hours away, I was shocked at how little I knew about the campus. The size and beauty of campus, being tucked between the lakes, was inspiring. The vibrant atmosphere was infectious and I knew I wanted to be part of it.

Favorite place on campus?
Being so new, I am still exploring and getting to know my surroundings, but I am a big fan of the Memorial Union Terrace.

What are you most enjoying so far about working here?
The expertise across campus is tremendous and everyone seems very willing to collaborate. The opportunity to conduct meaningful research is immense.

Do you feel your work relates in any way to the Wisconsin Idea? If so, please describe how.
My research can be extended to benefit any clinical (pediatric and adult) and aging population. Through nutritional intervention we are hoping to maintain adequate muscle quantity and quality in order to achieve meaningful longevity. So yes, I absolutely think my work relates to the Wisconsin Idea, as its value truly extends beyond the physical walls of the University.

What’s something interesting about your area of expertise you can share that will make us sound smarter at parties?
Patients can lose upward of 13% of muscle mass in the first week of hospitalization. This lends to research showing that less than 50% of individuals working before undergoing an intensive care unit (ICU) stay are back to work within the first year after discharge. Sorry to get all "Negative Nancy" on everyone.
New IGPNS Students

Nathalie Ly

Nathalie grew up in Sheboygan, WI. She attended UW-Madison where she graduated with degrees in Biology, and Human Development and Family Studies. Her research experiences include studying plant symbiosis in the Ane lab and more recently studying protein trafficking in Guy Groblewski's lab. Nathalie hopes to continue studying protein trafficking as it relates to pancreatitis and then go on to attend medical school.

Emily Britt

Emily is from Elgin, IA. She attended the University of Iowa where she received her B.S. in Biochemistry. Her research interests are how small alterations in metabolism due to obesity, cancer, or inflammation, lead to larger health implications. She hopes to contribute to the efforts of uncovering a more complete picture of metabolic pathways in order to discover novel, more targeted ways to treat disease.

Victoria Flores

Victoria is from Cary, IL. She attended Northern Illinois University where she received her B.S. in Nutrition and Dietetics in 2016. Her research experiences include working with graduate students in their masters project that included food intolerance testing research with 150 human subjects. She also was trained to proctor a VO2 max study looking at the effects of coconut water vs. Gatorade in marathon runners. After graduation, she worked with a sports science & medical research company as a nutritional study coordinator.

Rashuan Williams

Rashaun was born in the Bronx, New York. He attended CUNY Brooklyn College where he received his B.S. in Health and Nutrition Sciences. His research experiences include working in Dr. Jennifer Temple’s lab at the University of Buffalo where he worked on two nutritional related projects. He also has research experience in Dr. Juergen Polle’s lab at Brooklyn College where his focus was to analyze and manipulate two different algae genomes, Coelastrella and Scenedesmus obliquus, through mutagenesis to find different mutants that would provide more biomass than the wildtype. His research interests are primarily in type 2 diabetes, and long term, he would like to advance the knowledge we have about the causes of diabetes and how to treat it more efficiently.

Jevin Lortie

Jevin is from Oak Park, IL. He received his undergraduate degree from Knox College in Neuroscience. There, he researched a vitamin formula to prevent memory loss associated with Alzheimer’s disease. His long term interests and goals include improving longevity and quality of life for the aging.

Emily is from Elgin, IA. She attended the University of Iowa where she received her B.S. in Biochemistry. She spent three years studying the role of endothelial cells and lipid metabolism in Dr. Brandon Davies lab. Her research interests are how small alterations in metabolism due to obesity, cancer, or inflammation, lead to larger health implications. She hopes to contribute to the efforts of uncovering a more complete picture of metabolic pathways in order to discover novel, more targeted ways to treat disease.
FNCE Conference 2017

The Food and Nutrition Conference and Expo (FNCE) took place this past October in Chicago. The Department of Nutritional Sciences was represented by Associate Student Service Coordinators, Erika Anna and Katie Butzen, Assistant Faculty Associate, Makayla Schuchardt, and current MS-CN student Tamara Marini. Thanks to all of our alumni and visitors for stopping by our booth!

Awards and Honors

Congratulations to Nutritional Sciences Associate Professor Beth Olson who was elected the Chair Elect of the American Society for Nutrition’s Maternal, Perinatal, and Pediatric Research Interest Group (RIS). The Maternal, Perinatal and Pediatric RIS is a home for those who focus on the biology of nutrition as it impacts human development. This includes the role of nutrition on both short- and long-term health outcomes in the mother, fetus, infant and child.

Congratulations to Julie Patterson, a Nutritional Science research assistant who was awarded a Ruth Dickie Fellowship from the Graduate Women in Science (GWIS)-Madison Chapter. This fellowship is given out to female graduate students at UW-Madison with at least one year remaining before graduation who are members of the GWIS Madison chapter. This award is in honor of Ruth Straethern Dickie, a life member of GWIS and professor emeritus at UW who passed away in 1993.
DNC Updates: Morgan Nienow, President

The UW-Madison Dietetics and Nutrition Club (DNC) is an on-campus academic/professional registered student organization open to both undergraduate and graduate/professional students. Our organization offers a variety of opportunities for members to engage in networking events as well as to participate in volunteer and community outreach opportunities and to learn about the field of nutrition and the dietetics profession.

This semester, DNC started a mentorship program with the UW Health Dietetic Interns. Program Manager Cassie Vanderwall initiated the collaboration in accordance with ACEND guidelines to ensure that current interns develop an understanding of mentorship. The collaboration allowed our members to ask questions about the DICAS application process, learn what day-to-day internship life looks like, and ask for advice on the next step in the profession of dietetics.

Earlier in the semester, DNC also partnered with the Wisconsin Academy of Nutrition and Dietetics (WAND) to host an app start-up company for a round table discussion on campus. The app's creators are looking to improve nutrition and health access to the public and are looking to bring app users in closer contact with RD's.

More recently, DNC partnered with the Food Science Club for a collaborative event to learn more about RP Pasta Company here in Madison. Owner Peter Robertson discussed the development of pasta, Celiac Disease, and gluten-free trends. Members were able to learn about the food science perspective on such topics and also sample various types of pasta!

As in previous semesters, DNC continues to run a non-perishable item drive, collecting goods that are donated to the Open Seat Food Pantry here on campus. Additionally, members continue to volunteer at the Wisconsin Institute for Discovery’s Saturday Science events, engaging children from throughout the Madison area in hands-on activities to learn more about nutrition. DNC has also continued to present Lunch ‘n’ Learns, not only in the Nutritional Sciences Department, but also across campus. These events allow for members to research a nutritional topic of interest and then present their findings over a healthy snack to audience members.

Before the end of the semester arrives, DNC members will engage in Salvation Army bell ringing, a group volunteering opportunity with Second Harvest Food Bank, and our bi-annual, end-of-the-semester Group X Fitness Class prior to finals. We are grateful for all of the guest speakers we were able to host this semester in sharing their educational and career backgrounds, as well as, what their current work entails helping to educate our members about the various avenues of nutrition.
Many of the stories featured in these articles feature activities and research funded through grants, scholarships, and other donations. These opportunities are possible because of our alumni and donors. Thank you for contributing to our continued success!

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