USA Today & The Princeton Review ranked UW-Madison as one of the top seven best value colleges of 2013 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 office@nutrisci.wisc.edu

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Note from the Chair

Although time seems to fly by, the mission of the Department of Nutritional Sciences remains the same. We strive to generate and disseminate knowledge regarding diet and nutrition to help improve the health and economic development of current and future generations through our combined efforts in programs, research and extension to foster an educated society. In this issue of our newsletter we feature individuals who have graduated from our programs and are working to further the field we all value. We also highlight the accomplishments of some of the great individuals that are currently in the Department of Nutritional Sciences.

Our talented faculty, staff, postdocs and graduate students dedicate themselves to fostering an educated society by conducting original research in nutrition topics ranging from molecules to communities.

We have national and international reputations as leaders in nutrition/metabolism (energy utilization, zinc, selenium, iron and vitamin A); health and disease (phenylketonuria, cystic fibrosis, fetal alcohol syndrome, obesity, gastrointestinal physiology), and community/policy applications (gardening programs to improve youth energy balance, a program to improve nutritional health of college-age adults, coalition-led interventions to improve community nutrition environments). These exciting programs are funded by grants from the Gates Foundation, USDA and the National Institutes of Health.

We are proud to be one of the top five graduate programs in the nation. In addition, we have one of the largest undergraduate programs in the College of Agriculture and Life Sciences.

I am proud of the network of alumni, students, friends, faculty and staff who contribute to the success of our programs. As you may know, our Department is housed within a building that allows for our work to continue, but does not provide adequate space to grow.

We are currently looking at plans for a building expansion that would accommodate our needs and requirements going forward. I ask you to consider donating to our Department in order to help us achieve this goal. Thank you for all the support and I can't wait to see what the future holds.

James Ntambi, Department Chair

Welcome Beth Olson!

The Department of Nutritional Sciences extends a warm welcome to Associate Professor Dr. Beth Olson. Before coming to UW-Madison, Dr. Olson was Associate Professor and Extension Specialist in the Department of Food Science and Human Nutrition at Michigan State. Dr. Olson is originally from Wisconsin and completed her undergraduate studies in Biochemistry at UW-Madison. She then went on to get her Ph.D in Nutrition from the University of California–Davis.

As Associate Professor and Extension Specialist here, Dr. Olson will be heavily involved in the Family Living Program. She will be keeping family educators informed about nutrition, providing outreach with media, helping to train and connect staff with research based opportunities. She will also be a member of the state Healthy Living Team, which provides support in the nutrition programs. Dr. Olson’s research interests include: breastfeeding support, breastfeeding and employment, and the role of parental influences in infants and children’s dietary behaviors.

Dr. Olson is married and has three children. Her daughter attends school here at UW and she has two younger sons. She loves participating in sports and is a big Badger fan. The department is happy to have such a great addition to the team!
Emeritus Staff/Alumni Updates

Cindy D. Davis, Ph.D., ‘91 is the Director of Grants and Extramural Activities at the Office of Dietary Supplements (ODS) at the National Institutes of Health. In this position, Cindy works in partnering with other NIH Institutes and Centers to facilitate funding of grants. Before joining the ODS in November 2011, Cindy was a Program Director in the Nutritional Sciences Research Group at the National Cancer Institute (NCI) where she worked since 2002. At NCI, she planned, developed, coordinated and directed extramural research programs in diet, nutrition and cancer as it relates to cancer prevention. In 2000, Cindy received a Presidential Early Career Award for Scientists and Engineers and was named the USDA Early Career Scientist. Cindy has published more than 110 peer-reviewed journal articles and eleven invited book chapters.

Dian Dooley, Ph.D., ‘88 retired from UH Manoa in July 2011 after 22 years as a nutritionist on the Human Nutrition, Food and Animal Sciences faculty. She completed her masters degree at the University of California-Davis in Nutrition Science with Jane Voichick (Nutritional Sciences Faculty Emeritus) in 1982 and continued to complete her Ph.D. here at UW-Madison with Alf Harper in 1988. Dian is now moving to California to rejoin her husband, Thomas Gans. She is looking forward to a new adventure in Napa, CA, possibly getting involved in the Institutional Review Board.

Alfred Harper, first chair of the Nutritional Sciences Department, turned 90 this past August. He is currently living with his wife, Naila, in Washington state. On a typical day, Alf likes to read, watch TV, and listen to the radio. He also enjoys tending to the plants in his apartment and taking walks. Photo at left: Alf Harper during a Father’s Day brunch with grandchildren, daughter and son-in-law.

Michelle Johnson, M.S., ‘92, Lecturer and Associate Outreach Specialist in the Department of Nutritional Sciences, has been in the department for a total of ten years. Unfortunately, she will be relocating to the Fox Valley area this fall and will no longer be providing instruction and student support duties. However, she will continue to work on developing the online Capstone Certificate Courses. The department will miss her extraordinary enthusiasm and knowledge.
Notable Alumnus: Dr. Helen W. Lane Ph.D, R.D.

Dr. Helen W. Lane Ph.D, R.D. is a Senior Scientist for Biological Sciences and Applications in the Human Health and Performance Directorate at the Johnson Space Center. She is the Dean of the Human Systems Academy for the center, and is responsible for integration of research as it relates to basic problems of terrestrial life in microgravity, using the unique technologies develop by the space program.

Q: What inspired you to become a dietitian?
A: During my generation I wanted to be a scientist but that wasn't an option for women. Thus, dietetics allowed me to learn science and have a career. As it turns out, after I finished my training, I gravitated to research, getting a research based masters at UW-Madison and a PhD at University of Florida. I taught dietetics at University of Florida Medical School, UT Health Science Center at Houston, and Auburn University while being a primary investigator on funded research and providing training to graduate students. I am so lucky to have been a dietitian and completing important nutrition research.

Q: What experiences prepared you for your career?
A: As a high school student, I participated in lots of science even though, at the time, that was considered very un-girl like. I used my summers to do projects that my mom found for me. One of my projects was the change in Vitamin C levels in orange juice due to storage conditions. I loved foods and the science of food and wanted to learn more about the body. Today, I would probably have gone to medical school. When I graduated from college, the state medical school had a quota on women, only allowing three per class. Working at NASA requires interacting with engineers as well as the international community. Thus, good communication skills learned from activities outside of academics really helped, including leadership positions in student organizations like the student dietetics association and church groups. While at UW-Madison, I had an international experience in Europe for two summers and that really opened my eyes. I always recommend to students to have an international experience while in school. Finally, I took two courses in college that helped, one was world religion and the other was the world history of art. They both gave me a perspective that enlarged my views. So, I always recommend that students expand beyond their chosen professional goals to learn communication with a variety of folks. Also, organizational skills are very important at NASA so having extracurricular activities that enhance working in organizations and providing leadership are important.

Q: Did you plan on working for NASA one day?
A: No, I never dreamed of working at NASA. In fact, I had no idea NASA did nutrition research. However, while I was a faculty member at UT Health Science Center, I worked with one of the NASA physicians. As the Space Shuttle Program was expanding, NASA decided they needed nutrition research, so that physician called me to come to NASA. I was intrigued but really was surprised. I went for the interview and am still at NASA. This shows that the networking we all do is very important for opening up doors.

Q: Of all your great accomplishments, which one are you most proud of?
A: For NASA my greatest accomplishment was getting U.S. food on the international space station. When the effort was to work with the Russians to build the station, the Russians were to provide all the food. The food contract with the Russians needed to be changed. Working with the various NASA boards, I got this contract changed for U.S. to provide half the foods for the station. This started with the joint research
Notable Alumnus Cont.

program with the Russian Mir Space Station. This led to combined nutritional and food safety standards with the Russians and training of the cosmonauts on the U.S. provided food.

However, NASA gave me my biggest recognition for the development of nutritional standards leading to the improvement of the food system for the Space Shuttle. Within my first year at NASA, I convened an outstanding group of nutritionists to develop the nutritional requirements for shuttle instead of just depending on the RDA (now called the DRI). That led to improved standards for NASA and eventually morphed into the standards for the international space station combining with the international community and Russia. I conducted research on the Space Shuttle and Russian Mir space station that supported using the WHO calculation of energy level and the DRI for protein and amino acids. We are still using these standards.

I have published three books and am working on a fourth. The best one is Wings in Orbit that chronicles the major engineering and scientific accomplishments of the Space Shuttle Program.

Q: What advice do you have for students pursuing the nutrition or dietetics field?
A: Learn as much as possible for your field, but also expand to learn about other fields. We live in the flat world of board communication and sharing of science and technologies. Thus, need to be prepared for that interaction. We never know where the next innovation will happen and where it will come from.

Get leadership positions and read books such as Sheryl Sandberg’s best-selling book, Lean In, as it provides excellent advice for our profession too.

I always recommend that while in school get some work experience in your field, from working as an intern to working in a hospital, maybe for free. I worked in a hospital doing dietitian work when I was in college. You could work in one of your professor’s laboratory.

Finally always conduct yourself with the highest level of honesty and ethics. This needs to start in college. It becomes a good habit that will eventually open new worlds.

Capstone Certificate Program

The Department of Nutritional Sciences announces the development of two NEW academic programs. Each program requires the completion of a Bachelor’s degree for admission.

The first program, Capstone Certificate in Clinical Nutrition, is completely on-line and consists of four new courses in advanced clinical nutrition. These courses include:

- Advanced Clinical Nutrition – Critical Care and Nutrition Support
- Advanced Clinical Nutrition – Pediatrics
- Advanced Nutrition Counseling and Education
- Clinical Nutrition Research

Each course will be 3 credits and may be taken in any sequence. Students who complete all 12 credits will be granted a “Capstone Certificate in Clinical Nutrition”. This program is designed to serve the following types of students:

- Graduates of undergraduate dietetics/nutrition programs who wish to improve their chances of obtaining a dietetic internship.
- Dietetics, nutrition and health professionals who wish to enhance their education with post-baccalaureate level courses in nutrition.

Pilot testing of courses for this program will begin in January 2014, with a scheduled program launch date of September 2014.

The second program, Capstone Certificate in Clinical Nutrition-Dietetic Internship combines the University of Wisconsin Hospital and Clinics Dietetic Internship with the academic courses listed above. Students will apply to this program through the national computer matching process for dietetic internships. It combines 6 credits of supervised practice experience with the 12 credits of on-line advanced clinical nutrition capstone courses. The first computer match for this program will occur in Spring 2015.
Dr. Dave Eide graduated from the University of Minnesota with a bachelor's degree in microbiology and then came to Madison to complete a Ph.D in molecular biology. He received his Ph.D in 1987.

His research focused on transposable elements in the nematode worm, which can be described as jumping base pairs. Dr. Eide then went on to do post doctoral work at MIT, where he worked on transcriptional regulation. Specifically, he researched Saccaromyces cerevisiae and heme levels, and how iron gets into cells. He went on to the University of Utah where he continued his work with iron transporters and trafficking. While researching iron transporters he and his fellow researchers ended up discovering zinc transport proteins, which led to his current research.

After deciding to focus on zinc research, Dr. Eide went back to Minnesota. He was offered a job as an assistant professor at the medical school at the University of Minnesota- Duluth. Soon thereafter, he was recruited by Dr. Roger Sunde at the University of Missouri. This was his first venture into the nutritional sciences, and it was also the start of a longtime friendship with Dr. Sunde (with whom he teaches NS 510).

In 2004, Dr. Sunde joined the Department of Nutritional Sciences. Soon after, Dr. Eide was also awarded a position in the department. He says that he greatly enjoys both the teaching and the research that the job has allowed him to do. He particularly likes teaching NS 510 because students enjoy the class and learn so much. Dr. Eide continues to receive high praise in his course evaluations.

Dr. Eide’s favorite food is pizza, and he and his wife often make from scratch at home. He enjoys cycling for exercise, and in the warmer months, he bikes to and from work every day. He also loves sailing and keeps a small sailboat on Lake Mendota. He and his wife have two cats.
Dr. Dale A. Schoeller, born and raised in Milwaukee, WI began his educational career at UW-Milwaukee where he studied Chemistry. He would go on to earn a PhD in analytical chemistry at Indiana and write his thesis on the assembly and test of mass spectrometry for heavy isotopes. He actually never took a nutrition class in college!

During a postdoctorate fellowship at Argonne National Laboratory in Chicago, Dr. Schoeller worked on a project that applied the stable isotope method to the understanding of nutrient metabolism. It was at the Clinical Nutrition Research Unit in Chicago where he discovered that the doubly labeled water method (a method previously used in animal studies) could be applied to measuring energy expenditure in humans. This method turns the body into a metabolic recorder, and remains the gold standard for the measurement of human energy expenditure.

While receiving numerous awards for his doubly labeled water discovery, Dr. Schoeller says the award he feels most honored by is the Atwater Award presented by the USDA recognizing his research in the human energy metabolism and efforts in developing a doubly labeled water method for application to humans.

Dr. Schoeller began his teaching career at the University of Chicago’s graduate school. Now at UW-Madison, he teaches a graduate level course on obesity, a student-run seminar course in human nutrition, and a section of Nutritional Sciences 332. He says his time is split roughly 60% research, 25% teaching, and 5% departmentally. His interests lie in the science of obesity, and he presides as current treasurer for the National Obesity Society.

His UW lab is comprised of eight individuals: three undergraduates, three graduate students, and two lab technicians. Dr. Schoeller supervises his lab, weighing in with analytical interpretation of the data or designing various parts of experiments. The lab is currently researching pediatric weight gain, and is focused on the lunch programs of 4th, 5th, and 6th graders across the state of Wisconsin.

He has trained ten doctoral students, and six postdoctoral scientists. Four former mentees are faculty, five are academic researchers, two are industrial researchers, three are postdoctoral scientists, one is teaching, and one is self-employed (data as of 2011).

“I don’t use the word retirement; I prefer to call it transitioning to professor emeritus.”

Dr. Schoeller joined the department in 1997 and taught his last class this spring and will be “transitioning to professor emeritus.”

He intends on maintaining a research lab to further our understanding of human energy metabolism and to continue his collaborations on the prevention of obesity with emphasis in children.

Dr. Schoeller’s advocacy for the prevention of obesity permeates throughout the entire faculty of Nutritional Sciences who, “are relatively healthy, but then again so is the entire community of UW-Madison” when compared with much of the state. It is hopeful that with innovations, such as those from Dr. Schoeller, our healthy habits can expand to many other communities.
Mark Cook, IGPNS professor, was the recipient of the 2013 Jung Excellence in Teaching Award, which honors a faculty member with leadership in teaching who demonstrates the qualities of an excellent teacher by using innovations in teaching, maintaining effective communication with students, and contributing to many instructional programs and activities.

Thomas Crenshaw, IGPNS professor, has been named the winner of the 2013 J.S. Donald Short Course Teaching Award. This award recognizes a brilliant faculty/staff member teaching in the Farm and Industry Short Course Program.

James Ntambi was awarded the American Society for Biochemistry and Molecular Biology Award for Exemplary Contributions to Education. Ntambi earned this award through his excellence in teaching, mentoring, and research. He teaches a general biochemistry course to undergraduates, and he also teaches a unique study abroad course called International Health and Nutrition in which the students get the opportunity to visit Uganda for three weeks to see the environmental and health issues. As for research, Ntambi focuses on the biological roles of stearoyl CoA desaturase enzymes. The Ntambi Research Program has trained many Ph.D students, post-docs, undergraduate students, and several high school students.

Sherry Tanumihardjo was awarded the 2013 Excellence in International Activities Award. This award recognizes a faculty member who has contributed in furthering CALS’ mission to promote international learning, research, and outreach among its students, staff, faculty, and global community.

Kate Wilmot was awarded a 2013 Classified Staff Award for her outstanding service as the Undergraduate/Graduate Coordinator to the College of Agriculture and Life Sciences. Wilmot has been working in the Department of Nutritional Sciences office for 2 years maintaining student records, helping in admissions, running transfer workshops, helping students declare majors, answering inquiries, and tackling any task that comes her way in the main office.
Four Sundes, One Lab

By Nathalie Ly

It is rare to find so many family members working in the same research lab. In the Sunde lab, you may stumble upon three generations of Sundes: Dr. Roger Sunde, his father, Dr. Milton Sunde, and his two sons, Gavin and Colin Sunde.

What started as a summer job in 2009 for Gavin was the beginning of a family lab project. About four years ago, Dr. Sunde was working on a project that involved cloning approximately 25 selenoproteins. His son, Gavin, had just graduated from high school and had no summer job, so Dr. Sunde had Gavin work in his lab cloning turkey selenoproteins based on rat, chicken, and human sequences. The next summer, Gavin came back and continued to work as well. Gavin is now a senior at the University of Wisconsin-Eau Claire and is still involved in the research project. The same thing happened with Dr. Sunde’s youngest son, Colin. Currently, Colin, a sophomore here at UW-Madison, is continuing his work in Dr. Sunde’s lab for his Biology 152 class project.

A preliminary report of this work, entitled “Cloning, sequencing, and expression of a subset of selenoprotein transcripts in the turkey (Meleagris gallopavo),” was presented at the Experimental Biology meetings in San Diego in 2012.

Dr. Sunde’s father, Milton Sunde, who is now 92 years old, is an Emeritus professor of poultry science. He studied and taught turkey and chicken nutrition since 1947, retired in 1987, but continued to teach. In the current lab project, Milton helped in getting the turkey that was used to provide mRNA for the gene cloning and sequencing. He will also be involved in the next part of the study when different levels of selenium will be fed to the turkey and the levels of selenoprotein mRNA will be measured.

In this project, the Sunde lab hopes to better understand species’ nutrition requirements and help protect the environment by formulating diets to meet nutritional needs without releasing excess as animal waste. This year, they hope to get all the genes sequenced. With the involvement of Dr. Sunde’s family members and the help of lab members, Dr. Sunde comments, “This is an example of a real team project.”

IGPNS Recruitment and Poster Session

The Department of Nutritional Sciences held its annual Interdepartmental Graduate Program in Nutritional Sciences (IGPNS) recruitment and poster session this year on March 2nd. IGPNS candidates were able to visit and interact with faculty. Graduate students’ posters were presented and judged by various faculty members and staff. Winners earned prize money to use toward research-related activities.

Photo: Dr. David Eide presenting his lab research poster to visiting graduate students.
The Smith Lab studies alcohol and Fetal Alcohol Syndrome (FAS). This developmental disease causes neurological and facial issues in children. The lab is investigating how alcohol damages the fetus and causes apoptosis, which is cell death in the embryo. The research is focusing on the neural crest, which is a stem cell population. Children affected with FAS have a variability of effects. Smith Lab is interested in the risk factors associated with FAS, and is looking for a correlation between specific genes and the risk factors.

Chickens have been used in this study for a while. Mice have also been used, which is proficient in the “knocked-out genes” procedure. This traditional knock out method allows researchers to inactivate an existing gene and replace it with an artificial piece of DNA. In chicken, it is hard to manipulate and modify the genes. Therefore the lab is unable to test the genes even though they were identified. Dr. Susan Smith then had the idea of using the zebrafish (Danio rerio) model. Zebrafish allows the modification of genes with methods such as morpholinos in which the eggs are injected and the action of the specific gene is blocked.

Dr. Smith completed her sabbatical from August to mid-January at Corvallis, Oregon with Dr. Robert Tanguay at Oregon State University. In her time there, she reproduced the lab work done here at the Smith Lab with chicken and made sure the work was parallel when using zebrafish.

The genes that were related to FAS found in chicken can then be studied in zebrafish. The lab hopes to find a connection between the genes and the target risk factors, and then make a connection to the human genes of people at risk.

Compared to mice and chicken, zebrafish will be harder to care for. The zebrafish babies have to be fed three times a day and adults, two times a day. They cannot be over fed either and need constant care. Moreover, the zebrafish will not be eating simple fish flakes that can be bought at the store because of its high mercury level. The fish will be fed a very specified diet without any heavy metals. The diet will consist of brine shrimp, also known as sea monkeys, and a specially formulated diet which has to be made once a day, every day.

The facility to house the zebrafish has been approved. There will be two racks of fish tanks for several hundred fish. The aquarium has three special filters which are different from the ones found in a typical household. There is a biofilter, a physical filter, and a germicidal filter. These filters should help in keeping the fish living space as clean as possible. An advantage to the facility will be that the lab can control the light cycle. If the fish breeding is on schedule, it will be easier to study due to the fast embryonic development of the fish. According to Associate Scientist, George Flentke, “Timing is critical.”

George Flentke will be in charge of this zebrafish experiment and will be taking care of the fish.
Dietetics and Nutrition Club Updates

The Dietetics and Nutrition Club (DNC) is a student run organization that brings students interested in the field of dietetics and nutrition together. Currently, there are about 80 DNC members. The DNC also helps strengthen the relationship between club members and professionals in the dietetics and nutrition fields. While the DNC provides a social network for students exploring the nutritional sciences and dietetics major, it also provides opportunities for involvement to improve the UW-Madison community and the greater Madison community as well.

Some events that the DNC has been involved with this past semester include:

Porchlight Veterans’ Home
The DNC works at the Porchlight Veterans’ Home several times throughout the year. They either assist with cooking and serving a meal that has been previously planned or one they themselves plan. Volunteers are distributed between cooking tasks, preparing and labeling to-go plates, and conversing with the residents. The veterans often ask about school, the club, and even general nutrition questions. The cooks love the help and always comment on how many more people show up in the dining room compared to normal. In addition to preparing and serving meals, the DNC members have opportunities team up with pharmacy students. While the pharmacy students are doing physical exams, the DNC members provide basic nutrition education.

Meal Preparation
DNC members collaborated with Slow Food UW and the Gluten Free Badgers group to make the family dinner meal in late April. Also, members were involved in the food preparation for a Dane County Farmers’ Market breakfast in February.

Community Work
The DNC has been asked to speak to a variety of groups here on campus. The DNC was asked by the Phi Sigma Pi Co-Ed National Honor Fraternity to give them ideas on how to cook healthy yet keep within the confines of a “student’s budget”. Twenty five to thirty people were in attendance. DNC representatives also spoke to members at the Epilepsy Foundation Heart of Wisconsin.

Publications
The Dish is a student run food magazine here on campus. Some members of the DNC volunteer to write for this. Speaking of writing...one member of the DNC, Rachel Werts, began writing a bi-weekly column for the Badger Herald. “Low Fat Tuesday” features a wide range of nutrition-related topics geared to young adults. Rachel will be graduating this year but two other DNC members will continue to keep the column going.

Nutritional Sciences Job Opportunity
The Department of Nutritional Sciences is looking to hire someone to teach Nutritional Sciences 520 and handle student interaction duties for the fall of 2013. Must be R.D. with masters degree. If not already, the position will be posted soon. Check the UW Human Resources Page at www.wisc.edu or contact the Nutritional Sciences office for more information. Please apply if interested.
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!