Note from the Chair

I bring you greetings from the Department of Nutritional Sciences. Students Nathalie Ly and Molly Morrissey have worked very hard to bring you up-to-date on what is happening in the department. 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 undergraduate and graduate education, 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 the great individuals that are currently in the Department of Nutritional Sciences.

The department is currently undergoing positive changes. We are currently in the process of recruiting a new faculty member to replace Dale Schoeller, who recently retired. We are seeing changes in the way research is being funded and conducted. Metabolism is getting a greater and greater focus. There is also a bigger emphasis on collaboration. This trend is occurring at the college, university, national, and international levels. Faculty including Guy Groblewski, HuiChuan Lai, Sherry Tanumihardjo, and Eric Yen have created strong collaboration networks. Continued on page 2.
Note from the Chair

It is also a time when teaching is going through major changes. ACEND, the Academy of Nutrition and Di- etetics will be requiring a Master’s Degree sometime in the future to maintain RD status. The department has started taking steps towards this with the Graduate Capstone Certificate. The first course is now being taught by Julie Thurlow, and we are receiving excellent feedback. We will keep you informed with updates as we move towards the future.

We are forward looking in our instruction as we are utilizing flipped classrooms and online classes such as those being taught in the Graduate Capstone Certificate program. We are grateful for the knowledge, quality, and innovation constantly provided by Lynette Karls, Michelle Johnson, Julie Thurlow, and now, Makayla Schuchardt. We are also the focal point of the Global Health Certificate on campus that is providing opportunities for students to experience a wider world. It is important that as we look towards the future, we remember the past and why we were created, which was why it was so important that we hosted Emeritus Day inviting both current and former faculty last year and plan to have more in the future. Overall, we have an excellent reputation, do great things, and we want to continue to improve.

In a few months, we will be starting a review of the department which will help steer us even more towards the future. At this time, I would like to thank you for your interest, participation, and involvement in the department. You have choices and we appreciate your choosing us (especially our alumni, as there are numerous colleges and majors to choose from). Our goal is to keep helping the people we serve, especially the students, in the manner that best meets the needs of the future. Enjoy the newsletter. Remember, we are always happy to hear from you, and visit us when you can.

James Ntambi, Department Chair

UW Alumna’s Research Could Lead to Obesity Prevention

By Amber Heiden

On Thursday, April 17th, we welcomed Dr. Hei Sook Sul to speak about her research in lipogenesis at a seminar hosted by the Department of Nutritional Sciences. Dr. Sul discussed the results of her studies on fasting vs. high insulin or fed conditions causing different gene activity, metabolic regulation and lipid synthesis. Her studies could shed light on how to provide therapeutics for prevention of obesity and related diseases like type 2 diabetes, cardiovascular disease, and liver disease.

“Some people work on the brain, what controls the appetite,” Dr. Sul said in discussing the epidemic of obesity. “I am working on a peripheral tissue, adipose tissue, specifically.”

Dr. Sul’s lab at the University of California, Berkeley identify different enzymes that assist in synthesis and lipolysis of fat, such as triglycerides. The lab also analyzes the enzymes under different conditions: some are insulin-fed and others are in a fasting condition.

“Adipose tissue in our bodies is for energy storage; but we become obese if we take in too much energy that our bodies are not using,” said Dr. Sul. Cells in the adipose tissue contain fat, or triglycerides, and they can easily become too large, create more fat tissue, and send fat in the form of fatty acids to other areas of the body like the liver or heart. She compares the balance to the economy.

“What you earn, you spend. If you earn too much and don’t spend, you become rich… rich with energy!” Dr. Sul calls it a “misregulation of energy” and her research shows that an insulin-fed diet, especially one high in carbohydrates, increases fat synthesis, whereas synthesis cannot happen during fasting because there is no energy intake and the body can dispense the stored energy.

Dr. Sul searches for metabolic functions at the molecular level, however, because there is a genetic difference in metabolism rates.

“It’s not just eating less and doing exercise. We have a genetic background [that is] different in everybody,” said Dr. Sul. “Although you eat the same amount of food, how much you use doing the same activities may be slightly different.”

There are many reasons humans are gaining weight, according to Dr. Sul, but this research helps us to fully understand the basic biological elements leading to lipogenesis.

Dr. Sul has been exploring how nutrition affects cell development since she graduated with a PhD from the University of Wisconsin, Madison in 1973. She worked with Hellen Linkswiler in human nutrition and then with Professor Earl Shrago whose work was at the cellular level. She has worked at the Harvard School of Public Health as both an assistant and associate professor from 1984 to 1994 before moving to the University of California, Berkeley where she now holds the Doris Calloway Chair in the Department of Nutritional Sciences and Toxicology.
Notable Alumnus: Faith Ottery

By Molly Morrissey

In the words of Faith Ottery, awarded the first joint MD, PhD in UW’s Department of Nutritional Sciences (1989), “if you’re interested and excited, people join in and help you accomplish so much.” Dr. Ottery is the founder of her own consulting firm and the creator of an integrated concept of nutritional oncology and the standard of nutritional assessment in chronic catabolic and potentially debilitating conditions. She also spent several years leading medical affairs initiatives within a pharmaceutical company in disease-related weight loss and most recently in rheumatology. Ottery was the founding president of the Society for Nutritional Oncology & Adjuvant Therapy (NOAT) and currently holds an Honorary Fellowship in the Native American Center for Health Professions at UW. Her career path has been anything but linear, but the spirit and zeal she brings to all aspects of her life has remained unchanged.

Dr. Ottery knew she wanted to be a doctor in fourth grade, but it wouldn’t be until her senior year of high school—while working at a pizza parlor of all places—that the beginnings of an interest in medical sciences combined with nutrition would begin to sprout. Dr. Ottery developed a peptic ulcer and was prescribed the standard at that time — the “sippy diet:” a bland diet, consisting mainly of measured amounts of milk and cream, farina, and egg treatment consumed at regular hourly intervals. One of the employees told her that if she kept this up, she would develop gallstones – based on his experience years earlier. Six months later, as a UW freshman, that is exactly what happened. Fast forward — with Dr. Ottery attending UW-Madison for her undergraduate, graduate and doctoral degrees. Dr. Ottery says it’s “a significant coincidence” that led to her senior honor’s thesis working with former UW surgeon, Eberhard Mack, known for his research on gallstone formation and dissolution. She subsequently received her PhD from the Department of Nutritional Sciences and credits quality mentors (Dr. Charlie Elson among them) and a vast array of resources for fostering her learning experiences and her dedication to making a difference.

In the past six months, Dr. Ottery’s already busy life has become even more so with the formation of a three-way international business partnership between Dr. Ottery; Hanze University of Applied Sciences in Groningen, The Netherlands, and an IT development enterprise. This partnership, Pt-Global, is a digital translation of Faith’s long standing career in nutrition; a patient interdisciplinary global assessment tool based on pre-eminent clinical and research tool co-created by Ottery in the mid 1990’s, the Scored Patient-Generated Subjective Global Assessment (PG-SGA). The multilingual digital app assessment tool will be launched June 12, 2014, available in several platforms through usual app sources. The patient-generated information with input from healthcare professional, leads dietitians, nurses physicians or other clinicians to an appropriate individualized nutritional intervention approach. Pt-Global depicts the data entry in a visually appealing way that are easily understood by patients. This transparency allows for greater patient empowerment within the healthcare sector. Beyond these uses, it has the potential to become a part of innovative programs for both electronic medical records and Patient Health Records (PHR). Dr. Ottery is the first to admit that she's always been surrounded by people who have helped her achieve success and she is pleased to be returning that mentoring help to Harriet Jager-Wittenaar, PhD, RD of the Hanze UAS. Ottery appreciates the fact that Harriet is energetic, smart, creative, and committed to patient care and making a difference. The duo has worked tirelessly on the app, including an international launch symposium planned for June and additional media events.

What does the future hold for Faith and Pt Global? As always, Faith has already started looking forward and has a clear vision. The PG-SGA has been translated into approximately 20 languages. While the initial app will be launched with English and Dutch, the remainder will follow soon. In addition, Pt-Global is setting up an international research network with an international advisory board.

After meeting for the first time in December 2013 in Groningen, Harriet presented Faith with a plaque including the following words: “Some people want it to happen, some wish it to happen, others make it happen.” Dr. Ottery is that special kind of person who makes things happen while fostering this same spirit within others.

For more information, visit ptglobal.org
ADay in the Life of IGPNS Student, Elaina Jones

Twenty four hours are not enough for IGPNS student Elaina Jones. Elaina is a second year graduate student here in the Department of Nutritional Sciences. She received her undergraduate degree from Ohio State University in Food Science and Nutritional Biochemistry. Currently, she is working on obtaining a PhD in Nutrition with an emphasis in biochemical and molecular nutrition.

Along with taking rigorous science courses, Elaina also conducts research in Dr. Guy Groblewski’s lab where they study the cellular mechanisms of acinar cells. Acinar cells make up the exocrine pancreas and are responsible for the synthesis, storage, and secretion of digestive enzymes that are needed for the breakdown of food. A healthy cell is highly polarized and highly differentiated; however, a damaged cell has a loss of polarity and dedifferentiates. Once a cell is damaged, cancer could be the next step.

Results show that the endosomal pathway disappears rapidly in response to damage; however, restoring D52, a protein discovered by Groblewski, restores the endosomal pathway. When the pathway returns, the cell returns to a healthy state. The lab is trying to find out why and how the pathway returns with the introduction of D52, and how this affects redifferentiation. Finding the answers could allow for the introduction of therapeutic treatments for diseases of the exocrine pancreas, pancreatitis and pancreatic cancer.

Outside of school and research, Elaina divides her time between tutoring for the UW Athletic Department, volunteering on the board of Savory Sunday soup kitchen, and playing hockey on the graduate students’ intramural hockey team.
This year marks the 125th anniversary of the College of Agricultural and Life Sciences at the University of Wisconsin–Madison. In honor of the occasion, CALS’ presented an arbitrary list in their Grow magazine of a dozen paradigm shifts, great discoveries and shining moments at CALS. Here we present a great discovery made by emeritus professor of nutritional sciences, Dale Schoeller, and progress in obesity research made by nutritional sciences chair, James Ntambi and nutritional sciences professor Eric Yen.

The Skinny on Obesity

In 1982, a discovery by Dale Schoeller, now a CALS emeritus professor of nutritional sciences, turned the scientific community’s understanding of obesity on its head.

Previously, it was believed that obese people had a low-energy requirement, meaning they burned off calories more slowly than others. But when Schoeller, who was at the University of Chicago at the time, applied a technique known as the doubly labeled water method to measure human energy expenditure, he proved this pervasive hypothesis false.

“This group actually had the same energy requirement, or even a little bit higher, but had been under-reporting their caloric intake on surveys,” says Schoeller.

This paradigm shift changed obesity researchers’ assumptions, helping to point many research projects in the proper direction.

Over the past two decades, scientists—including a number from CALS—have also made great progress understanding the role that genes play in obesity. Biochemist James Ntambi, for one, cloned and studies the SCD-1 gene, which produces an enzyme critical in how the body stores fat. Mice that lack SCD-1 can eat a high-calorie, fat-laden diet but put on virtually no weight.

Fellow biochemist Alan Attie discovered the gene responsible for diabetes susceptibility in obese mice, and nutritional sciences professor Eric Yen is probing the effects of MGAT, a gene involved in energy metabolism.

While drug companies seek a weight loss pill based on this kind of work, it’s heartening that obesity rates seem to have leveled off—though at 35 percent of the U.S. adult population. “People are starting to pay attention,” says Schoeller. “They are choosing a healthier lifestyle—walking more and eating better.”
Scientists at UW-Madison have made a discovery that, if replicated in humans, suggests a shortage of zinc may contribute to diseases like Alzheimer’s and Parkinson’s, which have been linked to defective proteins clumping together in the brain.

With proteins, shape is everything. The correct shape allows some proteins to ferry atoms or molecules about a cell, others to provide essential cellular scaffolding or identify invading bacteria for attack. When proteins lose their shape due to high temperature or chemical damage, they stop working and can clump together — a hallmark of Parkinson’s and Alzheimer’s.

The UW researchers have discovered another stress that decreases protein stability and causes clumping: a shortage of zinc, an essential metal nutrient. Zinc ions play a key role in creating and holding proteins in the correct shape. In a study just published in the online Journal of Biological Chemistry, Colin MacDiarmid and David Eide show that the gene Tsa1 creates "protein chaperones" that prevent clumping of proteins in cells with a zinc shortage. By holding proteins in solution, Tsa1 prevents damage that can otherwise lead to cell death.

For simplicity, the researchers studied the system in yeast — a single-celled fungus. Yeast can adapt to both shortages and excesses of zinc, says MacDiarmid, an associate scientist. "Zinc is an essential nutrient but if there's too much, it's toxic. The issue for the cell is to find enough zinc to grow and support all its functions, while at the same time not accumulating so much that it kills the cell."

Cells that are low in zinc also produce proteins that counter the resulting stress, including one called Tsa1. The researchers already knew that Tsa1 could reduce the level of harmful oxidants in cells that are short of zinc. Tsa1, MacDiarmid says, "is really a two-part protein. It can get rid of dangerous reactive oxygen species that damage proteins, but it also has this totally distinct chaperone function that protects proteins from aggregating. We found that the chaperone function was the more important of the two."

"In yeast, if a cell is deficient in zinc, the proteins can mis-fold, and Tsa1 is needed to keep the proteins intact so they can function," says Eide, a professor of nutritional science. "If you don’t have zinc, and you don’t have Tsa1, the proteins will glom together into big aggregations that are either toxic by themselves, or toxic because the proteins are not doing what they are supposed to do. Either way, you end up killing the cell."

While the medical implications remain to be explored, there are clear similarities between yeast and human cells. "Zinc is needed by all cells, all organisms, it's not just for steel roofs, nails and trashcans," Eide says. "The global extent of zinc deficiency is debated, but diets that are high in whole grains and low in meat could lead to deficiency."

If low zinc supply has the same effect on human cells as on yeast, zinc deficiency might contribute to human diseases that are associated with a build-up of "junked" proteins, such as Parkinson’s and Alzheimer’s. Eide says a similar protective system to Tsa1 also exists in animals, and the research group plans to move ahead by studying that system in human cell culture.
Hunger and obesity go hand in hand. So what do changes to food availability mean for obesity prevention? The Farm Bill was passed, cutting $8.6 billion over the next ten years to the Supplemental Nutrition Assistance Program (SNAP). With this cut, how are Americans going to beat hunger and obesity?

SNAP is the largest nutrition assistance program in the domestic hunger safety net. Currently, about 47 million people rely on SNAP benefits each month. Programs like SNAP give low-income populations the assistance and resources to feed their families. However, SNAP benefits to buy food only tackle the hunger problem. The obesity and undernutrition problems remain.

President of the Academy of Nutrition and Dietetics, Dr. Glenna McCollum says, “Healthful eating is not intuitive, but rather a learned skill.”

In order to reduce the problem of obesity and undernutrition, education on making healthy food choices is important. Healthful eating is made up of many factors including understanding nutrition labels, knowing how to store and cook food properly, and having access to healthy, affordable food.

SNAP-Education provides nutrition education to help many limited resource families and individuals make healthy food choices and spend their food money wisely. Wisconsin Nutrition Education Program (WNEP), which includes SNAP-Ed, is a program run by UW Extension Family Living Programs (FLP) and is funded by federal, state, and local dollars. SNAP-Ed funds programming in 68 counties of Wisconsin’s 72 counties.

SNAP and SNAP-Ed are critical programs to help improve the health of the nation. Both programs work wonderfully together. SNAP-Ed is a great tool to help low-income families stretch their food dollars, while choosing the foods with the greatest nutrition values. SNAP-Ed is available in every state and helps more than six million people; however, this six million is only a small fraction of millions of people who struggle to eat nutritious diets on a limited budget.

Our nation is already paying the price for neglecting the importance of food and nutrition. Obesity places a financial burden on many families, our economy, and our healthcare system. Programs like SNAP make nutritious foods more affordable for low-income families. Without access to healthy, affordable food and education to promote healthy eating, the nation will suffer financially in trying to cure avoidable diseases such as obesity.
Creating a Healthier World

What do millennials want? The popularity of a new CALS-based program addressing global health concerns offers at least one answer.

By Robin Mittenthal
This article was obtained through the College of Agricultural and Life Sciences from the Spring 2014 issue of Grow, Wisconsin's Magazine for the Life Sciences.
Photos contributed by students and researchers unless otherwise noted.

You can’t spot them right away—they’re hidden in plain sight, often disguised as majors in the life sciences—but there are thousands of undergraduates on the University of Wisconsin–Madison campus who, in terms of their future careers, consider themselves “pre-health.”

What are their reasons? For some students, the motivation is acutely personal. As a child, Kevin Cleary BS’13 (biology) felt an urgent need to help as he watched his father deal with recurrent brain tumors. “By age 11, I knew I had a future in health care,” says Cleary. Many others aren’t yet sure what role they will play, but they are eager for guidance on how to use their majors to address an array of global problems including hunger, disease, poverty and environmental degradation. Says senior biochemistry major Yuli Chen, “I want to make an impact on people, and I believe that every person has the right to be provided basic necessities such as clean water, education and food.”

For much of the past century, young people seeking to address health-related suffering may have felt relatively limited in their options. Most considered medical school (still the gold standard to many), nursing school or other familiar allied health occupations that are largely oriented toward addressing disease after it occurs. In recent years, however, health experts worldwide have placed an increasing emphasis on the importance of prevention in achieving health for the largest possible number of people. This was illustrated at UW–Madison in 2005, when the University of Wisconsin Medical School changed its name to the School of Medicine and Public Health, offering the following reason: “Public health focuses on health promotion and disease prevention at the level of populations, while medicine focuses on individual care, with an emphasis on the diagnosis and treatment of disease. Ideally these approaches should be seamlessly integrated in practice, education and research.”

The founding in 2011 of the interdisciplinary Global Health Institute (GHI), a partnership of schools, colleges and other units across campus, broadened the university’s approach to health still further:

“We view the health of individuals and populations through a holistic context of healthy places upon which public health depends—from neighborhoods and national policies to the state of the global environment. This approach requires collaboration from across the entire campus to address health care, food security and sustainable agriculture, water and sanitation, environmental sustainability, and ‘one health’ perspectives that integrate the health of humans, animals and the environment.”

Demand by UW students for educational options built around this broad concept of health had been growing for some time. Before the creation of the GHI, an Undergraduate Certificate in Global Health was introduced to offer students an understanding of public health in a global context. The certificate explores global health issues and possible solutions—and shows students how their own majors and intended professions might make those solutions reality. Although administered from CALS and directed by CALS nutritional sciences professor Sherry Tanumihardjo, the certificate accepts students from across campus and highlights ways in which teachers, engineers, farmers, social workers, journalists, nutritionists, policy makers, and most other professions can play a role in global health. Funding is provided through the Madison Initiative for Undergraduates, grants and private donations.
Creating a Healthier World cont.

Earning the certificate requires completion of core courses focusing heavily on agriculture and nutrition, the importance of prevention and population-level approaches in public health, and the role of the environment in health. Students also complete relevant electives (examples: women’s health and human rights, environmental health, international development), and—most transformative for students—a field course, usually a one- to three-week trip either abroad or to a location in the United States where a particular global health issue is being addressed by one or more local partner organizations in ways specific to the place and the people who live there.

Although the program is young, it already has made an impressive impact on campus. A few statistical highlights (as of January 2014):

- Nearly 400 declared students and 250 graduates drawn from more than 80 majors across campus.
- More than 500 students completed intensive, faculty-led small-group field courses either in the U.S. or abroad. More than 60 others have completed individualized experiences.
- 2014 will see more than 20 field courses spanning 14 countries on four continents.

Program alumni are pursuing careers in global health:

- 30 students went on to graduate programs in public health, medicine, nursing, nutrition and related fields.
- 34 others have taken jobs with the Peace Corps, Americorps, and Teach for America. 13 are addressing health disparities with Wisconsin’s Department of Health Services or county-level agencies around the state.
- In exit surveys, 82 percent of alums said that the certificate was either “important” or “very important” in shaping their view of health and well-being in the world.

We are pleased to present here a few compelling stories from the program’s field courses. We hope they convey at least some of the excitement students express at combining the tools and practices of diverse majors with cultural competency, language skills and key concepts in public health.

Linking Agriculture and Nutrition in Mexico

Many of the world’s poorest and most vulnerable people never see a trained medical specialist—but they all need to eat. Having regular access to nutritious food is at least as important for their health and well-being as improving local medical care.

One of our best tools for getting this message across is a field course titled “Linking Agriculture and Nutrition in Mexico,” for which Tanumihardjo partners with a rotating set of CALS agronomy faculty to lead groups of students to the International Maize and Wheat Improvement Center in Texcoco, Mexico. Better known by its Spanish acronym, CIMMYT (pronounced “SIM-it”), the center focuses work with maize (corn) and wheat on breeding and production methods aimed at supporting the needs of small-scale or subsistence farmers. Unlike American farmers who use such inputs as machinery, fuel, fertilizers and pesticides to grow large amounts of one or two crops for processing, animal feed and export, subsistence farmers grow most or all of the food they eat themselves. For subsistence farmers, improving both yield and nutritional content is critical, but improvements must come without increasing reliance on costly inputs.

Students spend an intensive week learning about the challenges, opportunities and health stakes that exist at the intersection between agriculture and nutrition. A plant breeder explains efforts to increase the vitamin content of corn. Farmers show students their crops and talk about how their families use them to prepare meals. A tour of a local tortilla factory includes discussion of which local varieties of corn are suitable for tortillas. Visits to the National Institutes of Health of Mexico shed light on Mexico’s severe obesity problem. Even visits to restaurants include discussion of traditional versus “modern” dishes, portion sizes, nutrient content and the sources of different ingredients. Visits to sites such as the amazing pyramid complex at Teotihuacan and the Anthropology Museum in Mexico City help students appreciate Mexico as a culturally distinct place with natural and human-made beauty that Mexicans are proud of and working to preserve.
Creating a Healthier World cont.

The course has had a transformative effect on many of the some 40 students who have taken it so far. For some, the trip resulted in a major change of direction. “I was lost at UW–Madison as a freshman general biology major,” says Nicole Bacheller, who traveled to Mexico in 2011. “Visiting CIMMYT helped me see connections between my interest in plants and my desire to support community health. I changed my major to plant pathology, confident that I could study biology and save lives without being in a medical field. I have since focused my pathology work on questions related to international food security.”

Says Stephanie Kroll BS’12, who took the trip as a genetics major, “The course was like a shot of enthusiasm that I needed to pursue public health.” She is now pursuing a master’s degree in public health at the UW School of Medicine and Public Health.

**Food Systems in Ethiopia**

Most Americans who have any impression of Ethiopia think of televised reports of famine from the mid-1980s—images that conveyed hopelessness and dependency. But the six students (four of them from CALS) who took “Biodiversity, Health and Food Security in Sidama, Ethiopia,” a course launched in 2013, had a life-altering experience of a country that is far more diverse, vibrant and invested in its own sustainable development than they could have imagined.

The course is led by Heidi Busse, a vascular surgery researcher, and Girma Tefera, a professor and vascular surgeon (and a native Ethiopian), both of them with the School of Medicine and Public Health. Ethiopia struggles with a severe shortage of medical professionals, and Busse and Tefera are involved in ongoing efforts to address that. But their understanding of the root causes of many medical conditions motivated them to create a field course emphasizing how such nonmedical interventions as improved agricultural productivity and access to clean water also can support health.

Students on this course spend two weeks in an agricultural region named for the Sidama people. Though most farmers there still practice subsistence agriculture, Busse says that “the landscape and communities in Sidama are changing rapidly, largely due to external factors that impact local economic, environmental and social and household structures. These changes are often guided by market goals that may conflict with the values of local communities and are not ecologically sustainable.”

One factor driving change is global demand for coffee, which can be grown either in large, single-species plantations or in multipurpose agroforestry systems that also produce timber, food crops, fodder for livestock and medicinal plants. The large plantations produce more coffee and profits, but they require more water, fertilizer and other resources than smaller, traditional systems. Maximizing human and environmental health requires Ethiopians to perform a very intentional balancing act between traditional and modern production systems.

To explore how Sidama residents are finding that balance, students meet with representatives from a wide variety of governmental, nongovernmental and community groups. One is the Fero Coffee Farmers Cooperative, which has more than 4,000 farmer members. During a tour and coffee ceremony students learn how co-op growers integrate coffee production with growth of other crops (Busse calls these growers the “elders of permaculture”) and also how the group is working toward a balance of male and female members. These and other lessons reinforced themes of community empowerment and “asset-based community development,” which focuses on how existing skills, resources, institutions and other strengths can be organized for maximum effectiveness.
Students also participated in a service project with Common River, a local NGO. As part of it, students under the guidance of Alex McAlvay, a UW doctoral student in botany, local elders and other community members investigated the distribution, abundance, diversity and uses of local medicinal plants. Their work resulted in the Handbook of Sidama Traditional Medicinal Plants, a 40-page book that “formalizes” a large body of knowledge that had been passed along over generations but was never put on paper. With luck, it may help justify the preservation of these plants and their habitats in the face of a regional loss of biodiversity and related cultural change.

Besides the handbook, Lennea Rylander BS’13 (agricultural and applied economics) worked on a blog about the Ethiopian coffee industry for the Madison-based fair trade coffee roaster Just Coffee. “Visiting Ethiopia makes the world feel both smaller and larger,” she says. “On the one hand, Ethiopia is no longer some far-off place on the other side of the world. On the other hand, learning so much about a country makes me think about the rest of the world and how big it is. There are endless possibilities to learn and grow from other cultures in other countries throughout my life.”

Wackett and another certificate student, Beau Trapp, applied for and received a Wisconsin Idea Fellowship from UW’s Morgridge Center for Public Service to pursue their work. Originally the two had planned to work in Nicaragua but, networking through Rodriguez, they found more receptive partners in El Salvador. They ended up conducting four CPR classes in San Salvador for a total of 165 physicians, residents and medical students. Prior to, during and after their trainings, Wackett says, “We met with physicians and just talked.” Before starting, they asked their local contacts what they felt the CPR-related need was. “We wanted to get an idea of how effective our training would be because of the cultural barriers, the language barriers—stuff like that,” Wackett says.

Feedback on their classes was uniformly positive, but to them the courses (which they ran with equipment purchased with Wisconsin Idea Fellowship funds) highlighted the scarcity of both equipment and skilled trainers. “We learned that most people had in fact had a CPR course at some point, but had not had refresher courses or learned about changes in CPR protocol,” says Wackett. “The barrier is financial—one CPR class costs as much as one month’s tuition at the best private medical school in El Salvador.”
Wackett expects that those discoveries will help shape his future visits to El Salvador. “Even more than training in CPR, they need trained trainers,” says Wackett, who is now enrolled in both an M.D. and a public health program at the UW School of Medicine and Public Health. “If we can help create those people, then we’re not needed so much. They also need low-cost equipment for both training and actual CPR. What we use here is not necessarily appropriate for them, but other things could work.”

Wackett is one of more than 70 students who have designed their own field experiences and worked with the program’s executive committee to get them approved. Through internships, research projects and study tours, they have explored subjects as diverse as human trafficking, the management of refugee camps, and the prevention of asthma and allergies for residents of low-income housing. These unique experiences require a disproportionate amount of work by students, certificate staff and diverse partners on and off campus, but they clearly are having an outsized impact on the development of the students involved.

Creating a Healthier World cont.

Not all students have the time or money to travel to far-flung places. Nor must they in order to develop what DiPrete Brown calls “local-to-global awareness.” To a greater or lesser extent, any health issue that you might find abroad is manifested in the United States, often in or near Madison.

As the global health administrative program manager, I have partnered for two years with Gayle Coleman BS’77, a nutrition program specialist with UW-Extension, to run a course focused on Wisconsin’s USDA-funded Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). WIC is a public health intervention that is active in communities in every state.

Unlike the Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps), WIC does not allow participants to buy whatever food they want, but instead provides vouchers or checks that can be redeemed at grocery stores for foods deemed particularly healthful, including whole-grain breads, beans, fruits and vegetables. Enrollment in WIC is limited to low-income pregnant and postpartum women, infants and children under age five because this population is particularly vulnerable to malnutrition. In Wisconsin alone, WIC provides food to more than 100,000 women and children a month.

Our fall semester class covers the history and administration of WIC and related programs, a discussion of poverty, and cultural competency exercises to prepare students for effective interactions with WIC clients. Each student also gets a small amount of money for a WIC-like shopping experience used as the basis for discussion.

Global Health at Home

Pete’s Fruit Market in Milwaukee has pioneered best practices in helping food assistance recipients purchase fresh produce.
Creating a Healthier World cont.

In January students travel to relevant locations in southern Wisconsin, talking with WIC staff and participants and integrating their findings for a final presentation to WIC staff in Wisconsin’s Department of Health Services. WIC director Patti Hauser and several of her staff serve as guest instructors for the course and facilitate access to key parts of the WIC program.

While participants join WIC for the food benefit, the program also provides or connects them with such public health services as vaccinations, basic physical exams, blood lead testing and early literacy initiatives. When students visit WIC clinics (where women and children apply to join WIC and receive health screenings and benefit checks) they get to see and talk with a diverse group of administrators, nurses, dieticians, translators and other professionals in addition to WIC clients. Visits to food pantries, soup kitchens, grocery stores and other food-related sites highlight how WIC fits into the bigger picture of food security.

We’ve run the course twice so far and intend to have a different emphasis each year. Last year we learned about an important—and resolvable—barrier impeding some clients from using their full fruit and vegetable benefit. It concerns how grocery stores price produce. If apples are $1.59 a pound and you have exactly $10, how many pounds can you buy? Some WIC clients either under-purchase or don’t buy apples at all rather than exceed the funded amount. Pete’s Fruit Market, a WIC-friendly vendor in south Milwaukee, addresses the problem by packaging produce in even-dollar amounts, a practice that could be made more widespread.

More recently we investigated a concern that surfaced last year, when some WIC clients reported that cashiers didn’t know what foods WIC clients were allowed to buy or were not well versed in processing WIC transactions. Through interviews and observation, students were able to confirm those reports and offer WIC staff the data they need to convince some large grocery stores to use the interactive, Wisconsin-specific cashier training WIC provides rather than generic materials produced at their corporate headquarters.

As close as this experience is to campus, this course and others like it can still teach students new things about seemingly familiar places. Says Sara Mutnick, a certificate student and WIC course alum who graduated in 2013, “I learned how not having the basic necessities like a secure home, a place to sleep and enough food to eat makes a really big impact on health.” With respect to completing her field experience in Wisconsin rather than somewhere more exotic, Mutnick says, “You don’t have to go that far to make a difference.”

Robin Mittenthal works in the CALS Department of Nutritional Sciences as a global health administrative program manager. Elyse Guizzetti, a junior nutritional sciences major, contributed to this story.
Capstone Certificate

Interested in advancing your career?

Want to earn some Continuing Education Units? Want to earn Graduate-Level credit?

Thanks to the University of Wisconsin's innovative new Capstone Certificate Program in Clinical Nutrition, you can do all three! Offered completely online, this program makes it possible for working professionals to advance their knowledge and earn valuable credentials – from anywhere.

“Being involved in this program demonstrated my commitment to professional development. It was flexible and allowed me to both work and take courses simultaneously which I believe greatly strengthened my application. I received an appointment to a very competitive internship – my 1st choice - thanks to this program!”

As part of this Graduate-Level Capstone program, UW-Madison's Department of Nutritional Sciences will be offering two online classes this summer: Critical Care and Nutrition Support (NS 650) and Advanced Pediatric Nutrition (NS 651). Each class is 8 weeks long and worth 3-credits.

NS 650 will use an evidence-based medical approach and clinical scenarios to provide an in-depth examination of: the metabolic demands of specific critical illnesses and how they affect nutritional needs, advanced clinical assessment of the critically ill patient, safe and effective delivery/management of nutrition support throughout all stages of life, and more! This is a great course for: those who wish to brush up on nutrition support therapy skills, new practitioners, or those preparing for certification exams!

NS 651 provides training in advanced clinical assessment and medical nutrition therapy in a variety of pediatric diseases, as well as in-depth study of feeding difficulties, the preterm infant, and critical care from infancy to adolescence. Nutritional requirements are examined, and issues such as failure to thrive, diarrhea, allergies, and eating disorders are addressed. This course serves as great preparation for those interested or practicing in this specialty area of practice, or those preparing for exams that require advanced levels of knowledge in pediatric nutrition!

Whether you just want to take one class or complete the full 12 credit Capstone in Clinical Nutrition program, these online courses are a great way to get ahead in your career this summer. Plus, any credits earned in the program can easily be applied to a master's program in nutritional science.

For more information, including application requirements and full course descriptions, please visit: www.nutrisci.wisc.edu/GradProgram/grad_capstone.html

Undergraduate Excellence Award

Congratulations to Kali Deans and Abigail Studinger!

Kali, majoring in Nutritional Sciences, and Abigail, majoring in Dietetics, are both being recognized with a Harvey M. Meyerhoff Undergraduate Excellence Award for Leadership, Service and Scholarship.

This summer, Kali will work with Dr. Eugene Chang at the University of Chicago as part of an American Gastroenterological Association Student Research Award. Abigail is graduating this spring and will be joining the UW-Madison Physician Assistant Program's Class of 2016.
Nutritional Sciences Digest

Badger Alley Bistro

At A Glance

What: Badger Alley Bistro

Where: Badger Alley, Camp Randall

When: Badger Alley Bistro is open M-Th 7am-7pm; F 7am-5pm.

Why: Badger Alley Bistro aims to offer “whole food nutrition for sustained energy throughout your day” to students, staff and Camp Randall visitors.

How: Follow @BadgerBistro on Twitter before visiting to check out the soup of the day and be sure to ask the Bistro Dietitian any nutrition questions you may have during your visit!

Brooke Steigauf can tell you that “serving lunch to a football player is very different than serving lunch to a wrestler.” Steigauf is a senior majoring in Dietetics with a special interest in sports nutrition who works at Badger Alley Bistro, thanks in part to learning of the opportunity through her professors within the Department of Nutritional Sciences. She says her favorite part about working at the Bistro is being able to talk about the unique nutritional requirements of athletes.

Badger Alley Bistro opened in late January and is located inside Badger Alley within Camp Randall Stadium. All of the menu items are created by Jessica Mottilla—Registered Dietitian and manager of Badger Alley Bistro—with calorie, protein and saturated fat contents for each item displayed. Student athletes, coaches and athletic staff frequent Badger Alley Bistro, but students and visitors to Camp Randall stadium are also encouraged to stop by for a healthy meal or snack.

Find yourself by Camp Randall during breakfast or lunch time? According to Steigauf, the All-American Burrito is by far the most popular breakfast item on the menu with the BBQ Melt and Tuna Melt as fan favorites for lunch.

Before venturing to Badger Alley Bistro, follow @BadgerBistro on Twitter to find featured soups of the day, special offers and new creations at the Bistro!

Dale Schoeller Symposium: Energy Balance & Obesity Prevention

Much to his surprise, Dale Schoeller turned 65 years old in June. He decided to transition to Professor Emeritus and maintain an active research lab. This second coming of age provided an opportunity to summarize the body of research that has grown from his work and that of the graduate students that have worked with him. The theme of this symposium was human energy balance and the health consequences that arose from errors in energy balance. Speakers during the morning session were largely those who have interacted with Dr. Schoeller during their training and have gone on an academic career. Each focused on energy balance in a different age group from birth to old age. In the afternoon, speakers presented recent and active research projects with an emphasis on the prevention of obesity. This body of research provided an up to date summary research by a large cadre of investigators in a format that was informative and provided fodder for a serious contemplation of human obesity, its causes, consequences and public health approaches to solutions.
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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