

2010

HNFE Happenings

A Message from the Department Head

Greetings and welcome! Having just finished my first year as department head, I am pleased to tell you that the Department of Human Nutrition, Foods and Exercise is thriving. We are enthusiastically expanding our mission to promote health and wellness with an emphasis on scientific discoveries that can be translated into practical applications, service to the community, and quality education for students.

We are proud to share our new mission statement, which is guiding us to reach the goals set forth by the College of Agriculture and Life Sciences and the university, and to position the department for growth.

HNFE's mission is:

To discover, translate, and disseminate health-related advances in the nutrition, food, and exercise sciences.

Our goals for teaching, research, and Extension are to:

- *Provide exceptional training and programs for our students.*
- *Contribute significantly to scientific progress through discovery in basic and clinical research and translational science.*
- *Foster innovation across all three missions.*

Our faculty has grown with new members whose teaching and research focus on obesity and with development of human clinical and behavior research at Virginia Tech Riverside, located next to the new Virginia Tech Carilion School of Medicine in Roanoke. Our undergraduate student population is currently the largest in the college, with almost 800 undergraduates and 49 graduate students. We have expanded within Virginia Tech's Corporate Research Center with labs and offices in the new Integrated Life Sciences Building 23 and Building 15. To meet the needs of our students, we are strengthening our undergraduate and graduate curricula to integrate new research areas with teaching.

Because HNFE operates in multiple locations, good communication is vital to our department. In order to recruit new students and faculty, we've given our department a refreshing new look with a redesigned and updated website: www.hnfe.vt.edu.

Feel free to visit our new website and to visit us. We welcome your comments and input as we move toward an exciting future.

Best wishes for a happy, healthy 2010.

Susan Hutson, Department Head



Susan Hutson

Visit us on the web at www.HNFE.vt.edu



The screenshot shows the website header with the Virginia Tech logo and the text "College of Agriculture and Life Sciences". A search bar is visible with the text "Search Virginia Tech" and a "GO" button. Below the header is a navigation menu with "QUICKLINKS" and a list of links: "Department of Human Nutrition, Foods and Exercise", "About Us", "Research", "Extension and Outreach", and "Undergraduate Academics". The main content area features a large photograph of a group of people, including a woman in a white lab coat, and the text "Department of Human Nutrition, Foods and Exercise" overlaid at the bottom.

Undergraduates Prepare for Evolving Roles

The professional world is changing, and so are undergraduate courses in HNFE! With new and improved coursework, HNFE graduates will be ready to impact the changing world of communication, technology, economic challenges, and sustainable food systems.

All HNFE students enroll in a senior seminar to learn effective strategies for locating, critically assessing, and communicating research. Students select a topic and present a seminar, write a review paper, and create a lay article. The course prepares our students to more effectively apply research as physical therapists, doctors, dietitians, researchers, or whatever their chosen field.

Solutions to improving nutrition and health are often economic in nature. To better understand the economic aspects of health, many students are taking a new course: Food, Nutrition, and

Health Economics. Students prepare to influence health outcomes through an understanding of how advertising, food prices, income, time constraints, and governmental policies affect consumer choices. The course is taught by **George C. Davis**, an economist who holds a joint appointment in the Department of Agricultural and Applied Economics and HNFE.

Dietetic students are also mastering new technology and communication approaches. In the Communicating With Food course, taught by **Heather Cox**, instructor, students develop podcasts aimed at particular target populations. **Susan Clark**, associate professor, has guided students in designing electronic portfolios whereby their work is displayed electronically for future employers to view. Students successfully presented their work at various national conferences in the past year.



HNFE students use a variety of resources to prepare themselves for evolving communication and technology, such as Innovation Space – a Virginia Tech multimedia center.

Extension Faculty Studying Nutrition in Children's Menus

While caring for her first child, Extension specialist and Associate Professor **Elena Serrano** noticed that children's food options at restaurants were limited: most menus looked the same and offered little in terms of healthy choices. This inspired Serrano to analyze the nutritional content of children's meals, interview restaurant managers, and conduct focus-group discussions with parents.

Serrano and her staff surveyed every restaurant in Blacksburg that offers a children's menu and performed a nutrient analysis of all meals – a total of 120 different meal combinations – by purchasing the food, dissecting and weighing it, then entering the information into a dietary analysis software program. Cooking methods, oils, and ingredients were all considered.

What she found was surprising: fast-food restaurants have significantly better choices than nonfast-food restaurants. They offer smaller portion sizes and healthier side items besides french fries – like apple slices and mandarin oranges. As a result, their meals are lower in calories, total fat, and saturated fat.

To better understand different influences in children's menus, Serrano and her lab assistants interviewed restaurant managers of several nonfast-food restaurants. Although nutrition was not a major concern of managers, they indicated that they would consider making changes to menus if they were cost-effective and convenient. Serrano's research team has also been conducting focus-group discussions with parents about their attitudes toward children's menus when dining out, considering factors like nutritional value, cost, and their children's preferences.

Others contributing to the study are **Virginia Jedda**, **Stephanie Riviere**, **April Payne**, **Kim Guess**, and **Divya Mohan**.

The goal of Extension and outreach is to put knowledge to work and to disseminate research to the community. Serrano hopes her results will do just that: reach the Blacksburg community, and in turn, improve the quality of children's menu offerings, and the health of children in Virginia.

Does Water Consumption Prevent Weight Gain?

Does strength training prevent diabetes? What behaviors most impact our weight? These are some of the questions that Associate Professor Brenda Davy and her team of graduate students are answering.

Increasing water intake is widely thought to support weight loss, yet there is surprisingly little data supporting the practice. Prior research has demonstrated that water drinkers eat fewer calories than nonwater drinkers, and that sweetened beverage consumption is associated with weight gain and obesity. A study conducted in **Brenda Davy's** Laboratory for Eating Behaviors and Weight Management, led by former graduate student **Emily Van Walleghen**, found that older adults consume fewer calories when given approximately 2 cups of water prior to a laboratory test meal. Then the group, led by graduate student **Elizabeth Dennis**, found that adding about 2 liters of water to a low-calorie diet led to approximately 2 kg greater weight loss than a low-calorie diet alone. Graduate student **Jeremy Akers**, assisted by undergraduate student **Rachel Cornett**, is researching if this weight loss can be maintained long-term by continuing the added water intake (along with increased physical activity, daily self-weighing, and increased fruit and vegetable consumption).

Davy is collaborating with colleagues in HNFE (Professor **Janet Rankin**, Associate Professor **Elena Serrano**, Associate Professor **Paul Estabrooks**, and Professor **Kevin Davy**) and in Civil and Environmental Engineering (Professor Andrea Dietrich and Marc Edwards, Charles Lunsford Professor) to develop



Elena Serrano and Brenda Davy host a regular feature as the food, wine, and health enthusiasts for the weekly "Talk at the Table" radio show on WUVT (90.7 FM).

the "Water for Health ICTAS Center of Excellence." This initiative will position Virginia Tech as the leader in research on water infrastructure, health, and safe drinking water challenges.

Davy received her Ph.D. from Colorado State University in 2001 and has been at Virginia Tech since 2003. In addition to these projects she co-hosts a segment on "Talk at the Table" radio show on WUVT (90.7 FM) with Elena Serrano – a program that reviews local restaurants and other food-related venues and offers insight on food, wine, and health. As a member of the dietetics faculty in HNFE, she also serves as the instructor for the spring semester of Medical Nutrition Therapy.



Higher Education Challenge Grant

Associate Professor **Susan Clark** was awarded the U.S. Department of Agriculture's Higher Education Challenge Grant for her proposal, "Restoring Community Foodsheds" – a project that will establish a new interdepartmental minor in the College of Agriculture and Life Sciences. This innovative minor will blend academic experiences with real-life learning opportunities. Students will practice organic gardening, deliver and serve their produce to the university's dining services, work with Virginians in local gardens, and participate with the nonprofit humanitarian organization Heifer International.

Food and Health: Researching the Connection in HNFE

Cancer, chronic disease, and diet are critical areas of research in our department and in the world. How do foods cause and/or prevent disease? This question is certainly on the minds of many who seek healthier habits to ensure long-term health. The research of faculty members **Young Ju** and **Bill Barbeau** explores how foods and disease are linked.

Young Ju, assistant professor, and collaborator **Rob Grange**, associate professor, are studying the mechanisms responsible for breast-cancer-related muscle wasting and hope to expose potential treatments. More than 30 percent of breast cancer patients will experience cachexia – a syndrome characterized by severe muscle wasting that often results in death. Ju and Grange are currently using animal models to investigate the characteristics of the syndrome and will eventually explore whether dietary intervention could be used as a possible treatment.

Ju, in collaboration with Kevin Zhou at Wayne State University, has evaluated fruit and vegetable extracts and their effects on various types of human breast cells and tumors. After testing 422 plant extracts and components, they found that a particular fruit extract affects advanced stages of breast cancer. Ju's research seeks to determine what form and amount is most effective in safely preventing and treating cancer in conjunction with other treatments.

While whole soy has been shown to lower cholesterol and reduce the rate of heart disease, there is some concern about the negative effects of processed forms that contain

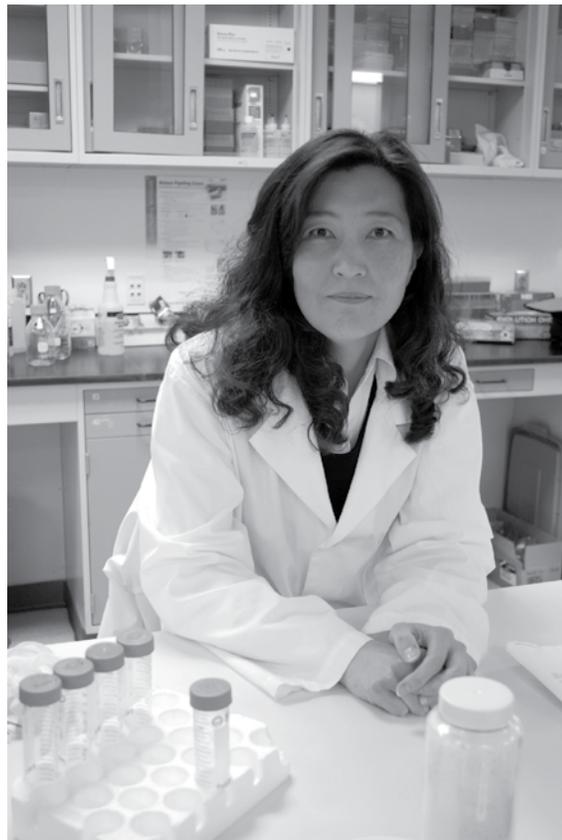
isoflavones. Ju and William G. Helferich at the University of Illinois at Urbana-Champaign have found that one soy isoflavone stimulates breast tumor progression and reverses the effects of breast cancer treatment drugs in animals.

These studies were supported by the American Institute for Cancer Research and the National Institute on Aging/University of Illinois at Urbana-Champaign. HNFE researchers will continue to study the effects of soy isoflavone on cancer and other human chronic diseases.

Associate Professor Bill Barbeau is currently testing whether wheat gluten is a key environmental cause of Type 1 diabetes. He is collaborating with Michael Koch, M.D., of Endocrinology Associates Inc. of Roanoke, and Associate Professor **Josep Bassaganya-Riera** of the Virginia Bioinformatics Institute. Barbeau receives funding for this research from the Diabetes Action Research and Education Foundation.

Researchers will compare the immune responses of three groups: newly diagnosed Type 1 diabetes patients, individuals who have had Type 1 diabetes for longer than two years, and healthy controls. Early results indicate

that newly diagnosed diabetes patients show a greater immune response to wheat gluten than long-term patients or healthy controls. These are just a few examples of how the complexities of diet and health are being explored and clarified by HNFE researchers. The results from these and many studies in our department will surely advance our knowledge of well-being in the journey toward a healthier nation.



Assistant Professor Young Ju in her lab.

Dietetics Programs Receive Accreditation

HNFE's two accredited dietetics programs – the **Didactic Program in Dietetics** and the **Dietetic Internship** – received continued accreditation in October 2008 by the Commission on Dietetics Education. **Susan Clark**, former DPD director, and **Carol Papillon**, dietetic internship director, completed an extensive self-study in preparation for the site visit. Alumni, faculty, students, dietetic interns, advisory board members, and other stakeholders participated in the site visit. The self-study and site visit demonstrated to reviewers that the program effectively prepares future dietitians. The accreditation remains in effect for 10 years.

Alumni Awarded for Their Service to HNFE

Christina McIntyre Baum (HNFE '96, M.S. '98) received the **Outstanding Alumna Award** for 2009. Baum is the associate director of the University Honors Program at Virginia Tech. She previously served as the undergraduate coordinator for HNFE. Baum was instrumental in securing and retaining funding for an undergraduate research program in HNFE and is well-known among department alumni because of her many efforts to maintain contact with them – including the creation of a Facebook page.



Christina McIntyre Baum

Kimberly Freitag Stitzel (HNFE '96, M.S. '98, Dietetic Internship '99) was chosen for the 2009 **HNFE Outstanding Recent Alumna Award**. Stitzel is the director for nutrition and obesity in the Office of Consumer Markets for the national American Heart Association office in Dallas. Her extensive professional experience includes work in the American Dietetic Association's government affairs office, the National Academy of Sciences, and the Office of Disease Prevention and Health Promotion. Stitzel has served HNFE as a speaker and mentor to students and as a member of the dietetics program advisory committee.



Kimberly Freitag Stitzel

Scholarships Help Students Reach Their Goals

Students in HNFE benefit from the generosity of donors who support their educational expenses. **Michael Houston**, professor emeritus, former department head, and HNFE faculty member, had a passion for teaching and an excitement for learning. The **Michael Houston Memorial Scholarship** was established by his family following his death in 2008 after a long illness with leukemia. Graduate student **Katrina Butner** received the first of the annual scholarship awards. Butner benefitted from Houston's scholarship as both a student and a teacher. She teaches the course Applications of Clinical Exercise and says she "enjoys feeling like I have made an impact on students." This scholarship will continue to benefit students annually and depends on donations from alumni and stakeholders.

"When I received the **Anthem Blue Cross and Blue Shield Hokie Spirit Scholarship**," says honors student **Jessica Schultz**, "I was extremely humbled that someone saw potential in my abilities and endeavors here at Virginia Tech." Schultz has served as a CALS Ambassador, directed a community garden, and participated in Students Helping Honduras – something she could not have done without

Faculty Updates

HNFE now has 17 tenure track faculty, two research faculty, and six instructors.

Jamie Zoellner, assistant professor, dietitian, and expert in participatory community research, will strengthen our behavioral research and outreach activities.

Kris Osterberg, instructor, brings expertise in assessment, dietetics, and exercise science, as well as experience at Gatorade.

Nicolin Girmes-Grieco, who has taught for several years and served on the undergraduate curriculum committee, is now a full-time instructor. She will continue to share her passion for undergraduate education.

Madlyn Frisard and **Jennie Hill** have been promoted to assistant professor. Hill studies the impact of built and social environments on physical activity and nutrition, and Frisard's research focuses on mitochondrial biology in chronic diseases associated with obesity.

Eva Schmelz has been promoted to associate professor.

Kevin Davy has been promoted to professor.

Heather Cox is now director of the Didactic (undergraduate) Program in Dietetics. Cox will continue to teach in her areas of expertise: food communication and food service management.

Professor **Janet Rankin** is now associate dean of the graduate school. Rankin continues to teach and serve within the department while allocating half her time to the graduate school.

the aid of the scholarship. Student **Paul LaPenna**, another recipient, is grateful for the assistance because he is funding his own education. The scholarship was established in memory of and to honor the victims of the April 16, 2007, tragedy at Virginia Tech. It recognizes outstanding undergraduate students with demonstrated dedication to community service who are in financial need.

Dietetics students continue to benefit from the generosity of **Brenda Harmon Rohe**, who sponsors a dietetic scholarship in her name. Rohe is an alumna of the HNFE dietetics program. Recipients of this award demonstrate academic achievement, extracurricular leadership, community service, and talent for a career in dietetics. Two recipients, **Stephanie Riviere** and **Amanda Eskew**, met the Rohe family at a football game in fall 2009. According to Eskew, "They are fabulous people and their generosity has helped me a great deal as I finish my senior year." Another recipient, **Jennifer Schafer**, notes, "Her generosity allowed me to enter the dietetic internship at Virginia Tech with ease and much less financial burden. I could really focus on my goal: becoming a competent and confident entry-level dietitian."

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