May 29, 2009

Provost Joe Alutto
Office for Academic Affairs
203 Bricker Hall
190 North Oval Mall, Campus

Dear Provost Alutto:

We are pleased to present a collective vision of 80 faculty members from twelve colleges that we call the Food Innovation Center. The global impact of food in the new world economy is a complex trans-disciplinary problem that Ohio State University is uniquely able to solve.

Page two of this transmittal letter is a Dean’s signature page as required. This signature process generated excitement as many college dean’s share our vision for mission oriented research that transcends unit boundaries. Attached to this transmittal letter are 44 pages of creative foresight. An identical PDF version is sent to you via electronic mail.

We hope you agree we are structured to succeed in a way that improves the human condition and raises the stature of Ohio State. We build on prior success of existing internal and externally funded centers of excellence. We hope to implement best practices that become integral to a culture of collaboration for the foreseeable future.

Exciting times are ahead for Ohio State and we very much want to be engaged in this innovative adventure. While assembling this proposal, we discovered a campus with phenomenal depth and breadth in all issues related to food. Most of us have extensive experience in collaborative work in multiple colleges and campuses, but we agree that the time is right to achieve the next higher level of trans-disciplinary excellence.
Prof. Doug Alsdorf is leading the Energy & Environment Center proposal, with some synergies between food production, bio-fuels, and renewable energy. We are pleased to be mutually supportive and propose joint activities pending this outcome. We had prior successful joint activities as part of the TIE program in PHPID and we can continue best practices.

Many new collaborative ventures will result from the planning of this proposal. For example, Stephen Hills, Academic Director for International Programs at the Fisher College of Business, Management and Human Resources, just met with us about innovative collaboration with the College’s CIBER (Center for International Business, Education and Research). We are likely to sponsor joint activities in food safety training at the executive level, and have many mutual objectives such as study abroad, teaching innovation, food safety trace-back, and executive education. We intend to collaborate on parts of the upcoming CIBER proposal, “Innovation and Growth After the Crisis,” ahead of the proposed start date of this innovation center. The CIBER proposal is due at the U.S. Department of Education in the fall and, if funded, will cover years 2010 – 2014.

Conversations we started on our proposal site within OSU Carmen provide a seamless interconnection of world class ideas and talent. We seek to continue and advance the conversation by way of the Food Innovation Center.

We are inspired by President Gee’s address to the faculty to take advantage of “an opportunity of a lifetime - to become the leading force for innovation and change in this country.” We hope the reviewers can see Ohio State has the requisite tools and talent to significantly impact the world with food.

Most sincerely,

Steve Clinton, College of Medicine

Mark Failla, College of Education and Human Ecology

Michael Leiblein, Fisher College of Business

Ken Lee (point contact), Food Agricultural and Environmental Sciences

Steve Schwartz, Food Agricultural and Environmental Sciences

Cc: Deans

Food Center http://twitter.com/food_center

Attachment: Signature page, proposal 44pp.
(note underscore between food_center)
**Food Innovation Center Signature Page:** Signatures required from deans representing colleges of all faculty participants in the Food Innovation Center proposal.

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*See cover letter for signatures.

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The Center of Quality of Life

Our planet will host eight billion people by 2025. The world’s food must increase by 40% to break even. We now waste about 40% of the earth’s food supply on flaws in economics, safety, health, nutrition, security, technology, and food policy. The new world economy requires a fresh approach to this global problem, an approach that is transdisciplinary and engaging to industry, government, and academic innovators.

The Ohio State University has the land-grant mission of food innovation. OSU has the intellectual, transdisciplinary resources to aggressively attack a food crisis. Comprehensive strategies for adequate, safe, and healthy food require strong links between human, plant, and animal sciences; incorporation of medicine, public health, nutrition, business, law, food science, engineering, and economics is crucial. This center possesses requisite expertise that is extensively collaborative.

The Ohio Department of Development Strategic Plan (2008) features food as one of “Ohio’s Statewide Targeted Industries.” Food is critical to economic development “best suited to Ohio’s core strengths.” This proposal inspires 81 faculty and staff members from 12 colleges and 23 departments at OSU. Included in these numbers are several deans or associates, three endowed chairs, a National Academy of Sciences member, four American Association for the Advancement of Science fellows, and many international honorees. At present $99,818,986 in current research is directly attributable to center members. Ohio’s strategic role is recognized by annual federal earmarks for the enhancement of food manufacturing competitiveness. With 70% of the nation’s consumers within one-day surface shipment of Ohio, OSU scholars are strategically positioned to investigate today’s food system and improve tomorrow’s prosperous world.
At the G-20 Summit on April 2, 2009, President Obama called upon Congress to double US financial support for agricultural development in developing countries, to more than $1 billion in 2010. Doing so will help the world achieve the goals of decreasing the price of food in the local market; halving the proportion of people who suffer from hunger; making food affordable; and dramatically cutting hunger. The first focus area mentioned by the president is the expansion of development and the use of modern technology, working in collaboration with US land-grant universities.

A safe, secure, nutritious, and economical global food supply means peace and prosperity. Food is the world’s top business and the largest US manufacturing industry. Americans spent $1.1 trillion on food in 2007 according to the United States Department of Agriculture (USDA). Sustained economic growth in the food sector creates jobs in America and enhances international trade. Sustainable food production worldwide provides meaningful employment and a basis for a healthy population. Yet, there is no global effort to enhance food commerce while improving food health.

Ohio has more than 1,000 food-processing plants, and the food and agricultural sector accounts for 14% of our state employment. Ohio ranks fifth in value-added food shipments, with more than 59,000 employees in high-wage jobs. Our state is also at the crossroads between the rich central grain belt and the populous eastern markets, leading many food companies to call Ohio home. Thus, food and agriculture contribute more than $100 billion per year to the state economy and $30 billion per year to the shipping industry.

The Ohio State University has the potential to introduce the nation’s premier academic center, public or private, seeking to improve the human condition by way of food. OSU faculty members have expertise in all fields related to food and nutrition. If these talents were melded into teams, Ohio State could provide an organizational model for the new world economy, achieving Ohio impact with global outcomes.

The Food Innovation Center (referred to hereafter as Center) will inspire excellence by implementing a culture transformation initiated by university leaders. More than 80 faculty members from 12 colleges enthusiastically envision the transdisciplinary approach of this Center. In fact, three keys in our letter of intent have matured into four interrelated themes, including a new business component. The four themes illustrate our mission, and although any collaborator can advance any theme, many will engage in multiple themes. We also anticipate inspiring 30 peer-review projects (within five year’s time) that require multiple collaborators from different colleges, as well as a strategy for sustained extramural support.

Our mission is to improve global life quality with research, learning, policy development, and outreach that ensures access to safe, health-promoting foods for present and future generations.

The Ohio Department of Development has identified food processing as a key industry. The Food Innovation Center will further solidify an existing relationship to connect Ohio State’s renowned faculty with this critical industry.

—Dave Beck, President and CEO, Center for Innovative Food Technology/EISC, Inc.
Designing Foods for Health

OSU has an exceptionally strong reputation in the study of food for health. A wealth of epidemiologic and clinical data shows that a diet rich in fruits and vegetables protects against many chronic diseases. How specific fruit and vegetable components act or interact to affect disease risk is not well understood.

Center scientists join forces in this theme to understand how food can prevent or help treat chronic diseases such as cancer, cardiovascular disease, and inflammatory disease. The Center for Advanced Functional Foods Research and Entrepreneurship (CAFFRE) was established in 2006 with extramural funds to develop specific food products and functional foods that promote health and prevent and treat disease. CAFFRE has 20 faculty members from multiple colleges, serving as a catalyst for research and development of functional foods and components designed to enhance health and quality of life. The program is responsible for more than 140 peer-reviewed publications and more than $13 million in extramural funding. CAFFRE has become a transdisciplinary success, as it has linked renowned scientists, medical professionals, and policy makers with industry partners.

The Center is a major expansion of the CAFFRE initiative, which has a limited focus on fruits and vegetables. CAFFRE’s “From Crops to the Clinic to the Consumer” paradigm is a model for our expanded effort. We will focus on the health-enhancing characteristics of novel functional foods, ingredients, and crops, thus targeting high-risk individuals in a personalized medical model. We will also research and develop culturally appropriate and economically viable novel foods to correct nutrient deficiencies (such as developing carotenoid-rich foods to correct vitamin A deficiency) on a global scale. Guided by scientists, healthcare professionals, food industry representatives, and consumers, discoveries will advance to commercialization. When a discovery demonstrates health-promoting properties, strategic industry and business partners will identify marketable opportunities.

The rapidly emerging field of functional foods shows major promise for future research investment. According to the American Dietetic Association, functional foods “provide additional health benefits that may reduce disease risk and promote optimal health” (2009). Many foods such as fruits and vegetables contain a vast array of bioactive components that are not among the 40 essential nutrients. Indeed, thousands of natural chemicals consumed in food may impact health or disease. The dramatic surge in consumer interest in new foods, ingredients, and crops with unique health benefits is likely to accelerate. In 2007 sales of functional foods in the US reached $27 billion, and the global functional foods market is projected to rise to $109 billion next year.

Several Center research initiatives show promise, and preliminary data is being obtained for additional grant funding. Drs. Steven Clinton, Steven Schwartz, and David Francis have teamed to produce a novel and potent food product for prostate cancer prevention. The team successfully developed a new tomato juice-based product containing a potent extract of soy phytochemicals that in prior studies inhibited prostate carcinogenesis in animals. The soy-tomato juice was developed at OSU; was tested for acceptability by human volunteers; and is now a clinical study—funded by the National Institutes of Health—of prostate cancer in 60 men at the James Cancer Hospital.

Dr. Chris Weghorst and a team of Center collaborators will conduct critical clinical trials on novel, confectionary-type foods developed at OSU. These confections may provide high concentrations of raspberry or strawberry phytochemicals to the oral mucosa, preventing tobacco related cancer.

Dr. Young Lin and Dr. Macdonald Wick have developed a strategy for the use of eggs as a vehicle for cancer prevention. Because chickens consume feed rich in gossypol (a byproduct of cottonseed oil production), their eggs are a rich source of breast cancer-inhibiting compounds with enhanced absorption due to high-fat yolk.

(Continued on page 6.)
Dr. Yaël Vodovotz and Center collaborators developed a new soy-almond bread, enriched with cancer-preventive phytochemicals. The bread will be ready for human studies at the James starting June 2009, with support from the National Institutes of Health (NIH) Center for Complementary and Alternative Medicine.

To define the chemical constituents of foods, Dr. Schwartz and collaborators have developed a world-class analytic chemistry center—an essential step in the design of functional foods and the evaluation of human clinical trials.

We only have space for a brief taste of the many foods on the menu at the Center. We have expertise that expands the menu from farmer’s gate to the consumer’s plate. We have created new crops requiring expertise in horticulture, genetics, breeding, and many other cutting-edge disciplines. These crops contain bioactive phytochemicals for disease prevention studies. OSU scientists direct the evolution of crop systems with collaboration among plant pathologists, entomologists, chemists, and engineers. The faculty in the Department of Food Science and Technology (FST) have world-class expertise in functional foods for health, food chemistry, food safety, food processing and packaging, and food safety engineering. Collaboration with colleagues in biomedical nutrition enables preclinical and human clinical trials. We will work with the Center for Clinical and Translational Science (CCTS) to conduct trials and train junior faculty to run future clinical trials.

The design of functional foods requires strategic collaboration with healthcare professionals, food industry representatives, consumers, and faculty members in business and economics. The Center seeks to develop and deliver designer foods by providing these kinds of partnerships.

Food can be free of pathogenic microorganisms such as viruses, bacteria, fungi, and prions. Food harm can be reduced, and the Center can do this using a transdisciplinary approach. Scholarly teamwork provides solutions to food safety issues at each step in the food chain. Collaboration in this theme leads to innovative food safety strategies that improve food quality and food safety while positively impacting the global food economy.

According to the Battelle study Ohio Core Competency and Technology Platform Roadmap (2009), “A focus on advanced sterilization and decontamination technologies and associated devices based on the work at the Columbus labs should remain a high priority for the University. In addition, the rapid microbe detection technologies being developed in Wooster have potential not only in food safety, but also in biosecurity applications…” The Center will implement the core competency roadmap with these four exemplar projects:
1. Food Pathogens. Viruses likely cause 70% of worldwide foodborne illnesses, none of which have any known vaccines or cures. Food virology expertise is rare except at Ohio State. In fact, OSU may be the only place in the nation that understands viral transmission through water, the environment, and the food chain. At the Center, food viruses are a major focus. We seek to improve public health by inactivating, controlling, and preventing foodborne viruses. The hope is to provide the world with new vaccines and antiviral drugs.

Dr. Linda Saif was awarded National Academy of Sciences (NAS) membership based on her internationally respected virus research. In the last year, we assembled a peerless critical mass with the hire of new virus experts Dr. Aradhya Gourapura (OARDC) and Dr. Jianrong Li. Drs. Jianrong Li and Ken Lee now explore viral control via emerging food processing technologies. Noroviruses were recently classified as NIH Category B priority biodefense pathogens, adding to the urgency of discovery.

Rapid emergence of antibiotic-resistant pathogens—including those in food—also threatens public health. Dr. Hua Wang’s team leads research that reveals antibiotic-resistant organisms—including some “beneficial” bacteria that may be carriers—in the retail food chain. This discovery triggers careful consideration of how the food chain may transmit antibiotic resistance to humans. To combat this public health and food challenge, Wang leads a national research and policy initiative via an organized USDA/OSU co-sponsored national conference in Washington, DC. Multiple collaborators participate in this effort, including Drs. Jiyoung Lee, Valente Alvarez, Jeff LeJeune, and Lydia Medeiros, along with 17 external experts from government, industry, and academia.

2. Effective Pasteurization. Ohio State defines a new era in food safety science with its critical mass of talent. Our collaborative teams develop and help commercialize pasteurization and packaging solutions for industry, bringing high stature, societal relevance, and revenue to our campus.

Food Safety Engineer Dr. VM Balasubramaniam leads a transdisciplinary research team in high-pressure food pasteurization and sterilization. His work—among coordinated worldwide efforts—led to recent FDA approval of the high-pressure sterilization of a low-acid product. Dr. Melvin Pascall, one of only a few packaging engineers globally, designs systems to maximize food quality, food safety, and postmanufacturing security. OSU scientists invented the pulsed electric field (PEF) process, where electric pulses are used (rather than heat) to make beverages safe while retaining fresh flavor and nutrients.

3. Safe Eggs. The US Egg Safety Action Plan requires Salmonella-free eggs by the year 2010. When this ambitious plan was activated, the technology and methods necessary to achieve this goal were not proven. Hospitals, nursing homes, and the US military stopped using fresh eggs as a result, with significant economic impact to producers. Dr. Youssef’s team established a method to make whole-shell eggs safe without cooking. His egg ozone patents led to a partnership with Ohio egg processors known as Eggtech Ltd., who seek to commercialize the technology in 2010 with machines built by Xigent, another Ohio company. Since then, Dr. Stephanie Smith, the author of the US Egg Safety Action Plan, has joined our faculty and currently assists in new research applications.

4. Translational Research. The Center conducts research on the translation of science into government, trade, and consumer policy. Food retailers seek ways to help customers achieve a safe food environment. Outreach scholars in the Colleges of Education and Human Ecology (EHE) and Food, Agricultural, and Environmental Sciences (FAES) have teamed with the Kroger Company to meaningfully affect consumer food safety behavior through a food safety hotline (800-752-2751). Such collaboration is fueled by the Center, and more industry partnerships are likely.

Faculty members such as Dr. Medeiros focus their research on the educational needs of subpopulations at high risk of obtaining foodborne illnesses. Outcomes include public education, publications, best practices, and training for health care professionals. Outreach in food, health, and nutrition is a Center focus. Programs focus on healthy food choices in schools and urban communities (Drs. Robert Murray and Joyce McDowell); nutrition and food safety education for low-income families and foodservice staff (Drs. Joyce McDowell, Lydia Medeiros, and Lynn Knipe); and support for farmers’ markets, community gardens, food banks, and pantries in rural and urban communities (Drs. Matt Kleinhenz and Robert Murray). Programming has strong partnerships with United Way, Columbus Public Health, Columbus City Schools, the Ohio Department of Health, the National Dairy Council, the Ohio Dietetic Association, the Central Benefits Health Care Foundation, the YMCA, and the American Academy of Pediatrics. These networks provide effective translation of discoveries and safe foods to Ohio and national audiences.

The food safety research capabilities at OSU are world-class. The Center’s multiple-college approach and mission-oriented culture provide a clear path to hazard-free food in the global food economy.

Innovative Juice

The Genesis Juice Corporation of Eugene, Oregon, was recently saved by Ohio State’s PEF technology. The FDA made the fresh juice company shut down when it refused to pasteurize its products. Genesis Juice defended itself, stating that pasteurization would destroy most of the vitamin content and healthful enzymes in their juices. In return, the FDA suggested that company officials talk with Ohio State’s PEF researchers. After eight months of testing, it was proven that the PEF process worked. Genesis Juice then reopened with the FDA’s blessings and a royalty stream to Ohio State. Just two years later, the company won the 2007 Industrial Achievement Award from the National Institute of Food Technologists.
Collaboration in this theme pioneers transdisciplinary research on diet and nutrition in disease prevention and health promotion. Here, the Center seeks to understand, prevent, and treat devastating diseases such as obesity by evidence-based translational food research. Approaches such as this will help Ohio State claim a top-five national rank in food, nutrition, and health disciplines as measured by the National Research Council (NRC) of the NAS.

This integrative theme builds on current OSU strengths and has global impact. Our biomedical approach encourages creative interactions among basic scientists and clinicians. Proposals will be encouraged in these four highly promising areas of established strength:

1. **Obesity.** Obesity affects one out of every three Americans. The prevalence of obesity is a major health concern in the US, particularly in Ohio. Obesity increases the risk of coronary heart disease, type 2 diabetes, high cholesterol, high triglycerides, stroke, liver and gallbladder disease, sleep apnea, osteoarthritis, gynecological problems, and several cancers. The Center provides the structure and incentive for an integrated, transdepartmental approach to the prevention and treatment of obesity. Outcomes include evidence-based public health policy, effective personalized medical interventions, and a mission-driven approach to solving the obesity epidemic.

Center research will support the Healthy People 2010 national health objective of reducing the prevalence of overweight and obese adults to less than 15% and reducing the prevalence of obese children and adolescents to less than 5%.

2. **Vitamin A Deficiency.** Because vitamin A deficiency is a global tragedy that impacts millions, the Center will incentivize vitamin A research. Adequate vitamin A is necessary for optimal resistance to infection. It prevents cancer at several epithelial sites and is critical to eye health. Dr. Ouliana Ziouzenkova’s recent research even suggests that vitamin A has a strong role in reducing obesity.

The Center will invite faculty members led by Dr. Linda Saif to examine the role of vitamin A in optimal intestinal immunity and gut homeostasis. Studies focusing on the importance of vitamin A in determining the efficacy of vaccination are critical to global health. Investigators from the Colleges of Optometry (Dr. Heather Chandler) and Education and Human Ecology (Drs. Joshua Bomser, Earl Harrison, and Mark Failla) will target diet and nutrient impacts on ocular health.

To achieve this, OSU experts in obesity will for the first time join a Center team to pursue interactive pilot investigations. This will form the basis of a campus submission for an NIH Program Project Application by FY2012.

A team led by Drs. Electra Paskett (College of Public Health) and Steven Clinton has developed a multidisciplinary pilot program for weight loss in overweight, premenopausal women. Clinical studies at Children’s Hospital by clinical endocrinologists and nutritionists (Dr. Dana Hardin and Dr. Jennifer Dyer) will focus on childhood obesity. Experts in health and exercise science will partner with experts in medical dietetics to define how diet and exercise programs can improve weight loss.

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FOOD INNOVATION CENTER
Vitamin A deficiency is common in developing countries. It leads to about a half million malnourished children with blindness each year. Collaborators may develop culturally accepted, fortified functional foods or enrich common, affordable foods with provitamin A. Scientists in the College of Optometry may collaborate on bench-to-bedside clinical trials. The role of vitamin A as an inhibitor of carcinogenesis in the oral cavity and breast is a priority that may lead to a partnership with the OSU Comprehensive Cancer Center.

3. Wound Health. Drs. Chandan Sen, Sashwati Roy, and Gayle Gordillo now study the critical role of reactive oxygen species and antioxidant nutrients in healing. These vital regulators limit tissue response to injury and promote optimal healing. The human health impact is astounding. An estimated 1.3–3 million people in the US have pressure ulcers, and as many as 10–15% of the 20 million with diabetes are at risk of developing diabetic ulcers. Many more people have wounds that result from arterial disease.

Acute treatment of wounds costs an estimated $5–10 billion each year, not counting military costs. This team, joined by nutritional and food scientists, may someday design foods to promote swift healing of acute and chronic wounds.

Gems Hidden in Plain Sight

For years, Earl Harrison (College of Education and Human Ecology) has been studying beta-carotene and its metabolic effects.

For years, Steve Schwartz (College of Food, Agricultural, and Environmental Sciences) has been studying lycopene and its metabolic effects.

For years, Bob Curley (College of Pharmacy) has been studying vitamin A and its metabolic effects.

Only now are these experts teaming up on a grant proposal that would look comprehensively at the full family of metabolites of both beta-carotene and lycopene, their occurrence, and their biological significance—particularly in their potential roles in preventing cardiovascular disease and cancer.

“The existence of a Food Innovation Center on campus is just what we need to foster the development of these kinds of interactions,” says Curley, professor of medicinal chemistry. “If our grant is funded, it would be a perfect example of the kind of collaboration the new Innovation Center would support.”

The unique partnership of the Food Innovation Center can help place Ohio as a leader for trustworthy food safety information. This project connects the resources of OSU with The Kroger Company to help improve food safety throughout central Ohio.

—Amy Barlow, Media Relations, The Kroger Co., Columbus Division

4. Alzheimer’s Disease. As lifespan is extending, we are experiencing a global increase in prevalence, morbidity, and mortality from damage to or loss of brain and spinal cord cells. Since these neurons are not readily regenerated, damage leads to devastating loss of motor and cognitive function, impacting millions. There is an urgent need for effective treatments to delay onset, reduce severity, and establish cures. In a team poised for discovery, the Center brings together clinical neurologists and nutritional and neurobiology scientists. This team seeks new understanding of how diet and nutrition contribute to the etiology of neural diseases. Alzheimer’s disease is a major focus in this area.

Alzheimer’s disease currently affects 5 million Americans at the rate of 10% over the age of 65. By 2050, baby boomers will swell those afflicted to 16 million. The average Alzheimer’s patient dies 8–12 years after diagnosis (typically with years of impaired capacity), leading to enormous family distress and devastating costs.

Pathogenesis and progression are poorly understood; however, Dr. Jeffrey Kuret leads a team that explores the molecular mechanisms of Alzheimer’s. The disease is characterized by 1) abnormal accumulations of “plaques” in the brain and 2) “tangles” of twisted neuron fibers that cause cell death. Why plaques and tangles develop is not known, but dietary hypotheses abound. Diet and nutrition may delay onset, progression, and/or severity. Genetic causes of cognitive decline may be triggered by long-term declines in nutrition, suggesting treatment with nutritional intervention. Multiple nutritional factors such as fatty acid patterns, carnitine, folate, vitamin K, phytochemicals, and oxidative stress-challenged diet could be involved.

Investigators led by neuroscientist Dr. Kuret, clinical neurologist Dr. Sandra Kostyk, nutritional scientists, and Center collaborators will conduct preclinical studies to submit an NIH grant in FY2011. This transdisciplinary approach may lead to the launch of an OSU Alzheimer’s Disease Institute for bench-to-bedside clinical trials.

These projects, among others to be proposed, have the capacity to advance with sustaining NIH funding and collaborative grants, program project grants, and/or an NIH-Specialized Program of Research Excellence. This biomedicalex theme seamlessly integrates with our other strategic themes enabling a cross-synergy of ideas.
Efficient development of innovations that solve complex food and nutrition problems—either in the medical, public health, or global realm—pose significant organizational challenges. The development of solutions to complex problems—particularly those related to international food distribution, global safe-food trade, and standardization of global food industry regulations—is especially difficult. Via collaboration with those in business, law, public policy, food, nutrition, and health, the Center seeks solutions with global impact.

The faculty of the Fisher College of Business (FCoB) provide internationally recognized financial, operational, organizational, and strategic expertise. The John Glenn School of Public Affairs provides expertise in policy and government. The Center intends to utilize this knowledge by applying it to several of the science-focused projects in this proposal. In doing so, the Center will directly address complex organizational issues related to food and human health. Following is a list of four multidisciplinary projects that are attractive to Center investigators:

1. Urban and Rural Food Systems.

Drs. Casey Hoy and Parwinder Grewal are collaborating with business and Center faculty members to investigate a new paradigm in urban and regional planning and design. Services provided by natural ecosystems will be preserved; rural and urban ecosystems will be integrated; and food, energy, and other resources will be generated, consumed, and recycled within the metropolitan region, thus minimizing ecological footprints. Proliferation of interdependent local food systems within metro regions constitutes a powerful, transformative force within the US economy. The resurgence of these systems is in direct response to concerns about food security and safety, health and diet, and unfettered globalization.

Science-based support for the transition to self-reliant, local communities will place Ohio in a leadership position. In order to preserve and enhance natural capital as well as initiate a shift from global to local economy, energy costs and climate change require great attention. The Center may fund a sustainability analysis of major Ohio metropolitan regions to determine their extent of reliance on distant ecosystems for food, energy, and resources. We can then build models for new designs, technologies, policies, and communities with food system self-reliance.

A Food Innovation Center at OSU would bring together the multiple disciplines required to meet consumers’ needs. By establishing sound, science-based best practices, we can ensure the production and handling of food for all parties involved.

—Mike Townsley, President of Food Products, Bob Evans Farms, Inc.
2. Standards for Global Food Trade. To ensure that foods can be shipped and traded in the global marketplace, it is critical for nations to establish and abide by standards that define foods, ensure safe and nutritional food products, and inspire consumer confidence worldwide. We have seen tragic examples of tainted food. For example, milk powder from China was adulterated with melamine, killing many infants in China and many pets in the US. In a separate outbreak, there were many deaths in China due to poor nutritional content in infant formula. We are now working with Chinese regulatory agencies and US private industry to establish standards that require quality and safety testing. Rapid methods are needed to screen for toxicants such as melamine and to ensure proper nutrient content.

3. Agricultural and Food Contamination. Addressing food safety requires not only technical monitoring processes but also efficient organizational processes. It requires the alignment of incentives among farmers, distributors, and retailers. An example involves a recent project proposed by the government of Ethiopia to the faculty of FAES, the FCoB, and the Ohio State Office of Technology Licensing and Commercialization. The country’s primary export business, coffee, was threatened when Japan refused shipments based on “abnormally high” pesticide residues. The question facing the Ethiopian government and Ethiopian coffee exporters is how to restore confidence in their coffee market.

Faculty from FAES could provide guidance on improved agricultural and food processing practices. Faculty in Economics could assist by revisiting the government’s decision to replace the national coffee auction (which provides the ability to discriminate between suppliers) with a national commodity exchange (which sets daily coffee prices through an electronic bid/ask system but loses all trace-back to the farmer who may have polluted the coffee). Faculty from the FCoB could design alternative organizational mechanisms to monitor coffee quality and allocate resources to particular participants in the coffee business. These efforts would provide excellent opportunities for student research and education.

The Ethiopian coffee example illustrates a more general issue regarding the quality risk associated with outsourcing or offshoring food products. In such an instance, faculty in FAES could provide insight on the attributes of food products that suggest high levels of quality risk; faculty in the FCoB could suggest the organizational mechanisms associated with outsourcing decisions that might be used to mitigate these risks; and faculty in the College of Engineering could contribute by designing systems that accurately measure quality. If quality were testable, it would be unnecessary to monitor behaviors, and incentives could be aligned through contracts on finished product quality. As testability becomes less accurate, it becomes more important to monitor intermediate behaviors and use more complex forms of organization.

Addressing food safety and nutrition implies improvement of plant and animal productivity; minimization of food waste during harvest and delivery; and connection of the right product to the right consumer. Early activities require expertise in food science, agriculture, and plant and animal husbandry. Latter activities require expertise in economics, strategy, and supply chain management; such expertise should incorporate an understanding of the benefits of incentives, monitoring, and coordination across industry firms. Marketing experts may help identify and distinguish between those that require additional caloric intake; those that need to reduce caloric intake; and craft targeted messages appropriate to each. Throughout, attention should be paid to the competitive advantage of one solution versus others to ensure industry involvement.

Addressing problems associated with contaminated food, malnutrition, and disease requires effective management and organization. An organizational perspective provides a way of thinking that is likely to be effective given the focal issue. The business world is littered with failed attempts at coordinating tasks via matrix organizations, cross-functional teams, and simple incentive plans. Rather than organize around areas of technical expertise (e.g., academic departments) or market segments (e.g., those who are or are not hungry), the Center forms teams that gain from synergy between interdependent knowledge bases.

1Ethiopia’s economy is based on agriculture, which accounts for around 45% of gross domestic product, 90% of exports, and 80% of total employment. Ethiopia’s largest export is coffee, which generates 60% of all export earnings and employs up to one-quarter of all inhabitants. Japan purchases about 20% of Ethiopian coffee and upwards of 90% of premium Ethiopian coffee. Japanese import restrictions reduced trade of Ethiopian coffee to 8,000 metric tons, down from 29,000 tons just one year earlier.
The Center includes four of the five highest quality OSU doctoral programs in the Health Sciences and Professional colleges: Pharmacy, Veterinary Biosciences, Chemical and Biomolecular Engineering, and Fisher College Business Administration. These four programs are ranked outstanding by the Graduate School for their potential to enhance the standing of the university. Several strong doctoral programs integrate with this Center as well, including Food Science and Nutrition, and the Integrated Biomedical Science Graduate Program. Best practices of all of these top programs will fuel high stature in several new and developing programs such as the OSU Interdisciplinary PhD Program in Nutrition, and Public Policy and Management.

Ohio State has a reputation as a center of excellence in these key doctoral programs. This, combined with Ohio’s concentration of food-related industries, will create a competitive advantage for OSU in the recruitment and placement of outstanding graduate talent. Quality doctoral education results in high National Academy of Sciences National Research Council (NAS-NRC) rankings. This year, these rankings will for the first time include the areas of food, nutrition, and agriculture.

Graduate students will train within established, high-quality doctoral programs while benefiting from the Center’s mission-oriented culture. By advertising a multidisciplinary focus on food policy, the Center will attract new graduate applicants across all participating colleges while building upon the best practices of already-successful doctoral programs. The following six incentives will also attract graduate students to the Center:

1. **A research rotation** will provide meaningful engagement in food studies across the Center’s transdisciplinary spectrum. Thus, students will spend a term in a Center laboratory other than their own, and Center funds will provide lab incentives.

2. **A product development course** will engage both master's and doctoral students. The course will be team-taught by Center faculty who will guide student teams through the process of developing a novel, functional food product with a specific, health-promoting component from farm to market. The teams will be encouraged to advance to national food product development competitions among our professional societies.

3. **A cross-listed IP video course** that is linked to other campuses and industry partner locations will develop a culture of interactivity. Ohio State has prior experience, supported by federal grants, in IP video courses with Texas A&M University and Iowa State University. The Center course will enable students to interact with scholars from diverse disciplines thus augmenting collaborative networks.

4. **A weekly Lunch and Learn seminar series** specifically for graduate students and the invited speaker, and a monthly journal club attended by faculty but organized and led by graduate students and postdoctoral fellows will cultivate critical thinking, communication, and organizational and leadership skills.

5. **Recruitment that builds diversity** will be among the Center’s many other graduate education efforts. We will rebuild a recruitment relationship with North Carolina A&T State University (an 1890 Historically Black Land-Grant University). NC A&T has an outstanding engineering program and is one of the few 1890 institutions with a focus in food research. We have previously recruited NC A&T graduates who went on to earn OSU doctoral degrees with the help of General Mills, Inc., and other motivated industry partners.

6. **Proximate food industries** are a major untapped source of motivated students; thus, the Center will attract new graduate enrollments. At other urban land-grant universities such as Rutgers, all graduate food courses are offered at nights and on weekends, enabling full-time industry employees to improve their skills and marketability, not necessarily in a degree program. The Center will build an industrial education program in partnership with the FCoB to serve the needs of proximate industries.
Undergraduate Education
The Center will invest in undergraduate education with incentives to increase four-year graduation rates, increase first-year retention, advance diversity, foster study abroad, and inspire international experiences. Students will remain in existing academic majors in any of the Center’s 12 collaborating colleges and will gain access to Center incentives in several ways.

The Center will equip undergraduates with knowledge, critical thinking skills, and research experience that will lead them to high-salaried careers. Capitalizing on the diverse expertise of its faculty, the Center will develop an interdisciplinary minor in food innovation to immerse students in the crop-to-consumer continuum. A preparatory course will provide each student with the knowledge and skills to undertake a research project.

To maximize the undergraduate research experience, each student will be assigned a faculty advisor to enable interactions with researchers. Students will participate in the OSU Denman Undergraduate Research Forum and will be encouraged to present research findings at scientific meetings. Ideally, each student will co-author a peer-reviewed article with a faculty advisor to develop critical thinking and career competitiveness.

The Center will guide traditional and underrepresented students across the “bridge” from high school to college and from college to graduate and professional school. We will support the Summer Research Opportunities Program, which helps minority undergraduates explore graduate study and academic careers. We will use this model to develop—in partnership with the Metro Early College High School and 4-H high school students—a selective, one-week lecture-laboratory summer program for high-caliber central Ohio high school juniors and seniors. Center faculty, staff, and students will all have the opportunity to be involved in this program.

Advancing Ohio State’s goals in study abroad, the Center will have an annual global study competition to award travel support to undergraduate and graduate students. We will encourage international externships, where industry partners with global operations will hire our students for experience outside of the US. We will build upon the existing relationships that Center faculty have abroad, and we will develop a supporting course structure in cooperation with the OSU Office of International Affairs.

A Rich, Interdisciplinary Undergraduate Experience
The Food Innovation Center would not only spark cross-college collaboration that would influence food-related issues worldwide, but it would also have a profound effect on Ohio State’s student experience.

“It would offer all sorts of opportunities to apply classroom learning to real-world issues,” says Debra Van Camp, a senior double-majoring in food science and agricultural economics.

Van Camp is an honors student who has just completed a term on Ohio State’s Board of Trustees. Her undergraduate research was of such high caliber that she reported at conferences in New Orleans and Sao Paulo, Brazil. In 2008, Van Camp interned with the Council on Food, Agricultural, and Resource Economics in Washington, DC, where she worked with agricultural economists and attended congressional hearings and other briefings on agricultural policy.

Her advisors say she’s the type of student they dreamed of when deciding to become a professor. “She cares so much. She really wants to help make the world a better place,” said food scientist Yael Vodovotz.

Van Camp believes her experience as a Buckeye would have been even more valuable if the Food Innovation Center had existed during her years at Ohio State. “It’s an exciting thought, to have access to such a broad network of scholars that you just wouldn’t find in the classroom,” she says. “It would be a unique opportunity for a rich, interdisciplinary undergraduate experience.”

Center Impact
How is this Center truly innovative?
Global issues such as finance, water, climate change, infectious disease, natural disasters, and the digital divide capture the imagination of scholars worldwide. Few if any major universities have the intellectual and technical resources needed to aggressively attack the global food crisis of the new world economy. Academic disciplines focused on food systems are traditionally vested in our nation’s land-grant universities. However, comprehensive strategies to provide global citizens with an adequate, safe, and healthy food supply require strong linkage to experts in disciplines such as medicine, human nutrition, business, policy, food science, horticulture, crop and animal sciences, and agricultural economics.

Ohio State is the only place where all requisite expertise is co-localized and already collaborative. Incumbent to our land-grant mission is a reputation for excellence in food and health. As we establish the powerful cultural paradigm of One University and employ our unique advantage in food innovation, we achieve global benefits limited only to what our most creative scholar teams dare to discover.

How will this Center address a global problem?
Ensuring that the 6 billion people on this planet have access to an adequate supply of safe, nutritious, and healthy food is a major challenge that demands our best effort. Mission-oriented research placed men on the moon, created the green revolution, and invented the atomic age. Our Center instills a sense of mission and urgency that is a signature of major societal advances throughout history. A shared transformational culture for One University gives us the framework for the food system that must feed 8 billion people by 2025.

What major contributions will this Center make?
Our Center has the expertise and commitment to significantly reduce the 5,000 domestic deaths and many millions of illnesses caused by unsafe foods. We can significantly reduce health care costs and improve life quality with foods designed to enhance health and improve outcomes of chronic disease.

(Continued on page 14.)

The Food Innovation Center provides the opportunity for collaborative expertise in all areas of food safety for the purpose of better arming Ohio and the world with the knowledge to conquer food supply challenges.
—Robert J. Boggs, Director, Ohio Department of Agriculture
What is the lasting impact of this Center?

Over many decades, Ohio State has assembled world-class expertise in food systems, building the only academic institution in Ohio with broad-based food expertise. Ohio State’s land-grant mission drives our Center to improve food of practical value to stakeholders such as taxpayers, citizens, politicians, colleagues, students, and families. Our success in Ohio crosses state and national boundaries, impacting humankind worldwide. Our Center is expected to become a major success story, as our scholarly strategy is founded on an economic powerhouse that will surely enhance global life quality with innovative discovery.

What are the links to other institutions?

A full list of our Center’s linkages to other institutions would be as long as this proposal. However, we are working with Kent State University on e-beam technology, with Case Western Reserve University on vitamin A metabolism, and with the University of Cincinnati on childhood obesity. Also, Dr. Linda Saif and colleagues are working with NIH and Merck & Co., Inc., in developing countries to improve vaccines. And Center members Drs. Joshua Bomser, Monica Giusti, and Joseph Scheeren are working closely with The University of Akron and with South Dakota State University to identify bioactive components.

What are the links to other nations?

Our Center has worked with colleagues in Thailand, Costa Rica, Israel, and Peru to develop functional foods, and with international agencies to improve staple foods fortified with limiting micronutrients. Further, many Center investigators have long-term collaborations with colleagues throughout the state, the nation, the Middle East, South America, Asia, Africa, and Europe. For example, Drs. Steve Schwartz, Mark Failla, and Yael Vodovotz work with The Hebrew University of Jerusalem in Rehovot, Israel, to develop a heart-healthy bread. Dr. Linda Saif works with collaborators in Argentina to test antibodies to rotavirus, and Dr. Erich Grotewold works with collaborators in Argentina and China to characterize new medicinal plants. Dr. Herb Ockerman has even had a library named in his honor in the Philippines for a lifetime of international achievement.

A Food Innovation Center would provide the interdisciplinary expertise to enable food companies to address global food safety and nutrition. This center would be a significant resource and contributor to a shared mission.

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### Planned Activities

The purpose of the Center is to improve the human condition through adoption of foods and food strategies that prevent and treat diseases. Center faculty must educate one another and develop cost-effective ways to solve complex problems. Likewise, we must inspire a new generation of researchers to engage in complex, transdisciplinary projects with high impact. This Center is designed to succeed.

The Center’s largest budget item is leverage for collaborative projects. We provide incentives for educational innovation and student engagement. The peer-review awards of several multidisciplinary Seed Grants require new collaboration from two or more colleges that is externally competitive. Outcomes advance our strategic plan, attracting federal, foundation, and industry funding.

Budgeted faculty specials provide incentives for the development of competitive proposals in the following areas: external support, internal sabbatical leaves for cultivation of new skills in another discipline associated with food, and the facilitating of culture transformation.

The Center invests in delivery of team-taught courses in food systems and health; rotations through faculty laboratories; research-based seminars; visiting scholars for Lunch and Learn seminars; journal clubs; student product development and marketing teams; and global externships with international employers.

Our communication plan includes the following four dimensions:

1. **External dimension.** This includes a high-impact international conference in Columbus for FY2012, in concert with the Targeted Investments in Excellence (TIE) and other innovation centers and innovation groups. The conference will raise global awareness of the problem-solving successes of One University. Advancing Ohio State’s reputation for discovery in the public spotlight, the Center will also support annual media training workshops for scientists who are interested in and capable of local and national media exposure.

2. **Internal dimension.** This includes an annual meeting and research summit to showcase the accomplishments of Center members.
The summit will engage key policy makers, media, scholars, and donors in interactive sessions with faculty, students, and staff members. The event will feature interactive problem-solving; top-line research reports; faculty and student awards; and a keynote presentation by a high-stature awardee, perhaps giving audience to a recipient of an OSU Honorary Degree. The Center will build upon existing high-stature university programs such as the Harris Award for Excellence in Food Science and Technology and the Annual Russell Klein Memorial Nutrition Research Symposium. The Harris Award endowment has the stated purpose of raising Ohio State’s food stature. Now in its fifth year, the 2008 recipient was Dr. Philip Nelson, winner of the World Food Prize. The Klein Symposium, in its sixth year, provides a venue for students to present nutrition-related research. We plan to broaden the invitation to include all students and faculty associated with the Center.

3. **Digital dimension.** This includes web sites, social networking ([twitter.com/Food_Center](http://twitter.com/Food_Center)), Listservs, and a virtual library of PowerPoint presentations narrated by Center collaborators.

4. **Professional dimension.** This engages every Center collaborator in proposal workshops and professional improvement. An important strategy includes culture transformation retreats led by Senn-Delaney Leadership Consultant Group. Every Center collaborator will learn winning-team strategies within the first two years of Center operation.

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**Faculty Rewards**

1. **The Center rewards faculty members with a sustainable culture based on these principles:**

   1.1. OSU has a strong college and academic department management structure. We complement the existing reward structure with information-sharing and a focus on excellence.

   1.2. OSU has a diverse management culture that varies by college. We build a foundation for a sustainable culture that encourages and values transdisciplinary activities.

   1.3. Policies and rewards should be independent of changes in leadership; they should provide continuous feedback and improvement; and they should be based on a common cultural framework.

   *As noted by E. Gordon Gee, “...we must be the architects of change or we will be its victim.”*

2. **The above principles lead to procedures that foster a sustainable award system:**

   2.1. Acceptance of Center funds by any tenured faculty member requires a Memorandum of Understanding (MOU) signed by the investigator and his or her department chair. This MOU details the expectations for compensation, time and effort reporting, and reward for time spent. It specifies how success or failure of the proposed Center project may affect annual reviews. This ensures accountability between departments and the Center.

   2.2. A probationary faculty member who accepts Center funds must sign an MOU along with the department chair. The probationary MOU includes clear expectations for P&T review. Structure of this review depends on the proposed compensation, as specified in the existing Office of Academic Affairs (OAA) rules. As above, this policy ensures individual accountability and information-sharing.

   2.2.1. If the candidate is paid by the Center, review follows the procedure for a joint (split FTE) academic appointment. Thus, Center review is a mandatory element of the dossier. See page 121, section 4.1.3.2.3, on internal evaluation: ([oaa.osu.edu/documents/OAAHBVol3_002.pdf](http://oaa.osu.edu/documents/OAAHBVol3_002.pdf)). This is an independent letter by the Center directors and is required in the dossier.

   2.2.2. If the candidate is not compensated by the Center, review will follow the procedure for a 0% salary or courtesy appointment.

   2.2.3. There is no vote, as the Center has no P&T committee. However, the letter may disclose reviewer critiques or numerical rank of the candidate’s proposals, quality of progress and final reports, 360-degree feedback, impact of journals, and the opinions of both the Steering Committee and of the directors on contribution to Center goals.

3. **Center members are accountable and empowered by agreed upon expectations:**

   3.1. Accountability leads to high-level achievement and is an integral part of quality research, teaching, and service. Accountability will not be a new criterion for promotion or review, but a way to empower achievement outside of academic departments.

   3.1.1. The MOU noted under “Procedures” will ensure clear accountability.

   3.1.2. An annual survey will poll all Center members to obtain confidential, 360-degree feedback on Center operations. Questions include accountability, team effort, positive contributions, and One University metrics. Single-person results are shared only with that individual while aggregate results are shared with Center directors. Pre- and post-measurements in the survey measure Center impact.

   3.1.3. An annual award for excellence that advances the Center mission will include a $1000 cash stipend. The award will be presented at the Annual Food Meeting, where any faculty member at OSU may be nominated. Center directors are not eligible. An annual student award with the same criteria and stipend will also be presented, where any OSU student is eligible.

3.2. The Center implements the culture transformation principles of the Senn-Delaney Leadership Consultant Group. According to *The Human Operating System* (2008) by Senn-Delaney, “Faculty members who feel accountable for results have more control over those results” (p. 87).

   3.2.1. All Center collaborators will participate in an OSU culture transformation workshop during the first two years of Center operation. Center proposal members have volunteered to be culture transformation facilitators, to help foster team accountability that lasts well after the duration of this project.

   3.2.2. Our budget contains a recurrent annual investment in transformation training for all collaborators.

   3.2.3. Release time or supplemental pay is possible for faculty who wish to become culture transformation facilitators.
Governance Plan

Structured for Success

The administrative structure expedites the Center’s mission. It inspires collaboration and ensures that annual milestones are achieved and reported. The Center is structured as flat as possible with a bold, direct line between faculty and project leaders. The Center improves upon best practices of successful, existing centers. Key positions reflected on Structured for Success: Food Innovation Center Organizational Chart (page 19 of this proposal) are noted here, with responsibilities.

The Leading Dean, appointed by the OAA, provides administrative direction and communication. He or she will
1. sign as authority for dean-level decisions.
2. be the primary contact in regards to Center operations for the 11 other deans.
3. be an advocate for all Center faculty members (as opposed to advocating only for his or her own college).

The Project and Associate Directors (Drs. Ken Lee, Steve Clinton, Steve Schwartz, Michael Leiblein, and Mark Failla) are the co-investigators of this proposal. They will
1. provide open communication among faculty members and OSU administration.
2. amplify support and ensure effective investment of Center funds.
3. encourage collaboration and inspire new Center members from OSU and the private sector.
4. facilitate culture transformation workshops and reinforcement strategies.
5. approve recommendations for funding of proposals from the Steering Committee.
6. provide required P&T review letters and optional annual reviews for Center-funded faculty investigators.

The Steering Committee provides oversight. It is comprised of one collaborator per college, picked by the dean. A director serves as chair. Colleges maintain voting members with baseline support. The Steering Committee will
1. define strategies for scientific and educational support.
2. conduct an annual survey for collaborators and stakeholders.
3. inspire opportunities to leverage Center projects and obtain extramural support.
4. form peer-review subcommittees and recommend the following to the Center Directors:
   4.1. Funding of Center research grants
   4.2. Support of Center graduate research fellows
   4.3. Funding of Center education grants
   4.4. Support of Center travel grants, scholarships, and incentives
   4.5. A positive recommendation for each of the above will be contingent upon collaboration among faculty members from two or more colleges; congruency to the Center’s mission; potentiality of global impact; and potentiality of obtaining significant extramural resources.

The External Advisory Board is named by the directors and consists of five higher-level industry, government, and organization leaders, plus one ex officio member from the OAA. The Board may report in writing, in person, or via IP video to the President’s and Provost’s Advisory Committee and the OAA at their option. The External Advisory Board will
1. visit OSU once annually for two days to comprehensively review scientific progress, administrative effectiveness, and scholarly activities.
2. optionally attend the Center annual meeting; however, the second day of the visitation will be devoted to reviews with the Steering Committee and directors, followed by an executive session and written review.

The Program Manager, tentatively Dr. Stephanie Smith, will
1. be directly accountable to the project director.
2. organize meetings of the directors, the Steering Committee, and other Center faculty.
3. implement the annual Center meeting, awards ceremony, and research symposium.
4. assemble award juries and ad hoc committees from Center collaborators as needed.
5. draft the Center annual report and ensure that Center measures integrate with each college’s strategic plan; this includes annually providing colleges with supporting metrics.
6. support the work of each person or group listed above and help prioritize his or her efforts.
7. work with communication staff to maintain a Center web site featuring a compelling public face for media, restricted collaborator content, and public points of pride.

The Fiscal Officer, perhaps Terry Snoddy of OARDC, ensures financial integrity. He or she will
1. provide fiscal review, accounting, budget analyses, and reports to the directors.
2. prepare and submit required reports to OSU administration.
3. work with fiscal officers in the respective colleges.

*The Center will not capture any indirect cost recovery. (See Budget Footnotes.)*

The Communication Staff, likely already employed, are assigned by OSU to
1. encourage rapid public response to food issues.
2. select collaborators for professional media training.
3. ensure that the Center provides factual, science-based food information to the media.

The Center Evaluator from the Glenn School will evaluate and improve Center effectiveness.
Indirect Costs and Sustainability

Indirect cost recovery from Center extramural projects will be large and variable. Sustainability costs of the Center after five years will be both modest and constant. These seemingly inconsistent points enable us to forge a win-win agreement with sponsoring colleges.

The Center will return all indirect costs back to the colleges. The Center will also return directly to the units of instruction, according to the current budget model, all credit-hour subsidies earned by our new multidisciplinary majors and cross-listed courses. The Center will use an MOU to sustain operations.

The MOU will be like that of existing OSU Centers, and that described in other innovation proposals. The MOU will state the current distribution of indirect costs via the PA005 agreement is unchanged. The MOU will state that the current return of tuition revenues from Center courses continues to accrue to the instructor’s college. In return, the MOU will indicate dollar amounts that each college contributes to the Center. The dollar amounts may vary by faculty participants who change over the life of the Center. This MOU will have a two-year duration and will renew based on prior, biennial results. This process has already been successful, with FAES investing $24,000 in this Center in the first year of operations, to incentivize returns. Agreements with other colleges are likely once the Center is operational and before the end of the five-year OAA start-up.

External Agency Funding

Several federal agencies have substantial food and health grants. Listed here are current research and education awards in the million-dollar range, all of which are directly relevant to the Center. These are major sources of external leverage from day one.

3. NIH Exploratory/Developmental Research Grant Program (Parent R21), inclusive of the Fogarty International Center, National Eye Institute, National Institute on Aging, National Institute of Allergy and Infectious Diseases, National Cancer Institute, National Center on Complementary and Alternative Medicine, and Office of Dietary Supplements: funding for exploratory cancer prevention studies involving molecular targets for bioactive food components (R21).
4. National Science Foundation (NSF) Industry/University Cooperative Research Centers (I/UCRC): develop long-term partnerships among industry, academia, and government, to conduct research of interest to both industry and the Center.
5. USAID Global Food Security Response Africa Action Plan: funding for proposals forming public-private and/or private-private alliances to support effective staple food value-chains in West Africa.
6. USDA Agriculture and Food Research Initiative (AFRI) Competitive Grants: funding for competitive research, education, and Extension/outreach programs in high-priority areas of national need in agriculture, food, and environmental sciences.
8. The Bill and Melinda Gates Foundation: funding for diarrhea and enteric diseases grants and nutrition grants.
9. Basic Research to Enable Agricultural Development (BREAD), a newly established Gates Foundation Agricultural Initiative NSF Partnership award: funding to support research on food in the developing world.
10. The V Foundation for Cancer Research: funding for transition of projects from the laboratory to the clinic.
11. Other foundations that have supported OSU in the past and may support Center programs include the Burroughs Wellcome Fund and the W.K. Kellogg Foundation.

Federal funding for education is likely with these training programs:

1. National Cancer Institute, Cancer Education and Career Development (R25T): supports institutional curriculum-dependent pre-doctoral and postdoctoral programs.
2. NSF Alliances for Broadening Participation in STEM: enables seamless student transition from the baccalaureate through the doctorate and into the professoriate.
3. NSF Integrative Graduate Education and Research Traineeship: catalyzes a cultural change in graduate education by establishing innovative new models.
4. NSF Research Experiences for Undergraduates: expands student participation in all kinds of research.
5. USDA Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowships: encourages outstanding graduate students in priority national needs of US food and agricultural systems.

Long-Term Sources of Funding

The Ohio Department of Development (ODOD) Strategic Plan 2008 lists food processing as one of seven of “Ohio’s Statewide Targeted Industries.” Food is critical to state economic development, “best suited to Ohio’s core strengths, building from our manufacturing, agricultural, technology, research, and entrepreneurship strengths” (ODOD Strategic Plan, 2008). Dozens of faculty from several colleges joined the Center team since the letter of intent stage. A fourth theme in food business economics, led by Dr. Michael Leiblein, helps us meet the ODOD entrepreneurial goals.

The Center is a sustainable enterprise with excellent long-term prospects for Ohio-specific future investments. These include major programs such as the Third Frontier Project; the Wright Center Initiatives; the Ohio Edison programs, most notably The Center for Innovative Food Technology (CIFT); and USDA special appropriations to boost Ohio food competitiveness, championed by legislators such as Representatives David Hobson and Marcy Kaptur. Special appropriations to assist food industry competitiveness in Ohio now exceed $1.7 million annually.

(Continued on page 18.)
(Continued from page 17.)

At the federal level, the Center competes for and wins major USDA support from competitive grants and special appropriations. A three-way partnership among OSU, CIFT, and the US Army Natick Soldier Center helps gain US Defense support for food innovation. The Center for Advanced Food Processing and Packaging Studies (CAPPS) is an existing industry-university program that enhances our Center. CAPPS began as an NSF-sponsored partnership between food industry and three universities with mutual scientific benefits. NSF I/UCRC ensure that research is relevant to industry. Since 1998, CAPPS has supported more than $5 million in projects, with member fees of $35,000 per year. Dr. Steve Schwartz is the managing director for this program. Around 40 I/UCRC sites exist, but the OSU partnership with the University of California, Davis and North Carolina State University is the only site in the food discipline. Our Center will attract industry funds, perhaps resulting in an application to NSF as a new center using the leverage of existing partners starting in year four.

There is no other center in US higher education that does what we intend. There are many centers of food enterprise that are academic-industry funding mechanisms. However, our Center goes substantially beyond, engaging expertise in the public and private sectors to build a framework for long-term sustainability, and for sustainability of global food systems. This is a critical world need that no others address. This Center has credible plans for becoming self-sustaining, but more importantly, it presents a vision of humanity self-sustained by food.

### Metrics of Success

The Center goals map directly to the goals established by President E. Gordon Gee in consultation with the trustees and faculty, student, and staff leaders. Following is a list of the Center’s annual and cumulative evaluation metrics:

1. **One University.**
   1.1. **Goal Setting.** All Center leaders will achieve an integrated goal process by FY2012.
   1.2. **Master Planning.** Along with FAES and EHE, the Center will write a program of requirements for a collaborative research building in the integrated six-year capital plan.
   1.3. **Affiliated Entities.** The Center will write MOUs to define common goals with key food affiliates including SciTech, CIFT-Edison, and TechColumbus.
   1.4. **Medical Center.** The Center will ensure synergy with the optimized leadership structure in medicine.
   1.5. **Engaged Campuses.** Directors will ensure the Center’s seamless integration with the OSU Wooster campus.
   1.6. **Transinstitutional Programs.** The Center seeks synergy with other centers of innovation and TIE that are self-sufficient. We are planning a joint collaborators’ meeting with other innovation groups and an international conference in FY2012.
   1.7. **Research.** The Center will earn major external support. This will be a Center annual report item, and Center FTE members will provide the results to colleges.
   1.8. **Communications.** The Center will assign or hire a communications specialist to ensure a seamless interface with internal network news media.
   1.9. **Strategies.** At the Annual Center Meeting in FY2011, the milestones for the upcoming two years will be revised as needed, as will the planned university-wide review.

2. **Academic Excellence and Access.**
   2.1. **Student Success Profile.** Center advisors will implement a student success profile.
   2.2. **Academic Excellence.** The Center will define leading-edge measures of academic excellence.

3. **Resources.**
   3.1. **Campaign.** The Center will introduce itself to the donors that raised $12 million during its successful campaign.

4. **Talent and Culture.**
   4.1 Faculty and Staff. The Steering Committee will draft a faculty scorecard based on Center data. The Center will implement a culture where graduate students are viewed as next year’s collaborators.
   4.2. **Culture of High Performance.** Directors, with the help of OSU HR, will complete culture transformation training for all Center members by FY2011 at Center expense.

5. **Outreach and Collaboration.**
   5.1. **Economic Growth Engine Partnerships.** The Center will help to define Ohio’s Fourth Frontier with strategic partners in Edison Centers and Entrepreneurial Signature Programs. We will complete business plans with SciTech and will provide benefits in an MOU between OSU and Battelle.
   5.2. **Economic Growth Engine Projects.** The Center will inspire capital project planning to advance the top capital priority of FAES and EHE.
   5.3. **Flagship of the University System of Ohio.** Collaborators will extend Center memberships to other state colleges and universities.
   5.4. **Land-Grant of the World.** The Center will implement plans to incentivize study abroad for both students and faculty hosts. We will launch a strategic global partnership with a global university. We will organize a joint international conference with the TIE in Public Health Preparedness and other funded, innovative projects in FY2012. The conference will feature concurrent sessions in respective areas after a joint session with a high-stature global leader or Nobel Laureate.
Q: What is appealing about a food innovation center?

Lee: The food expertise at OSU is extensive and well suited to this faculty-up initiative. By making this a flatter, faculty governed idea, the people who do the work celebrate success or learn from failure. It maps directly on how people normally operate. We create a global center of excellence that nobody else in the nation is considering. While every other campus debates populist ideas, we can tackle something solvable within the current generation of science.

Q: So is faculty governance the model system for successful collaboration?

Lee: No, it’s not the system but the system values. I spent ten years on the faculty of another med-center land-grant, the University of Wisconsin at Madison. We had strong faculty governance, but I still remember how hard it was to get an MD just to do blood draws in my metabolic study. What’s different about OSU is our medical and other faculty members enthusiastically collaborate with each other. Having renowned food experts within walking distance of each other is a rare gift we should build upon. Large scale collaboration works when people value each other.

Q: Your expertise is different from your co principal investigators, so did you all just get together to write a multi-college proposal?

Lee: We all share the same passion! I recruited Steve [Schwartz] to our endowed chair vacancy from NCSU. I asked Steve on interview to do something great with tomatoes. He later helped recruit an outstanding collaborator from Harvard to our medical school, Dr. Steve Clinton. This pair laid the scholarly foundation for how tomatoes may prevent cancer. Mark Failla was attracted here as a visiting scientist to Schwartz’s very successful lab. Mark later joined OSU as a department chair, but to this day his strongest suit remains his passion for good research. Mike Leiblein is like minded, he shares our passion for making it work and he’s a natural fit for this team.

Q: Did you jump at the opportunity? Why did you join Ohio State?

Lee: The OSU food program was second-tier due to infighting from a fragmented program. The faculty decided to put an end to this, and I gladly joined the unified faculty idea. We waged a successful development campaign to become the best endowed food program in the US, built a new building, and won major awards for twelve years consecutive. We hired the best and most diverse faculty we could find, many who are now on this team.

This had little to do with me, and much to do with a culture of cooperation that just needed permission to work. In my first term as chair, a professor in another department, Dr. Sudhir Sastry, came to me with a six figure unrestricted gift fund that I could use to help new faculty members get started. Was I dreaming? Not really, here was an individual who understood the synergy of teamwork. After completing three chair terms I still have lots to learn from Sudhir. He is a collaborator on this venture and helped run the NSF center here.

Q: You imply that culture is more important than scholarly achievement, is that a message that you will share with collaborators?

Lee: It’s not a matter of importance. You need a common language and clear accountability to make scholarship work. So the right culture fuels research excellence. President Gee hired an external firm, Senn-Delaney to make One University the cultural norm, and over the next few years, this basic human operating system will become widely accepted. Scholars are very good at solving problems. Senn-Delaney helps people realize problems are solved better-faster-cheaper by good collaborative teams rather than great individual effort. We have culture transformation workshops planned in the first years of this center. I think this will help make this center sustainable well past the five year funding window.

Q: Congratulations on becoming an American Council on Education Fellow. Does this fellowship take your focus away from the food center?

Lee: Thanks for being so thorough in your research! The ACE Fellow is like a sabbatical leave that requires a significant contribution on my return. Making the food center a global point of pride would be a great ACE project.
KEN LEE
Professor and Director
Food Safety Center, Food Science & Technology
The College of Food, Agricultural, and Environmental Sciences
Ohio State University
Office: Department of Food Science and Technology, OSU (614) 292-7797
2015 Fyffe Road, Columbus, OH 43210-1007
fax: (614) 292-0218
cellular (614) 202-1135
web: http://fst.osu.edu/lee E-mail: lee.133@osu.edu

Academic Positions
• Director, Ohio State Food Safety and Security Center, CFAES, OSU 2005 to present
  Established a competitive Ag Bioscience Initiative Center, $400k / 3y, to help commercialize food safety technologies.
  Co-investigator in a six-college inter-university targeted investment in excellence awarded $4.7M /5y to build world-class
  excellence in public health preparedness.
• Professor and Chair, Department of Food Science and Technology, OSU 1990 - 2005
• Interim Director, Ohio State University Food Industries Center 2001 - 2002
• Associate Professor of Food Science, Dept. of Food Science, UW-Madison 1985 - 1990
• Assistant Professor of Food Science, Dept. of Food Science, UW-Madison 1980 - 1985

Education
• 1980 Ph.D., Food Science and Nutrition, University of Massachusetts, Amherst
• 1977 M.S., Food Science and Nutrition, University of Massachusetts, Amherst
• 1975 B.S., Food Science, Cook College, Rutgers University, N.J., High Honors

Honors
Robert Spitzer Excellence in Teaching Award 1985; GM Trout Distinguished Lecturer 1990; Elected Fellow of the Institute of Food
Technologists (IFT), 1997; Ohio State University Commencement Address December 7, 2001; OSU Extension Diversity Enhancement
Award, 1999; National IFT Carl R. Fellers Achievement Award, for bringing honor and recognition to the profession, 2007.

Research
Nationally recognized research programs on food chemical-nutrient interactions and mineral availability. Summary: 66 peer review
publications in J. Food Sci. (20), J. Food Prot. (6), J. Agric. Food Chem. (4), several others (14); 6 non-peer papers; 40 published abstracts;
6 Ph.D. Theses, 10 M.S. Theses. See http://fst.osu.edu/Lee/pub-list.htm for full list.

Service Relevant to this Food Center Proposal
Board of Directors, CIFT 2007-p. Lee serves on the Board of an Ohio Edison program that helps the state’s largest industry advance and
administers a $1.7m federal special appropriation.
Targeted Investment in Excellence Steering Committee, 2006-p, oversees a $4.7M competitive award to achieve preeminence in public
health preparedness.
Academic leader to OSU food science campaign 2000 that raised $12 million for a new building.
Current service to Senate Fiscal, Committee on Academic Freedom and Responsibility, Faculty Hearing Co-Chair, Student Judiciary &
CFAES Diversity Catalyst Team.
ABC News contact for OSU. http://abcnews.go.com/Video/playerIndex?id=3136401
STEVEN K. CLINTON  
Professor of Internal Medicine

Education

- State University of New York – Fredonia, Biological Sciences, B.S. 1974
- University of Illinois – Urbana, Nutritional Sciences, Ph.D. 1978
- University of Illinois – Urbana, College of Medicine, M.D. 1984

Postdoctoral Training, Residency, Fellowship

- University of Illinois – Urbana, Postdoctoral Fellowship, Environmental Toxicology Training Program, 1978-1980
- University of Chicago Hospitals and Clinics, Chicago, Intern, 1984 - 1985
- University of Chicago Hospitals and Clinics, Chicago, Resident in Medicine, 1985-1987
- Dana-Farber Cancer Institute, The Brigham and Women’s Hospital, Harvard Medical School, Boston, Fellowship in Oncology, 1988-1991

Academic Appointments

The Ohio State University, Columbus, OH
- Associate Director, Center for Advanced Functional Foods Research and Entrepreneurship 2006-present
- Director, Prostate and Genitourinary Oncology, Arthur James Cancer Hospital, 1998-present.
- Program Leader - Comprehensive Cancer Center, Molecular Carcinogenesis and Chemoprevention Group, 2002-present
- Adjunct Professor, Division of Urology, Department of Surgery, 2002-present
- Professor, Division of Hematology and Oncology, Department of Internal Medicine, 2007-present

Dana Farber Cancer Inst., Brigham and Women’s Hospital, Harvard Medical School, Boston, MA
- Associate Physician- Department of Internal Medicine, 1992-1998
  Clinical Associate, Genitourinary Oncology and Medical Oncology Clinic, 1992-1998
- Instructor in Medicine, 1992-1998

New England Medical Center, Tuft’s University, Boston, MA

Professional Membership and Service

- American Association for the Advancement of Science (AAAS), 1976-present
- American Society for Nutritional Sciences (ASNS), 1986-present
- American Association for Cancer Research (AACR), 1988-present
- American Society of Clinical Oncology (ASCO), 1993-present
- Carotenoid and Vitamin A Research Group (CARIG), 1994-present
- Molecular Epidemiology Group (MEG) of AACR, 1999-present

Honors

- NIH Predoctoral Fellowship, Nutritional Sciences Training Program, 1976-1978
- American Institute of Nutrition Graduate Student Research Award, 1978
- Sigma Xi Graduate Student Research Award for the University of Illinois, 1978
- University of Illinois College of Medicine Research Award, Urbana, 1984
- Alpha Omega Alpha, Medical Honor Society, 1984
- Emil Frei III Fellowship in Medical Oncology, Dana-Farber Cancer Institute, Boston, MA, 1990-1991
- Preventive Oncology Academic Award K07, National Cancer Institute, National Institutes of Health, 1992-1997
- Burroughs Welcome Visiting Professor in Medical Sciences, University of Georgia, Athens, 1995
- Suzanne Sheets Breast Cancer Research Award, Massachusetts Department of Public Health, 1996
- Arthur G. James Cancer Hospital Champion Award, Ohio State University, 2000
- Bertha Bouroncle Distinguished Faculty Teaching Award, Ohio State University, 2004
- Fellow, The American Association for the Advancement of Science (AAAS), 2009
Research

- To investigate the epidemiologic and molecular mechanisms underlying prostate cancer etiology and progression as a collaborator on the Harvard Health Professional’s Follow-up Study, a large prospectively evaluated epidemiologic study. Our laboratory is defining the role of prostate cancer angiogenesis as a predictive marker of prostate cancer risk and mortality, as well as the inter-relationships with oncogene and tumor suppressor gene function.
- To investigate the preventive properties of various fruits and vegetables on prostate cancer risk and progression. Investigations include extensive laboratory studies defining the molecular targets and mechanisms of action of various phytochemicals. The research team is actively engaged in novel translational clinical trials testing tomato-based food products in men and their impact upon prostate carcinogenesis.
- To determine the role of vitamin D in prostate cancer risk and prevention. Our laboratory is examining the ability of vitamin D to counteract the prostate cancer promoting effects of specific hormones, such as androgens. The relationships between diet-induced changes in serum 25-OHD and 1,25(OH)2D, prostate vitamin D receptor expression/function, and cellular events impacting upon prostate carcinogenesis is studied in a variety of experimental models.

Selected Publications


“This faculty driven proposal represents a unique opportunity for Ohio State to take a great leap forward and seize a global leadership role in foods and nutrition. You can count on a few fingers the number of academic institutions that have a College of Agriculture, Veterinary and Medical School, Business School, Human Nutrition Program, Food Technology Program, School of Public Health, and Comprehensive Cancer Center on one single campus. Yet traditional barriers to collaboration and integration need to be overcome to achieve our potential, and the OSU Food Innovation Center is exactly the mechanism that can propel us to academic prominence in this field and contribute solutions to critical global challenges in food and nutrition.”

— Steven K. Clinton, M.D., Ph.D., Professor, Internal Medicine, AAAS Fellow
STEVEN J. SCHWARTZ
Professor, Carl E. Haas Endowed Chair

Education
• State University of New York – Stony Brook, Chemistry B.S. 1976
• University of Wisconsin – Madison, Food Science M.S. 1979
• University of Wisconsin – Madison, Environmental Toxicology & Food Science Ph.D. 1982

The Ohio State University
• Director, Center for Advanced Functional Foods Research and Entrepreneurship 2006 - present
• Director, NSF Industry University Cooperative Research Center - 2006 -present.
• Carl E. Haas Food Industries Professor of Food Science & Technology - January,1996 – present.
• Faculty Member – Ohio State University Nutrition Program, 1997 - present.
• Faculty Affiliate - Comprehensive Cancer Center – Molecular Carcinogenesis and Chemoprevention Group.

Bogor Agricultural University, Indonesia
• Visiting Scholar - Inter-University Project in Food & Nutrition, October - November, 1991.

North Carolina State University
• Professor - Department of Food Science & Nutrition Faculty Member; July 1993 -January 1996.
• Associate Professor - Department of Food Science, July 1988 - June 1993.
• Assistant Professor - Department of Food Science, January 1983 - June 1988.
• Site Director - Center for Aseptic Processing and Packaging Studies, February,1995 – 1996.

Honors
• 2008 Fellow – Institute of Food Technologists
• 2007 Fellow - American Association for the Advancement of Science
• 2003 OARDC Director’s Innovator Award
• 2001 Institute of Food Technologists Research and Development Award
• 1989-1990 Sigma Xi Outstanding Young Investigator Research Award
• Phi Beta Kappa
• IFT graduate fellowship

Research
• Bioavailability, metabolism, and physiological significance of carotenoids, isothiocyanates, phenolics, isoflavones and other phytochemicals.
• Phytochemicals and bioactive components in foods related to chronic disease, oxidative stress, and cancer prevention and control.
• Chemistry of plant pigments, particularly chlorophylls, carotenoids, and provitamin A nutrients.

Selected Publications


Selected Grants


MARK L. FAILLA

Education

- St. Francis College, B.S. in Chemistry, 1970
- Indiana University, M.S. in Microbiology, 1975
- Indiana University, Ph.D. in Microbiology, 1976

The Ohio State University

- Associate Dean for Research, College of Education and Human Ecology, 2008-present
- Associate Director, Center for Advanced Functional Foods Research and Entrepreneurship, 2006-present
- Chair, Department of Human Nutrition, 2000-2008
- Director, Interdisciplinary Ph.D. Program in Nutrition (OSUN), 2000-2008
- Professor, Department of Human Nutrition, 2000-present
- Professor, Department of Food Science & Technology, 2008-present
- Faculty affiliate, Comprehensive Cancer Center – Molecular Carcinogenesis and Chemoprevention Division

University of North Carolina – Greensboro

- Chair, Department of Nutrition, 1995-1999
- Professor, Departments of Nutrition and Biology, 1991-2000

USDA Agriculture Research Service

- Adjunct Professor of Human Nutrition, University of Maryland, 1986-1991

Virginia Tech

- Associate Professor of Biochemistry and Nutrition, 1983-1986
- Assistant Professor of Biochemistry and Nutrition, 1979-1983

Honors (since 1995)

- American Society of Nutrition Dannon Institute Award for Mentorship, 2007
- Krauss Director’s Award for Excellence in Graduate Student Research Mentorship, Ohio Agr. Research and Development, 2005
- Department of Human Nutrition’s 2005 Faculty of the Year Award, College of Human Ecology, 2005
- Lucille Hurley Distinguished Professor Award, Dept. of Nutrition, University of California at Davis, 2001
- Outstanding Advisor Award, School of Human Environmental Sciences, UNCG, 1997
- UNCG Research Excellence Award, 1995

Research Focus

- Mechanisms of digestion, intestinal transport and metabolism, and absorption of health promoting compounds in plant foods including carotenoids, isoflavonoids and other polyphenols
- Transport, metabolism and functions of copper, zinc and iron

National and Professional Service (select)

- USDA ARS Office of Scientific Quality Review of CRIS Projects, Panel Manager, Nutrient Requirements and Bioavailability, 2003
- Chairman, FASEB Summer Conference on Micronutrients: Trace Elements, 1992
- Nutrition Study Section, NIH, 1992-1996
- Society for Experimental Biology and Medicine: Associate Editor, Experimental Biology and Medicine, 1998-2003; Chair, Search Committee for Editor-in-Chief, Experimental Biology and Medicine)
- North Carolina Academy of Sciences, Executive Committee, 1995-1998; President, 1997
Selected Publications (from >140)


Recent Grants


USDA CREES. Recruit, Retain, Refresh and Reward: The “4Rs” multicultural scholars program for enhancing diversity and post-baccalaureate success of under-represented students in nutrition sciences at The Ohio State University. Failla, Gunther, Bomser, Melgar-Quinonez, Smith. $84,000. 2008-2010.
MICHAEL J. LEIBLEIN
The Ohio State University
Columbus, OH  43210
(614) 292-0071
Leiblein_1@cob.osu.edu

Education
• Krannert Graduate School of Management, Purdue University: Ph.D. Strategic Management, Dec., 1996.
• Lally School of Business, Rensselaer Polytechnic Institute: Masters of Business Administration, May, 1990.

Professional Positions
• Assistant to Associate Professor of Management, Ohio State University (1998 to present).
• Instructor to Assistant Professor, University of South Carolina (1995 to 1998).

Research
• Professor Leiblein’s research program examines the relationship between aspects of firm organization and performance in technology-intensive industries. Recent work examines relationships between aspects of socio-economic exchanges (e.g., problem complexity and structure, exchange specificity and uncertainty), organization (e.g., use of particular incentive and coordinating devices) and performance (e.g., technical and financial performance as well as technological adoption and diffusion). His research has been published in a number of internationally recognized academic outlets including the Strategic Management Journal, the Journal of Industrial Economics, and the Academy of Management Journal and has been disseminated into practice through outlets such as the Financial Times of London.

Select Professional Awards
• 2007 Academy of Management Distinguished Paper Award in Business Policy & Strategy;
• 2005 Academy of Management Distinguished Paper Award in Business Policy & Strategy;
• 2002 Outstanding Core MBA Professor;
• 2000 Outstanding Core MBA Professor
• 1997 Academy of Management / Free Press Best Dissertation Award Finalist in Business Policy & Strategy;
• 1996 Academy of Management Honorable Mention for Best Paper Award in Technology & Innovation Management;

Select Professional Activities
Professor Leiblein currently sits on the editorial boards of the Strategic Management Journal, the Academy of Management Review, and the International Journal of Strategic Management. In addition, he serves as an area editor for the Journal of Management.

Select Publications


Breaking the Food Barrier

No architects have been hired, no ground broken, but today’s plan for the next major capital initiative in the College of Food, Agricultural, and Environmental Sciences gives top priority to state-of-the-art facilities for Agricultural, Environmental, and Development Economics; Animal Sciences; Food Science and Technology; and, if funded, the Food Innovation Center.

“A virtual food center can stand on its own, but creating a real facility inspires the imagination,” says Ken Lee, co-PI in the Food Innovation Center proposal and an expert on food safety in the College of Food, Agricultural, and Environmental Sciences. “This will be the Edison’s workshop of the food world, a magnet for food innovators from every discipline in every college.”

And that magnet has already attracted Michael Leiblein, co-PI and an expert on organization in the Fisher College of Business. Leiblein states, “Especially in contexts where problems are complex, a proven part of a successful organization is a mission-oriented facility that supports coordination, communication, and co-location of personnel.” Ultimately Leiblein believes, “This project places Ohio State on the path to preeminence in food-related research, scholarship, and outreach.”

The proposal team from left to right, Mark Failla, Stephanie Smith, Steven Clinton, Michael Leiblein, Ken Lee, Sarah Patterson, Martha Filipic, and Steve Schwartz.
COLLABORATORS

Making A Compelling Case for One University

Cheryl Achterberg
PhD, Dean, EHE
http://ehe.osu.edu/admin/dean/
614.292.2461

I am a tenured professor in the Department of Human Nutrition, and Dean of an outstanding college. I was recently appointed to the 2010 Dietary Guidelines Advisory Committee as one of 13 experts to advise the U.S. Departments of Agriculture and Health and Human Services about proper nutrition Americans need to stay healthy and fit. I have received significant funding from the: USDA, March of Dimes, National Dairy Council, H. J. Heinz Foundation, NIH, United Nations Food and Agriculture Organization, and Kraft-General Foods in the past. My current expertise is in the study of dietary patterns and dietary guidance with U.S. and overseas experience at a national policy level.

Robert Agunga
PhD, Associate Professor, Agricultural Communication Program
Department of Human & Community Resources, FAES
http://ag.osu.edu/~hcrd/people/staff/agunga.html
614.292.8751

I am interested in research on communication and social impact assessment of knowledge, attitude and behavior studies related to food and health and lifestyle choices. I am particularly interested in designing, implementing and evaluating health and agricultural communication campaigns. I am also interested in the role of communication in promoting social and economic change in developing countries toward achieving food security, proper nutrition, poverty reduction, HIV & AIDS awareness, climate change education and sustainable development practices. Under the Center’s umbrella, I will be able to pursue these interrelated goals taking a general systems theory perspective. Communication is the heart of human economic and socio-cultural change, in the food system and allied areas.

Valente Alvarez
PhD, Professor, Food Science and Technology, FAES
http://fst.osu.edu/Alvarez.htm
614.292.7765

My contribution to the Center will be in three areas. First, in food production safety, I have developed environmental and food risk assessment programs for food plant operations and implemented training courses in food safety, good manufacturing practices (GMPs), and Hazard Analysis and Critical Control Point (HACCP) for plant management personnel. Second, I conduct applied research related to pilot plant-level production and scale-up of health promoting foods. Third, I will promote food safety internationally, particularly throughout Latin America where I have collaborations in seven countries. This new center will enhance the already successful, self-supported, fee-based programs of the Food Industries Center for the food industry, entrepreneurs, and related institutions.

V.M. (Bala) Balasubramaniam
PhD, Associate Professor, Food Science and Technology, FAES
http://fst.osu.edu/bala/index.htm
614.292.1732

I bring 15 years of food engineering expertise to the Center’s multidisciplinary projects addressing food safety and quality. One opportunity for collaboration resulting from the emergence of food pathogens relates to the critical need for the development of novel intervention technologies. One example relates to virus attachment in fruits and vegetables, a problem that can be comprehensively addressed when food engineers and virologists work together. Another opportunity is to evaluate quality preservation and intervention technologies. The FDA recently approved pressure-assisted thermal sterilization for low-acid food processing creating an opportunity for food engineers and nutritionists to team up to study degradation of nutrients and bioactive compounds during sterilization.

Sheryl Barringer
PhD, Professor Food Science and Technology, FAES
http://fst.osu.edu/Barringer.htm
614.688.3642

I will assist the center by furthering research in the area of food processing as a means of improving food safety. I will also work to disseminate this information to both the food industry and the public so that we can both use existing techniques and develop new processes for improving the safety of food. My research and teaching are in the area of fruit and vegetable processing. These industries suffer from a large number of foodborne illness outbreaks which can be reduced by better handling practices both in manufacturing facilities and by consumers.

Margaret Binkley
PhD, Assistant Professor Consumer Sciences, EHE
614.292.4529

I will contribute to the Center primarily in the area of food pathogen-related disease reduction. I will work with the industry to access food safety training and employee food safety knowledge and to assess the practices in place to ensure the safety of food for consumers. Currently, I am working with the restaurant industry to develop a standard for hand-washing compliance for employees and with the grocery industry to develop an online food safety training program for the hot/cold food bar area.

Craig Boardman
PhD, Assistant Professor John Glenn School of Public Affairs
http://glennschool.osu.edu/faculty_staff/c_boardman.php
614.292.5360

I bring experience as an evaluator and researcher of university-based research collaborations that span disciplinary, institutional, and sectoral boundaries, including but not limited to university research centers. Specifically, my work focuses on how the stakeholder and participant bases as well as the management and processes of university research centers contribute to “additional” behaviors and outcomes that perhaps would not have occurred absent the center mechanism.
I will contribute to research initiatives in biomedical nutrition and food for health and disease prevention. To date, the mechanisms by which dietary components influence health and disease risk have not been well characterized. Using a variety of in vitro and in vivo approaches, I will begin to elucidate the specific cellular mechanisms by which dietary food components impact these processes. Understanding these mechanisms is critical for the continued development and implementation of dietary strategies to prevent chronic disease. The Center will facilitate this research by addressing the many complex biomedical, economical, and social issues associated with diet and disease risk.

Prospor Boyaka

PhD, Associate Professor Veterinary Biosciences, Vet Med
http://vet.osu.edu/ProsperBoyaka.htm
614.247.4671

I will contribute my expertise in mucosal immunology to the investigators of the Center. Interactions of food components with mucosal immune system of the gastrointestinal tract are critical for shaping the overall immune status and for the development of immune pathologies such as allergies and inflammation. The Center will provide me a unique platform for interactions with colleagues in the area of nutrition and food sciences which may be critical for the development of interdisciplinary research and will help familiarize biomedical investigators with the complexity of the world of food.

Heather Chandler

PhD, Assistant Professor of Optometry
http://optometry.osu.edu/directory/faculty_detail.cfm?id=Chandler.111
614.247.0005

I will contribute to the Center by exploring biomedical nutrition. My current research involves how nutrition and supplementation influences ocular health. Poor nutrition, resulting in deficiencies or excess, can greatly impact a person’s vision and quality of life. This Center will allow me to work closely with collaborators to determine new strategies to take bench-top research to the bedside, applying biochemical approaches in nutrition to the global community. With dietary-associated diseases such as diabetes, macular degeneration, and vitamin deficiencies on the rise, there is a great need to determine how nutritional changes can directly impact sight.

Steven K. Clinton

MD, PhD, Professor Internal Medicine, COM
http://internalmedicine.osu.edu/hem/onc/860.cfm
614.297.7580

I have been engaged in the care of cancer patients for almost two decades. Although there have been tremendous advances over these years in cancer treatment we still have a long road ahead of us. Interestingly, the efforts devoted to cancer prevention, particularly diet and nutrition, and have lagged far behind. The Food Innovation Center combined with support from the James and Comprehensive Cancer Center can propel OSU to the forefront of research in the field of diet, nutrition, and cancer. This is the ideal model for trans-disciplinary research that can impact populations around the world. OSU is unique, as almost no other Universities have such strengths on one campus and simply must take advantage of this opportunity.

Amy Cohen

JD, Assistant Professor of Law, Law
http://moritzlaw.osu.edu/faculty/bios.php?ID=12
614.247.8459

I am eager to link food policy, international development policy, law, and trade and am specifically interested in the relationship between food shortages and domestic/global governance structures. Two basic questions are as follows. First, now when global food prices are so high, what is the relation between World Trade Organization export restrictions on agricultural products and food shortages in developing countries? Second, what policies currently justify food subsidies in wealthy countries? Next semester, I’ll teach a course on international law and development at the University of Turin and will use that experience as an opportunity to think more systematically about global food policy.

Keely Croxton

PhD, Associate Professor Logistics, Business
http://fisher.osu.edu/research/faculty-expertise/marketing-logistics/croxton
614.292.6610

We can use science and technology to produce healthier and more plentiful crops, but unless we can move them safely and cost-efficiently, we cannot break the poverty cycle. This, in part, is a logistics problem and

I will provide that expertise to the Center. My husband and I raised money to build a water-well in Kenya, then visited the village to see it and meet the people it serves; strengthening my resolve to help others access basic needs like food and water. The Center will provide a fantastic opportunity to combine my professional interest in logistics with my personal interest in doing good to change the world!

Robert W. Curley Jr.

PhD, Professor Medicinal Chemistry, Pharmacy
http://pharmacy.osu.edu/programs/medchem/faculty/curley/614.292.7628

With my interest in drug design, small molecule synthesis, and molecular structure elucidation, particularly in the area of nutritional biochemicals and especially the fat-soluble vitamins, I will use my chemistry expertise to help Center research teams. The Center will help me find collaborators in food science and nutrition and attract graduate students and post-doctoral scholars with an interest in interdisciplinary research.

Steven T. Devor

PhD, Associate Professor Health and Exercise Science Program, EHE
http://moritzlaw.osu.edu/faculty/devor.cfm
614.688.8436

I work in synergy with Center participants on the impact of healthy foods on immune response and quality of life. Inflammation initiated by pathogens or cancer is improved by a healthy diet. An elderly population or lifestyle results in many individuals with cancer, arthritis, obesity and atherosclerosis. I am actively working to understand the effect of carbohydrate metabolism is altered during the aging process in endurance athletes. Specifically we seek to understand how the lactate transporter protein is altered during aging in the skeletal muscles of the legs.

Andrea Doseff

PhD, Associate Professor Molecular Genetics, CBS; Internal Medicine, COM and CPH
biosci.osu.edu/dosefflab/614.292.8987

I work in synergy with Center participants on the impact of healthy foods on immune response and quality of life. Inflammation initiated by pathogens or cancer is improved by a healthy diet. An elderly population or poor lifestyle results in many individuals with cancer, arthritis, obesity and atherosclerosis. I am actively working to understand the effect of healthy foods in the genetic and molecular mechanisms of inflammatory-mediated disease. My findings provide novel therapeutic approaches for treatment and prevention of numerous diseases.
**Collaborator Biosketches**

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<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Jennifer Shine Dyer</td>
<td>MD, Pediatrics, Nationwide Children's Hospital</td>
<td><a href="http://www.nationwidechildrens.org/">http://www.nationwidechildrens.org/</a></td>
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<td></td>
<td>I am a pediatric endocrinologist, obesity/diabetes researcher, former Texan and beginning foodie who believes in the power of balanced nutrition to prevent disease.</td>
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<td>Helen B. Everts</td>
<td>PhD, RD, Assistant Professor in Human Nutrition, EHE</td>
<td><a href="http://ehe.osu.edu/facstaff/">http://ehe.osu.edu/facstaff/</a></td>
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<td>I bring an expertise in vitamin A metabolism to the Center. Specifically my work focuses on the last steps in the synthesis of the active form of vitamin A (retinoic acid). I am currently focusing on the role of endogenous retinoic acid in skin and hair, although I am open to collaborate in other systems. This work fits within the larger group of vitamin A researchers on campus who focus on other aspects of vitamin A metabolism and function. This center will provide us resources to better collaborate and assist us in obtaining larger grants from NIH.</td>
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<td>Mark Failla</td>
<td>PhD, Professor Human Nutrition, Associate Dean for Research, College of EHE</td>
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<td>Our research team uses in vitro and in vivo models to investigate the gastrointestinal metabolism and efficiency of absorption of health-promoting compounds in plant foods and dietary supplements. We also are investigating the activities of these compounds in maintaining a healthy gastrointestinal tract. The planned Center will provide us with opportunities to further expand our collaborations with talented colleagues at OSU. Moreover, the trans-disciplinary emphasis of the Center creates a uniquely rich environment for the training of my students in the many areas for which I lack expertise and insight.</td>
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<tr>
<td>Martha Filipic</td>
<td>Communications and Technology, FAES</td>
<td><a href="http://commtech.ag.ohio-state.edu">http://commtech.ag.ohio-state.edu</a></td>
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<td>614.292.9833</td>
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<td>I am a technical editor for the College of Food, Agricultural, and Environmental Sciences and am on the writing team for this proposal. Working in news and media relations with the college since 1987, my work has focused on food safety, food science and other consumer-oriented topics. I help lead the college’s risk communications efforts and write a weekly column, Chow Line, on food and nutrition. I look forward to working with the media and internal and external partners to broaden understanding of the benefits the Food Innovation Center brings to Ohio and beyond.</td>
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<td>Jeff Firkins</td>
<td>PhD, Professor Animal Sciences, FAES</td>
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<td>I study ways to improve the supply of microbial protein to the small intestine of dairy cattle to reduce losses of nitrogen and emission of methane into the environment. My research helps improve the fatty acid composition of milk to improve consumer acceptance and profitability of dairy production. My involvement with the Center will improve my competitiveness for external funding and productivity. As the Director of the OSU Nutrition program, I believe this Center will improve our ability to recruit the best and brightest students and provide a more unified and compelling transfer of our collaborative research findings to the public, recouping OSU’s investment many times over.</td>
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<td>Sylvan Frank</td>
<td>PhD, Professor and Associate Dean Pharmacy, Pharmaceutics, Pharmacy <a href="http://pharmacy.osu.edu/">http://pharmacy.osu.edu/</a> programs/ceut/faculty/frank/</td>
<td><a href="http://amp.osu.edu/md/3028.cfm">http://amp.osu.edu/md/3028.cfm</a></td>
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<td>614.292.6343</td>
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<td>I have extensive expertise in academic and industrial pharmaceutics, specifically in the design, development and evaluation of orally administered drug delivery systems from initial concept to formulation. Many of the same pharmaceutics principles are used in food science, such as delivery of nutrients or protective agents to crops, formulation of food products, market trials and analyses, food safety, and other areas in the complex global fabric of “food science.” This Center provides an opportunity for translational and trans-disciplinary research and development, with the focus on bringing our unique capabilities in pharmaceutics to contribute to a broad global opportunity to benefit people in food-related areas of need.</td>
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<td>Maureen Geraghty</td>
<td>PhD, RD, Assistant Professor Medical Dietetics, COM</td>
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<td>614.247.4595</td>
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<td>I have been a practicing dietitian for over 20 years, worked as a clinical dietitian (oncology, gastrointestinal, diabetes), and as a Senior Clinical Nutrition Researcher in industry (Abbott Nutrition). My current research addresses the use of dietary supplements, especially probiotics, in various populations. I also research problem eating behaviors in children with autism. Due to my extensive background with dietary supplements, I have an appointment as a LEND (Leadership Excellence and Education in Neurodevelopmental Disabilities faculty member, where I participate in interdisciplinary training in the Nisonger Autism clinics (where uninformated parents frequently use multiple supplements in their children).</td>
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I join this Center to explore innovative ways to improve health and quality of life through our diet. My research has focused on the study of polyphenolics, potent antioxidants abundant in fruits and vegetables, believed to contribute to the ability of fruits and vegetables to fight chronic diseases. We can make foods healthier without sacrificing sensory appeal. Anthocyanins, for example, are natural pigments that can replace synthetic dyes, improving visual appeal and making foods healthier. This Center will greatly facilitate collaborations to better integrate knowledge about consumer choices, economic factors, and health impacts involved in dietary modification.

Gayle Gordillo
MD, Surgery, COM
http://surgery.osu.edu/plastic/11362.cfm
614.293.8566

I am a plastic surgeon specializing in burn and wound care and treating children with endothelial cell tumors. I have research activities that use nutritional products in relation to both areas of her clinical expertise. I am principal investigator on a double blind randomized placebo-controlled study investigating the effects of tocotrienol, a naturally occurring form of vitamin E, on scar tissue formation in surgical patients. Through the support of an NIH K award I am also performing mechanistic studies to determine how blueberry extract inhibits the growth of endothelial cell tumors, which are the most common soft tissue tumors in infants.

John Gray
PhD, Assistant Professor Management Sciences, Business
http://fisher.osu.edu/departments/management-sciences/faculty/john-gray/
614.247.8021

My unique contribution is to bring my knowledge of how a firm’s organizational structure influences a plant’s propensity to produce off-quality food. I have shown that both the outsourcing and the off-shoring of production negatively affect quality risk. And, I am studying the effectiveness of managerial approaches to mitigate the quality risk in outsourcing. I am excited about the prospect of working with experts in food safety who understand how quality risk is affected by the inherent characteristics of food products and processes. Our complementary knowledge about drivers of the same problem—food quality—can lead to breakthrough research that can impact policy and practice.

Parwinder Grewal
PhD, Professor Plant Pathology, FAES
http://plantpath.osu.edu/faculty-and-staff/faculty-directory/grewal-parwinder
330.263.3963

I lead the interdisciplinary Urban Landscape Ecology Program (ULEP) and direct the Center for Urban Environment and Economic Development (CUEED). Our overarching research and outreach goal is to build self-reliant metropolitans which can meet most of their food, energy, and renewable resource needs within the contiguous metropolitan regions. In one of our current research areas we are evaluating the potential of urban agriculture and gardening to revitalize urban neighborhoods and to enhance accessibility of healthy and fresh produce. In this regard, the center will bring together food packaging, safety, and nutritional expertise to enhance urban entrepreneurial activities and public health.

Erich Grotewold
PhD, Professor Plant Cellular and Molecular Biology and Horticuture and Crop Sciences, FAES
http://biosci.osu.edu/~plantbio/osu_pcmdb/faculty_sites/Erich/index.html
614.292.2483

I bring to the Center expertise in manipulating plant metabolic pathways with the purpose of altering the content of specific compounds, or to make in particular plants (e.g., crops) compounds normally not present. Towards these objectives, my research group utilizes a number of molecular and cellular approaches, which include increasing or decreasing the function or expression of regulatory proteins that control particular biosynthetic pathways. We benefit from the expertise provided by the Center in understanding what the consequences are of such alterations in the nutritional properties of the engineered plants.

Dana Hardin
MD, Pediatric Endocrinology, Nationwide Children’s Hospital http://www.nationwidechildrens.org/gd/applications/controller.cfm?page=5&name=p-profile&pid=11775&section=PPV
614.722.4425

I am both a pediatric endocrinologist and an active translational researcher. The NIH has made my research a priority. Translational research in its broadest form is “bench to bedside,” harnessing knowledge from basic science to produce new drugs, devices and treatment options for patients. The goal is the production of promising new treatments. Translational research also refers to translating research into clinical practice by ensuring that new treatments and knowledge actually reach the patients for whom they are intended. The Center will help me foster collaborative clinical care, translational research, and improve outcomes for patients.

Ronald D. Harris
Adjunct Professor, FAES, Lecturer, Fisher College of Business
http://fisher.osu.edu/departments/management-sciences/faculty/ron-harris
614.292.5289

The Food Center fills a huge void in food industry research. I am interested because of my long involvement with R&D in food processing companies, my role as an Adjunct Professor, and my management of family farms and ranches. Industry research is inadequate to meet the needs for reducing food pathogen problems, solving the world-wide problem of malnutrition in children, and foods that can reduce medical costs. Investment in industrial research is minimized because of its long-term and uncertain results. Line extensions fail to address world-wide food issues. The combined capabilities of several colleges and industrial supporters are important if we are to see global impact.

Earl Harrison
PhD, Professor Human Nutrition, EHE
http://ehe.osu.edu/facstaff/hn.php?name=Earl%20Harrison
614.292.4485

My laboratory studies the basic mechanisms involved in the intestinal absorption, transport, and metabolism of dietary vitamin A and carotenoids using cell culture, animal models, and investigations in human subjects.
COLLABORATOR BIOSKETCHES

I am particularly interested in defining the proteins involved in the uptake and metabolism of dietary carotenoids in the intestine and in defining the metabolites of dietary carotenoids and their biological functions. I am a recent addition to The Ohio State University, becoming the Dean’s Distinguished Professor of Human Nutrition in 2006.

Casey Hoy
PhD, Professor and Kellogg Endowed Chair in Agricultural Ecosystems Management
http://www.oardc.ohio-state.edu/newentomology/personnelsingle.asp?strid=314
330.263.3611

I lead the interdisciplinary and WK Kellogg Foundation endowed Agroecosystems Management Program, that includes both people and the land. Our program seeks balance between prosperous farms, sustainable communities and healthy environments. I explore interactions between social networks, local economies and ag ecosystems from individual to community to landscape scales. The goal is building local and regional economies across the rural to urban continuum, starting with food systems. This Center brings together needed expertise across the food system value chain. It brings current science and technology to bear on relocalization of food systems to support healthy communities and healthy ecosystems.

Samson Jacob
MD, Molecular and Cellular Biochemistry, COM
http://biomed.osu.edu/mcbiochem/11376.cfm
614.688.5494

My laboratory is focused upon understanding the epigenetic changes that occur during carcinogenesis. Quite remarkably, we found that diet and nutrition is one critical factor influencing epigenetic modification of the genome. We discovered that specific genes were methylated and silenced in liver tumors produced by a dietary deficiency of folate and the encoded protein exhibits all the known characteristics of a bona fide tumor suppressor. We also found alterations in the epigenetic factors in HCC induced by folate deficiency, which is common in many parts of the world where liver cancer is prevalent. We look forward to integrating our work into the Food Innovation Center for additional studies of gene-nutrient interactions.

James Kinder
PhD, Professor and Chair Human Nutrition, EHE, Professor and Chair Animal Science, FAES
http://extension.osu.edu/~ansci/showdetails.php?FID=26
614.292.3232

As Interim Chair of the Department of Human Nutrition and Chair of the Department of Animal Sciences which has a very strong profile in the nutritional sciences, I bring unique integration the OSU nutritional sciences programs from food production to human health. The Center will provide a forum to strengthen relationships with the leading OSU nutritional and human health scientists striving to translate basic nutritional biological findings for human well-being through enhanced nutrition. The Center will benefit many of these scientists by providing a forum through which these scientists integrate thought processes in an enhanced way.

Maryanna Klatt
PhD, Assistant Professor School of Allied Medical Professions and Family Medicine, COM
http://amp.osu.edu/md/5342.cfm
614.292.0065

My focus is proactive approaches to Health and Wellness using Integrative Medicine. Biomedical Nutrition — diet, nutrition, disease prevention, and health promotion is my interest. My research addresses nutrition, diet, and food, teaching mindful eating skills to both inner city elementary children and to adults. Mindful eating has become an innovative technology of change addressing childhood and adult obesity. I am Co-Investigator on an NIH R21 investigating the impact of Mindfulness (including mindful eating techniques), and a PI on an OSU Outreach and Engagement Grant, investigating yoga/meditation/nutrition implemented during the school day.

Matthew Kleinhenn
PhD, Associate Professor/Extension Vegetable Specialist, Horticulture and Crop Science, FAES
http://oardc.osu.edu/kleinhenn/
330.267.3810

I am a horticulturist and Extension Specialist with responsibilities including the design and implementation of sustainable, resilient vegetable growing systems. I work alone and with many public and private professionals, including farmers, and consumers. I am pleased with the emergence of this Center for three reasons. First, diversity and a strong and growing track record of successful transdisciplinary work prepare The OSU and Ohio to address food issues that affect all global citizens. Second, the Center will tangibly increase our long-term ability to satisfy The OSU’s research, teaching and service charter. And, finally, the Center will broaden and strengthen collaborations and resources critical to my work.

Lynn Knipe
PhD, Associate Professor, Animal Science, FAES
http://fst.osu.edu/Knipe.htm
614.292.4877

My OSU Extension appointment has resulted in a unique network with most of the meat processors in Ohio and many across the U.S. My interaction with this network of companies and regulatory agencies gives me a unique perspective on the food safety and security issues that the meat industry faces. Through my collaboration with OSU microbiologists, applied research can be conducted with results that can be immediately applied in the meat industry. I have also developed a rapport with the Ohio meat industry that translates into a good response to training opportunities that I provide. In addition, the meat industry has come to recognize the OSU Meat Science website as a good source of technical information.

Daren L. Knoell
PhD, Associate Professor of Pharmacy, Medicine and Medical Pharmacology, COM, Pharmacy
http://www.pharmacy.ohio-state.edu/programs/prac/faculty/knoell/
614.292.0075

I am interested in the impact of nutritional deficiencies on innate immune function and the host response to infection; understanding the role of zinc in the innate host response to systemic infection and how this impacts host morbidity and mortality; and mechanistic studies focused on the regulation of zinc homeostasis through zinc transporters.

Sandra Kostyk
MD, PhD, Assistant Professor Neurology and Neuroscience, COM
http://biomed.osu.edu/neuroscience/3795.cfm
614.688.3675

We are currently interested in identifying disease modifying interventions for individuals with neurodegenerative disorders and in par-
ticular, those with Huntington’s and Parkinson’s Diseases. It appears that environmental and perhaps nutritional factors (e.g., fish oils, dietary anti-oxidants and supplements) may alter disease course. We have a well characterized clinical cohort of patients and would like to expand our interventions and studies beyond current clinical trials with agents such as our on-going trials with Coenzyme Q10 and creatine. Altered energy metabolism and caloric expenditure/consumption may be factors in disease progression in both of these disorders.

**Jeff Kuret**
*PhD, Professor Molecular and Cellular Biochemistry and Center for Molecular Neurobiology, COM*

http://cmn.osu.edu/1495.cfm
614.688.5899

Alzheimer’s disease is defined pathologically by the appearance of characteristic lesions in the brain. We are interested in testing whether diet affects lesion formation in biological models and mechanisms through which it may do so. Our long-term goal is to determine whether dietary control represents a potential approach for delaying onset of Alzheimer’s disease.

**Chang Lee**
*DVM, PhD, Assistant Professor Veterinary Preventive Medicine; Food Animal Health Research Program, Veterinary Medicine*

http://vet.osu.edu/ChangWonLee.htm
330.267.3750

My major area of research interest is pathogenesis of influenza virus. Influenza virus is not considered to be a food-borne pathogen in general. However, a couple of studies reported that influenza virus could be transmitted to eggs. Recently, we demonstrated for the first time that low pathogenic H3N2 influenza virus (that has potential to infect humans) can be transmitted to internal egg contents which raises concern for egg-borne transmission of virus to humans. Currently, we are further investigating different strains of influenza virus for egg-borne transmission potential and efficacy of the vaccine for pre-harvest control. In addition, in collaboration with Dr. Ahmed Yousef, we are testing post-harvest control of infected eggs.

**Jiyoung Lee**
*PhD, Assistant Professor Food Science and Technology, FAES; Environmental Health Science, Public Health*

http://cph.osu.edu/biopage2.cfm?id=13
614.292.5546

I will contribute to the Center’s goal to reduce food pathogen-related diseases by developing a rapid multiplexed method for detection of foodborne pathogens. I can help understand the quantitative risk along the farm to fork food chain by using the multiplexed rapid tool. I can also contribute to linking the environment (water), food and the human health issues such as environmentally friendly disinfection in food industry for ensuring food safety while improving wastewater quality, thereby minimizing environmental impact. I will teach Global Health & Environmental Microbiology in the fall and will plan to incorporate food safety issues with a global view into the course.

**Ken Lee**
*PhD, Professor and Director, Food Science and Technology, FAES*

http://fst.osu.edu/lee/
614.292.7797

It is exciting to see the strategic directions of the state and the university line up to solve an important global food problem. My lab investigates new food safety technologies. I bring experience with prior successful centers such as the Targeted Investment in Public Health. I recognize the synergy of people collaborating based on shared objectives and mutual respect. We are entering a new phase of intensive collaboration with the university investing in culture transformation. This list includes the most talented and forward thinking scholars impacting food. No other institution has these people or ideas so this is potentially a world-changing event.

**Michael J. Leiblein**
*PhD, Associate Professor Strategic Management Group, Business*

http://fisher.osu.edu/~leiblein_1/
614.292.0071

I am part of a movement in the Strategic Management Society to explore opportunities to apply our theories of strategy, organization and competitive advantage to important practice areas, such as healthcare, hunger, poverty, the management of energy and other scarce natural resources. My skills may contribute in helping to understand how the organization of incentive and monitoring devices within firms or across firms within the agricultural and food industries affects food production and the diffusion of nutritious foods across consumer segments and nations. I focus on the use of incentives, information, and different institutional devices to think about how one might design system that guides individuals to behave in desired ways and hopefully develop valuable technology.

**Jeff LeJeune**
*DVM, PhD, Associate Professor Veterinary Preventive Medicine, Vet Med*

http://vet.osu.edu/JeffreyLeJeune.htm
330.267.3739

My research focuses on the ecology and epidemiology of bacterial foodborne pathogens in the pre-harvest environment. I work on the development of strategies to prevent the infection of food-producing animals and the microbial contamination of fruits and vegetables. These studies are applicable to domestic and international food production systems. I also research prevention of waterborne diseases. Pathogens of interest include: E. coli O157 and other Shiga toxin-producing E. coli, Salmonella, and Clostridium difficile.

**Jianrong Li**
*DVM, PhD, Assistant Professor, Food Science & Technology, FAES*

http://fst.osu.edu/Li.htm
614.688.5728

My research interest is the interaction of foodborne viruses with food and the environment. Viruses have become more important in food safety and public health. In fact, viruses account for more than 70% of foodborne illness. The Center will provide an excellent platform to study the biology of foodborne viruses and to develop novel strategies to inactivate and eliminate foodborne viruses with the ultimate goal of improving food safety and public health. I am very excited to collaborate with faculty members in the Center.

**Michael Lilburn**
*PhD, Professor Animal Sciences, FAES*

http://ansi.osu.edu/showdetails.php?ID=31
330.267.3992

My background is in poultry nutrition and my contribution to the Center will relate to how nutrition and production practices influence the quality of poultry products.
One aspect of quality relates to nutrients that are purported or perceived to enhance the nutritional value of the product (omega-3 fatty acids, Vitamin E) and their enhancement. A second aspect of quality encompasses nutritional practice outside the conventional box, such as raising poultry without antibiotics. We have a considerable research effort dedicated to understanding the interactions between diet, management practice, and age of the bird on the normal intestinal microbiome.

**Young C. Lin**  
DVM, PhD, Professor Veterinary Biosciences, Vet Med  
http://vet.osu.edu/YoungLin.htm  
614.292.9706

My research projects are relevant to the human nutrition for chemoprevention and tumorigenesis of bio-active food component in human diets. I would like to participate as a research member of the proposed Food Innovation Center.

**Joyce McDowell**  
Associate Professor, Human Nutrition, Leader Community Nutrition, OSU Extension  
http://fcs.osu.edu/people/mcdowell-joyce/index.php  
614.292.1655

My role and contribution will be in the translation of food safety and nutrition research findings to science-based curricula for community nutrition programs that target low income individuals and families in Ohio. I serve as Principle Investigator for the Ohio Expanded Food and Nutrition Education Program (EFNEP) and for Ohio Supplemental Nutrition Assistance Program-Education (SNAP-Ed). These two programs reach about 17,000 youth and 40,000 adults in 70 Ohio counties. I am able to partner EFNEP and SNAP-Ed peer-educators and/or participants with scientists who want to research nutrition, health and well-being issues of low income youth and/or adults.

**Lydia Medeiros**  
PhD, Professor Human Nutrition, EHE  
http://ehe.osu.edu/facstaff/hn.php?name=Lydia%20Medeiros  
614.292.2699

I am in Human Nutrition (OSUE and OARDC appointments), and affiliated with the Public Health Preparedness for Infectious Diseases program. I research the educational needs of patients at immunological risk for foodborne illness needs of health professionals to meet patients’ need for health information. I also teach about how socio-economic and cultural groups meet their nutritional needs. My combination of nutrition, food safety, and cultural diversity expertise will add to the interdisciplinary approach of the Center. In turn, I will benefit from the diversity of collaborations with researchers in fields tangential to my interest.

**Sharell Mikesell**  
Associate Vice President - Industry Liaison Office, Office of Research  
www.iло.osu.edu  
614.247.4221

The Ohio State University Industry Liaison Office (ILO) was launched in December 2008 to facilitate seamless collaborations between industry and Ohio State researchers and foster economic development opportunities within Ohio and beyond. The primary responsibility of the ILO is to arrange and facilitate successful collaborations between companies and the experts at Ohio State. The ILO will help lay the groundwork for a mutually beneficial partnership between this Center and the university. The ILO will facilitate a fast track toward companies working with the Center which will result in moving innovations forward to meet marketplace needs.

**Carla Miller**  
PhD, Associate Professor Human Nutrition, EHE  
http://ehe.osu.edu/facstaff/hn.php?name=Carla%20Miller  
614.292.1391

My expertise includes the evaluation of how and why people make behavioral change, including food-related changes. I’m interested in the decision-making process that consumers use for food choice. I examine the relationships among behavior, health-related outcomes, and mediating variables which promote and sustain behavioral change, especially for people managing chronic diseases. My research program includes the development, implementation and evaluation of behavior change interventions. My contribution to the Center would be in biomedical nutrition and in developing programs to facilitate the adoption of novel food products by consumers for health promotion and disease prevention.

**Amir Mortazavi**  
MD, Assistant Professor Internal Medicine, COM  
http://www.internalmedicine.osu.edu/heartbeat/7552.cfm  
614.293.2886

My current research focus is on the experimental therapeutics and chemoprevention of bladder cancer. I have an interest in food-based interventions in bladder cancer prevention. Currently we are studying the in vitro and in vivo anti-bladder cancer effects of broccoli and its phytochemicals, defining novel mechanisms of action and completing necessary preclinical data for future human clinical trials.

**Robert Murray**  
MD, Director Center for Healthy Weight and Nutrition, Nationwide Children’s Hospital  
http://www.nationwidechildrens.org/Departments/Center-for-Healthy-Weight-and-Nutrition/  
614.722.4824

The Center for Healthy Weight and Nutrition offers both prevention programs and comprehensive treatment for overweight children. Efforts directed toward health care practitioners optimize a young child’s nutrition and activity within the home, especially in the crucial first years. Office-based and school-based screening for excess weight and its associated clinical conditions help identify the problem early. Family weight management interventions now exist for all ages and all levels of severity. Yet, we need this Innovation Center to generate novel approaches toward food development to overcome specific barriers associated with overweight and undernourished children – whether access to quality, functional foods or the problems of cost, taste and safety.

**Jill Nolan**  
PhD, Associate Professor Extension, EHE  
http://fcs.osu.edu/people/nolan-jill/index.php  
614.247.2543

In my role in providing statewide leadership in family and consumer sciences, I will contribute to the Center’s goal of ensuring access to safe food for consumption. OSU Extension has the statewide and global infrastructure to deliver research and learning to communities around the world. I will target food safety and human nutrition extension faculty to...
reach out to the communities and work with the Center on projects of high economic, social and life quality impact. I will rally my Extension counterparts across the country to deliver resources to their communities. FCS Extension has historically advocated and targeted the health and nutrition of children and can facilitate in advancing the Center’s goals.

**Herbert Ockerman**  
**PhD, Professor Animal Science, FAES**  

I have been at OSU for 47 years and have specialized in meat science and international education so I have trained many international students and post-doctoral researchers in food science and therefore have a lot of contacts around the world in Universities and the food industry. I think this would be very valuable to this new initiative.

**Melvin Pascall**  
**PhD, Assistant Professor Food Science and Technology, FAES**  
[http://fst.osu.edu/Pascall.htm](http://fst.osu.edu/Pascall.htm)

One of the main functions of packaging is the protection of food, drugs and pharmaceutical products from biological, chemical and physical contamination. My 28 years of experience in food packaging will be an asset to this center. In addition to this, my research in food contact surface sanitation also adds to the assets of the center. This collaboration provides me with the opportunity to network with faculty members from other colleges and departments. It also allows my graduate students to gain experience in the use of equipment and analytical techniques that are not available in my home department. As a result of previous inter-college collaboration, one of my students received the 2009 Italian Packaging Association award. I was recently awarded a CCTS-PHPID award for a seed proposal and look forward to working with this group.

**Tushar Patel**  
**MD, Professor/Director of Hepatology, COM**  
[http://www.internalmedicine.osu.edu/digestive-diseases/715.cfm](http://www.internalmedicine.osu.edu/digestive-diseases/715.cfm)  
614.293.6255

Our work focuses on understanding the cellular and molecular mechanisms of carcinogenesis in hepatic epithelia. Most liver cancers are associated with liver disease and nutritional deficiencies that may contribute to disease pathogenesis or effects. Participation in the center will enhance interactions and participation in collaborative activities to evaluate the role of nutritional interventions and use of functional foods in the treatment and prevention of hepatobiliary cancers, and in patients with liver diseases.

**Sarah Patterson**  
**RD, Program Manager Center for Advanced Functional Foods Research and Entrepreneurship**  
[http://fst.osu.edu/caffre/people-Patterson.html](http://fst.osu.edu/caffre/people-Patterson.html)  
614.292.6487

As a registered dietitian I understand malnutrition and obesity are multi-faceted, and there is no one-size fits all solution. The problem is deeper than lack of knowledge; I encounter patients who know what changes they need to make, but do not have access food or medical supplies. For a patient with diabetes this is devastating, and that’s only one example of chronic disease impacted by food and nutrition. As program manager for CAFFRE I have been thrilled to participate as a diverse group of disciplines come together to discuss complex solutions to the many complex problems we face.

**Richard Pratt**  
**PhD, Professor, Horticulture and Crop Science, FAES**  
[http://hcs.osu.edu/people/faculty/record_detailPUB.lasso?id=1347330.267.3972](http://hcs.osu.edu/people/faculty/record_detailPUB.lasso?id=1347330.267.3972)

My expertise is in crop improvement. My lab studies integration of molecular techniques with conventional plant breeding technology for improvement of health and nutritional traits in maize -- a truly global crop. I have international experience and collaborative linkages in sub-Saharan Africa, Asia, and Eastern Europe. The center would be of great benefit to me by facilitating collaborative linkages with experts in allied disciplines that are essential in helping me to understand what traits I should focus on and why. The center would foster multi-disciplinary linkages that are vital to achieving progress in enhancing traits that I do not have the expertise or facilities to address on my own.

**Gireesh Rajashekara**  
**DVM, PhD, Assistant Professor FAHREP-OARDC, Vet Med**  
[http://vet.osu.edu/GireeshRajashekara.htm](http://vet.osu.edu/GireeshRajashekara.htm)  
330.267.3745

My research has direct relevance to food innovation both at the national and international level. C. jejuni is a leading cause of foodborne human bacterial enteritis in the US and worldwide. Poultry and other food producing animals serve as reservoirs, thus preharvest food safety is critical for control of human infections. I seek to understand virulence mechanisms, host-pathogen interactions and development of novel mucosal vaccines against Campylobacter. My group explores Salmonella based C. jejuni vaccines and chemi-genomic approaches to novel therapeutics. This leads to control of campylobacteriosis in humans worldwide. Our research focus fits very well with the shared center mission to reduce food pathogen-related diseases. Development of control measures is a major goal in reducing food pathogen diseases.

**Luis Rodriguez-Saona**  
**PhD, Associate Professor Food Science and Technology, FAES**  
[http://fst.osu.edu/rodriguez/LER.htm](http://fst.osu.edu/rodriguez/LER.htm)  
614.292.3339

My research involves improving quality and safety of agricultural products through the application of novel analytical technologies. I help develop and apply vibrational spectroscopic techniques for chemical analysis, material characterization, and understanding of chemical interactions for better functionality and safety of agricultural products. IR spectroscopy combined with chemometrics has considerable potential for high-throughput screening. Optical sensor technology is rapidly developing and instruments are already available commercially as portable, hand-held, and micro-devices. OSU now has the first hand-held IR device for food applications.

**Thomas Rosol**  
**DVM, PhD, Professor and former Dean Veterinary Biosciences, Vet Med**  
[http://vet.osu.edu/ThomasRosol.htm](http://vet.osu.edu/ThomasRosol.htm)  
614.292.4265

I investigate the pathogenesis of cancer to lungs and bones using mouse models. Translational mouse models of human cancer...
are essential to identify the genes involved in the progression of breast cancer and identify new treatments to prevent metastases. Excess calcium in the blood leads to life threatening consequences. Diet and vitamin D compounds play an important role in regulating calcium balance and may also have antitumor activities. My laboratory is funded by the NIH and medical foundations for over 20 years. I have trained over 30 graduate and post-graduate students. I currently serve as a council member for the National Center for Research Resources of the NIH and an executive member of the National Agriculture Research Education Extension and Economic Advisory Board for the USDA.

Sashwati Roy  
PhD, Assistant Professor Surgery, COM  
http://surgery.osu.edu/general_gastro/6416.cfm

My laboratory is interested in understanding how nutritional supplements may influence chronic inflammation in diabetics. We are investigating whether macrophage function and inflammation can be regulated by nutritional supplements in individuals with diabetes. Microarray screening of candidate genes and mRNA represents a key approach of our program.

Linda Saif  
PhD, Distinguished University Professor, Member of the National Academy of Sciences, Vet Med  
http://vet.osu.edu/LindaSaif.htm  
330.267.3742

I am a viral immunologist focusing on enteric and foodborne viral diseases, vaccines and mucosal immunity using the unique germfree piglet disease model. My contributions relate to 1) controlling foodborne viral pathogens (noroviruses) by identification of animal reservoirs and development of vaccines and antivirals; 2) Addressing the impact of vitamin A deficiency on the effectiveness or oral vaccines (rotavirus) in infants in impoverished countries; and 3) Using functional foods to enhance health and prevent disease by assessing if immune mediators in milk promote colonization of infants by probiotics and synergize to moderate rotavirus diarrhea. Benefits of this center include more comprehensive collaborations and student fellowships in these critical research areas.

Mo Saif  
DVM, PhD, Professor and Head of FAHRR, Vet Med  
http://vet.osu.edu/YMohamedSaif.htm  
330.267.3743

What I bring is experience with animal health, and its relationship to human health; I study the interactions among animal and human health and the environment. I believe that bringing people with different interests, from different backgrounds and with different expertise is much better for initiating and embarking on a project like this. Having everybody who has any concern about food under one umbrella is a very useful thing and it’s good to be a part of this Center.

John Saldanha  
PhD, Assistant Professor Logistics, Business  
http://fisher.osu.edu/research/faculty-expertise/marketing-logistics/saldanha  
614.247.8003

A popular description of logistics is ensuring availability of the right product, in the right quantity and the right condition, at the right place, at the right time for the right customer, at the right cost. Hence, I consider the problem cited by Dr. Philip Nelson that 50% of the food produced in the third world never reaching hungry people to be a logistics problem. I am excited about applying the theories from my research areas of logistics and information management to address the problems of food distribution addressed in the proposal.

Sudhir Sastry  
PhD, Professor, Engineering  
http://oord.osu.edu/fabe/FACULTY/ssastry.htm  
614.292.3508

Widespread, large-scale human access to safe, healthy foods require processing technologies that are capable of inactivating harmful pathogens within foods without compromising quality. New alternative process technologies such as ohmic heating, high pressure processing and moderate electric field processing show promise in revolutionizing the food industry. As part of the Food Innovation Center, I hope to bring to fruition processes that will make this vision a reality. Working with this multifaceted interdisciplinary group is a key component that enables us to establish the foundation for the next generation’s food supply.

Robert Scharff  
PhD, Assistant Professor Consumer Sciences, EHE  
http://ehe.osu.edu/facstaff/cs.php?name=robert%20scharff  
614.292.4549

I see great value in this Center. My research involves the economics of food safety and obesity, both fitting within the Center’s scope. As a former FDA economist, I have experience operating successfully in an interdisciplinary environment, which gives me an appreciation of methods used in other fields. My work is valuable as a means of demonstrating the policy relevance of others’ work. The Center’s value for me will be its role as a clearinghouse; bringing together researchers from different disciplines with overarching research questions, to form collaborations, resulting in exciting new research and enhanced research funding.

Joe Scheeren  
PhD, Associate Professor Horticulture and Crop Science, FAES  
http://hcs.osu.edu/people/faculty/record_detailPUB.lasso?id=1348  
330.267.3826

Being “cross-trained” in horticulture and food science, I consider produce quality to result from the production variables such as crop cultivar, production strategies and environmental influences, as well as from post-harvest variables (processing, storage, packaging, transportation, marketing procedures and market environments and ultimately, consumer handling). Within this complex arena, I have most recently focused upon the phytonutritional quality of black raspberry and other fruits within the inter-collegial, inter-institutional Dietary Intervention Program. I bring to the Center my perspective on the complexity of crop quality determinants “from crops to the clinic to the consumer.”

Steven J. Schwartz  
PhD, Professor and Endowed Chair, Food Science and Technology, FAES  
http://fst.osu.edu/schwartz  
614.292.2934

Identifying and characterizing bioactive components and metabolites in foods and biological tissues is an area that our research group brings to the center. We look forward to working with various investigators from many different departments and colleges at Ohio State as part of this new center pro-
Our research is already collaborative and I’ve personally witnessed the enormous benefit gained by faculty and students involved in multi-disciplinary approaches to solve complex problems. Our research, extramural support, training and teaching efforts have flourished because of collaborative interactions among several investigators at OSU. I look forward to building on these efforts within the proposed food innovation center.

**Chandan K. Sen**

PhD, Professor & Deputy Director
Surgery and Molecular and Cellular Biochemistry, COM
http://heartlung.osu.edu/2593.cfm
614.247.7840

My laboratory has long-standing interest in how nutritional supplements may influence health and disease outcomes. Specifically, we are interested in understanding molecular mechanisms by which specific nutritional supplements influence health outcomes related stroke, obesity, diabetes and wound healing. At present several studies are in progress ranging from the study of cells in vitro to clinical trials. What I bring to the proposed center is expertise in functional genomics and translational research. As Editor of the leading journal (Antioxidants & Redox Signaling) on antioxidants, my expertise in the field of oxidant and antioxidant biology should be helpful to the Center. The proposed center will hopefully serve as a point of convergence of all expertise in campus related to food sciences. This will help develop novel programmatic initiatives.

**Stephanie A. Smith**

PhD, Department of Food Science and Technology, FAES

I bring a unique and diverse background to the Center. Over the past two decades, I have worked in quality assurance in food companies here in Ohio, in food safety and nutrition public policy in the United States Senate and U.S. Food and Drug Administration in Washington D.C., and in teaching, curriculum development, and student activities at Ohio State. I look forward to working with the Center directors and faculty and staff collaborators to get our organization and its programs operational. In addition, I look forward to being a champion for the Center’s undergraduate students and programs.

**Thomas Sporleder**

PhD, Professor and Endowed Chair, AEDE, FAES
http://aede.osu.edu/people/display2.php?user=sporleder.1
614.292.0286

I can contribute to the Center’s mission by networking with food manufacturers through the International Food and Agribusiness Management Association. This global professional society includes academicians and senior managers from agri-food supply chain companies from six continents. I serve on their Board of Directors. A portion of my research is devoted to the economics of innovation, especially new product development. We seek to understand the drivers of strategies such as first-mover compared to fast-follower and second-mover strategies. I can assist with evaluating the economic feasibility of ideas generated by the Center’s programs and in implementing the subsequent commercialization of intellectual property.

**Yael Vodovotz**

PhD, Associate Professor Food Science and Technology, FAES
http://fst.osu.edu/Vodovotz.htm
614.247.7696

My area of interest is the physico-chemical changes of functional foods during formulation, processing and storage as they impact the delivery of bioactives. We utilize molecular, structural and macroscopic analysis to fully characterize food material behavior and subsequently can modify these products to deliver bioactives to targeted organs. This new center will provide the platform to connect with faculty in varying fields so as to successfully compete for federal and industry funding and carry out ground-breaking research.

**Hua Wang**

PhD, Associate Professor Food Science and Technology, FAES
http://fst.osu.edu/Wang.htm
614.292.6281

The rapid emergence of antibiotic resistant pathogens threatens public health. I am credited for the original research that revealed the prevalence of antibiotic resistance in the retail food chain, particularly commensal bacteria. This includes beneficial bacteria that may be important carriers for antibiotic resistance genes. This groundbreaking discovery triggered the re-evaluation of the impact...
Christopher Weghorst

PhD, Associate Professor Environmental Health Sciences, Public Health

http://cpb.osu.edu/biopage2.cfm?id=19

614.297.8441

I bring to the Center an interest and expertise in the areas of molecular and comparative carcinogenesis; focusing on the biological mechanisms, genetic susceptibility and chemoprevention of head and neck and cervical cancer development. My research program has three primary areas of research: i) genetic susceptibility of cancer, ii) food-based cancer prevention and iii) the translational assessment of prevention approaches in human clinical trials. I look forward to continuing cross-college and -industry collaborative efforts focused on broadening innovative research on foods that positively impact public health.

Bill Weiss

PhD, Professor of Dairy Cattle Nutrition, Animal Sciences, FAES

http://ansci.osu.edu/showdetails.php?FID=51

330.267.3622

My main research areas are: effects of nutrition, specifically vitamins and trace minerals, on the health of dairy cows, metabolicism of dairy cows, statistical and chemical evaluation of feedstuffs, and nutritional affects on milk composition. For this research I have obtained 2.5 million dollars in extramural funding.

Macdonald Wick

PhD, Associate Professor Animal Science, FAES

http://ansci.osu.edu/showdetails.php?FID=53

614.292.7516

I currently study how meat from agricultural animals fed certain diets impact human health. My expertise in these studies is in functional proteomics. As part of this group of high quality investigators and potential collaborators, I will increase my ability to perform cutting edge research in defining and promoting food for a healthy world.

Kay N. Wolf

PhD, RD, Director/Associate Professor Medical Diets, COM

http://amp.osu.edu/md/1415.cfm

614.292.8131

As the director of Medical Diets, I supervise three dietetic programs, each graduating future dietitians who will be the leaders of grass roots nutritional change in the nation through their direct counseling opportunities within the community. My research involves self-efficacy toward health behaviors primarily nutritional change and conduct food and nutrition management in schools.

Shang-Tian Yang

PhD, Professor; Director, Ohio Bioprocessing Research Consortium, Engineering

http://www.ece8.osu.edu/che/facultypages/yang.html

614.292.6611

As Director of Ohio Bioprocessing Research Consortium, I bring my experience working with industry in developing novel bioprocesses for economical production of value-added products from food processing wastes. I bring extensive international connections with scientists and engineers from both academics and industry in countries including China, Hong Kong, India, Malaysia, and Taiwan who do research and business in the targeted areas of the Center. The center can help further my research interests in bioprocess engineering, including developing novel functional and healthy food products via enzyme, cellular and process engineering, and applying novel biochip technologies for high-throughput screening and detection of pathogens.

Lisa Yee

MD, Surgery, COM

http://www.osuccc.osu.edu/9187.cfm?person_id=163

614.292.6564

As a surgical oncologist specializing in breast cancer and high risk breast care, I am interested in gene-nutrient interactions that affect the development and progression of breast cancer. In the laboratory we are investigating the mechanism(s) by which dietary fat content affects HER-2/neu signal transduction in mammary carcinogenesis. My research interests are closely tied to my clinical focus in breast cancer treatment and prevention, which allows for correlative tissue analyses, exploration of novel tissue biomarkers of breast risk and response to chemopreventive and/or bioactive nutrients, and clinical trial evaluation of specific dietary or nutrient interventions.

Ahmed Yousef

PhD, Professor, Microbiology, Biological Sciences; Food Science and Technology; Bazler Food Safety Professor, FAES

http://osumicrobiology.org/faculty/ayousef.htm

614.292.7814

I envision this Center as a medium for sharing ideas and collectively sensing future directions in safety and health-promoting aspects of food. The Center helps members imagine novel solutions to the emerging health challenges such as the rising risk of food-transmitted diseases, obesity, and other ailments related to food-intake. I have attempted to diagnose the risks emanating from the presence and growth of pathogens in food and develop practical means to minimize or eliminate this risk. My collection of biocidal tools includes ozone sanitization, natural antimicrobial peptides, and bioelectro-technologies. The Center will facilitate true collaboration based on synergy and complementation. With a collegial academic environment and seed funding, the Center benefits many researchers campus-wide.

Ouliiana Ziouzenkova

PhD, Assistant Professor Human Nutrition, EHE

http://ehe.osu.edu/facstaff/facultypages/yang.html

614.292.6611

I study how nutrients regulate genes and can prevent metabolic diseases, such as obesity and type-2 diabetes. We create novel anti-obesity therapies based on cell engineering and nanotechnology that could have an impact on a global obesity epidemic. My contribution to the Center is in developing cross-disciplinary collaborations: 1) to venture therapeutic companies applying nutrients for treatment of metabolic diseases, and 2) for collaborative proposals combating global obesity with research teams studying molecular, physiological, genetic, racial, behavioral, and social aspects of this disease.
Our mission is to improve global life quality with research, learning, policy development, and outreach that ensures access to safe, health-promoting foods for present and future generations.
A center that combines several different colleges and industrial supporters is vitally important if we are to actualize the global impact of food systems.

—Ronald D. Harris
Executive Vice President, R&D, Nabisco (retired);
Vice President, Technology, Kraft USA (retired);
Adjunct Professor, The Ohio State University