

Food Innovation Center



As of June 1, 2013, FIC members have published **30 scholarly works** and represented Ohio State food innovation at **more than 70 presentations**, all based on FIC-funded work. FIC projects have leveraged substantial extramural funding, earning **\$627,000 in federal, state, and private support** in 2012 alone, increasing the cumulative total to **8.1 million dollars**.



Ohio State food innovation 2012-13

Food innovation is a critical global need as we seek to sustain nine billion people by the year 2050.

Ohio State stands out as one of the few academic institutions preparing for the urgency of food problems. With great foresight, our Office for Research and Office of Academic Affairs support the faculty-initiated Food Innovation Center (FIC). The daunting task of addressing food security, safety, hunger, and health demands collaborative solutions engaging all academic disciplines. The 370 scholars from all 14 Ohio State colleges active with this center create solutions to local, national, and global food challenges.

This annual report highlights accomplishments of outstanding people at Ohio State advancing food innovation. FIC members gained \$1.58 million in internal FIC support across 30 distinct peer

reviewed projects and leveraged that investment to more than \$8.1 million in extramural support in 2012–2013. All our teams involve colleagues across several disciplines, and every FIC project has multiple college collaboration. Measurable achievements include a perfect score earned by FIC investigators on NIH review, and major national awards and appointments of FIC scholars—all in the past year.

Food innovation at Ohio State is compelling learning, discovery, outreach, and teamwork that builds sustainable global and local food systems. We are inspired by an institution that strategically invests in the food discovery theme, a prudent investment with large future return for humanity.

FIC encourages innovation with nine programs:

- **Seed grants:** Awards up to \$25,000 to support cross-college teams in generating preliminary data needed to win extramural proposals
- **Team awards:** Awards up to \$2,500 for teams to network and plan new collaborative projects in food quality, local food security and health, obesity, or industry partnership
- **2010 innovation incentives:** New collaborations inspired by annual meeting participation
- **Graduate student travel awards:** Awards up to \$500 to support graduate student travel to conferences and meetings of national significance
- **2012 collaborative studies with the Center for Clinical and Translational Science:** One award of \$50,000 for integrated solutions to complex clinical and translational problems under the food discovery theme
- **2012 social science data grants:** Awards up to \$2,500 exploring the changing nature and characteristics of food and the economic and organizational systems to produce and distribute food
- **2012 doctoral research grants:** Awards up to \$5,000 supporting post-candidacy doctoral students in innovative research consistent with the FIC mission
- **Innovation initiatives:** Awards up to \$50,000 for new multi-college teams advancing priorities in food discovery
- **Cost share:** Proposals requiring matching funds gain support of up to \$10,000

Strategic leverage for food discovery

The FIC strategically leverages competitive grant funding to foster networking, novel food research, and broad initiatives addressing the world's most pressing food problems. FIC funds grow interdisciplinary collaborations to advance an adequate, safe, and health-promoting food system with potential for large return on investment to Ohio State. FIC programs move from conception to community to commercialization. **Here's one example:**

Team of nine connect grocery to clinic to improve health and earn perfect score

FIC member Dr. Christopher Taylor created a novel approach to help improve how we prevent and treat chronic disease. With simple changes in dietary habits and a more active lifestyle, chronic illness can be prevented for a lot less money than out-of-pocket treatments. Through a 2011 team award, Taylor and eight fellow FIC members devised a plan to maximize communication, convenience, and efficiency for patients, physicians, and registered dietitians. Their plan won a 2012 FIC seed grant.



Computer images help patients share information about their dietary intake

How it worked:



IDEATION

- Team awards
- Networking opportunities

Associate Professor Christopher Taylor wins a 2011 FIC interdisciplinary team award for innovations that promote health.



FIC FUNDING

- Seed grants
- Innovation initiatives
- Social science data grants
- Doctoral research grants

New partnerships with Viocare, Inc. and a local grocery store emerge. Taylor's team earns a \$25,000 FIC seed grant on the Impact of Online Dietary Assessment on Nutrition Counseling.



IMPACT

- Funding by grants, foundations, and other sources
- Community interventions
- Successful commercialization of OSU IP

Consumer nutrition education improves through RDs employed by the grocery store. Primary care physicians use data to optimize health outcomes. This team wins a NIH SBIR perfect score of 10.

2012–2013 FIC Grant Programs

Successful Seed Grants 2012	Collaborators	Colleges
Role of monocarboxylate transporters in mediating the anticancer effects of green tea catechins in the gastric epithelium	Joshua Bosmer Mark Failla Jeffery Firkins	Education/Human Ecology Food, Ag., Environ. Sci.
Relationship of home environment to food choices, food consumption, and obesity	Charles Emery Jack Nassar Diane Habash Kayloni Olson	Arts and Sciences Medicine Engineering
The Primary Care Obesity Network: Incorporating principles of self-regulation of intake	Ihuoma Eneli Chris Taylor Tracy Tylka Kaylee Sprau Phyllis Polas	Medicine Arts and Sciences
Microbial food safety concerns of sharing human milk via the Internet	Sarah Keim Joseph Hogan Jesse Kwiek Sheela Geraghty	Medicine Food, Ag., Environ. Sci.
It's a two-way street: Characterizing the interaction between oral biofilms and anthocyanins	Purnima Kumar Mark Failla Monica Giusti Douglas Kinghorn	Dentistry Education/Human Ecology Food, Ag., Environ. Sci. Pharmacy
Improving local food security and promoting health in urban environments through window-based hydroponic food production systems	Jiyoung Lee Zuzana Bohreova Parwinder Grewal	Public Health Engineering Food, Ag., Environ. Sci.
Anti-inflammatory activity of α -Mangostin in a mouse model of colitis	Gregory Lesinski Steve Clinton Mark Failla Chureeporn Chichumroonchokchai Thomas Mace	Medicine Education/Human Ecology Office of Health Sciences
Creating Healthy Habits Index for Kids (CHHIK)	Robert Murray Samantha Anzeljc Jaqueline Goodway Carolyn Gunther Amy Headings Amy Sternstein	Medicine Education/Human Ecology
Efficacy and public health implications of washing foodborne bacteria and viruses from utensils in restaurants and in foodservice	Melvin Pascall Ken Lee Jianrong Li Shelley Francis	Food, Ag., Environ. Sci. Public Health
Small molecule compounds for post-harvest control of <i>Campylobacter</i> in poultry	Gireesh Rajashekara Melvin Pascall Esperanza Carcache de Blanco	Vet Med Food, Ag., Environ. Sci. Pharmacy
The impact of online dietary assessment to efficiency of nutrition counseling: a pilot	Christopher Taylor Diane Habash Colleen Spees Randall Wexler Jackie Buell Gale Kaye Sarah Rusnak	Medicine Public Health Education/Human Ecology Office of Health Sciences
Optimization and marketability of a vitamin D soy bread	Yael Vodovotz Ken Riedl Neal Hooker	Food, Ag., Environ. Sci. Glenn School/Public Affairs



Sold out: heart healthy food never tasted so good

Just about everyone agrees that food and health are inextricably linked. But Yael Vodovotz goes well beyond that standard by creating new functional foods that potentially could prevent and treat chronic disease without demanding that consumers make major changes to their diet.

Vodovotz first began working on a soy-based bread while with NASA. In her time at Ohio State, she and her team have done some fine-tuning to create a product that tastes good and has enough soy to carry the U.S. Food and Drug Administration's "heart-healthy" food claim.

She also works with Dr. Steve Clinton and Dr. Steve Schwartz, co-directors of the FIC, to conduct clinical trials that examine the product's benefits against prostate cancer. They have even tested new formulations—one with almond powder as an ingredient, and a sourdough version—and have found that they make the beneficial isoflavones from soy more easily absorbed by the body and may offer benefits for men diagnosed with prostate cancer.

In addition, the FIC awarded a \$25,000 seed grant to Vodovotz to combine the soy bread with vitamin D, assess its health benefits later in a human clinical trial, and explore consumer marketability of the product for retail sale.

The soy bread was carried briefly by the Anderson's General Store and sold out because of superior taste and health effects. Problems with supply and marketing could not keep the grocery stocked and it became an Internet only business.



“This grant was critical to address two areas needed for further federal grant applications: that of

development of the study of food and commercialization potential of that food. Federal funds do not allow for this type of work, yet require this data.”

Yael Vodovotz, FIC Principal Investigator

From making it to marketing it

The FIC and the Technology and Commercialization Office (TCO) are joining forces to foster commercialization of food inventions. A food marketing consultant, Larry Wu, was hired to help look at new markets and product types. For example, a pocket type bread that stays fresh and can be microwaved is sought by industry, but has not reached the market. Larry helped the team with a commercialization strategy based on known consumer demands. In June 2013, FIC and TCO jointly hired commercialization expert Randy McKay. Randy has more than 30 years of experience in the private sector and will work to advance this and other food inventions.

Story adapted from Martha Filipic's article:
Foods with a Boost for Health: go.osu.edu/U8x

Team Awards 2012

Team Awards 2012	Collaborators	Colleges
Foods, intestinal microbiome, and human and animal health	Prosper Boyaka, Jeff Firkin, James Kinder, Purnima Kumar, Christopher Weghorst, and 21 additional collaborators	Vet Med Medicine Public Health Education/Human Ecology Food, Ag., Environ. Sci. Dentistry
Promoting sustainability in Ohio's food industry through improved LCA methodology and industry collaboration: a workshop	Kristen Danganan, Dennis Heldman, Joseph Fiskel, Kate Bartter, Shannon Hollis	Food, Ag., Environ. Sci. Engineering Office of Research
Biologic Research and Imaging in Nutrition (BRAIN) team planning	Barbara Gracious, Zhong-Lin Lu, Ouliana Ziouzenkova, and 7 additional collaborators	Medicine Arts and Sciences Education/Human Ecology
Food sustainability strategies: mastering metrics that matter	Neal Hooker, Curtis Haugtvedt, Dennis Heldman	Glenn School/Public Affairs Arts and Sciences Food, Ag., Environ. Sci.
Participation in community gardens to improve adherence to self-diabetes care: a community-based approach to diabetes education	Steven Ing, Michelle Kaiser, Phyllis Pirie, Carla Miller, Janet Buckworth	Medicine Public Health Social Work Education/Human Ecology
Food district at Weinland Park	Kay Bea Jones, Jacob Boswell, Mike Hogan, Parwinder Grewal	Engineering Food, Ag., Environ. Sci.
Situating local food through new urban plans	Kay Bea Jones, Colleen Spees, Leo Coleman, Jill Clark, Casey Hoy, and 8 additional collaborators	Engineering Arts and Sciences Medicine Food, Ag., Environ. Sci. Glenn School/Public Affairs
Food mapping team	Michelle Kaiser, Ola Ahlqvist, Jill Clark, Steve Clinton, Jennifer Evans Cowley, Bernadette Hanlon, Casey Hoy, Gail Kaye, Jason Reece, and 15 additional collaborators	Social Work Arts and Sciences Medicine Public Health Engineering Food, Ag., Environ. Sci. Law
Fresh food nutritional value indices	Matt Kleinhenz, Joseph Scheerens, Mark Failla	Food, Ag., Environ. Sci. Education/Human Ecology
Dietary interventions to regulate inflammation and neurologic health	Greg Lesinski, Steven Schwartz, Robert Curley, and 6 additional collaborators	Medicine Food, Ag., Environ. Sci. Pharmacy
Development of mobile technology for the maintenance of behavioral change	Carla Miller, Charles Emery, Brian Focht, Michael Slater, Celia Willis, Byron Roush	Education/Human Ecology Arts and Sciences Nursing
Studies of the European chocolate and Canadian wheat industries	Justin Miller, William Stromeier, Martin Kosla	Business Arts and Sciences
A pilot exploration of dietary choices among college students subscribed to the meal plan	Brian Roe, Michelle Battista, Mark Bennett, Robert Eckhart, Melanie Paris-Arum, Matthew Pham	Food, Ag., Environ. Sci. Medicine Education/Human Ecology Pharmacy

Three colleges support local food symposium

A multidisciplinary team of collaborators led by Kay Bea Jones (Architecture) is planning an innovative symposium on local food systems. A 2012 FIC team award inspires the November 8 symposium, *Situating Local Food through New Urban Plans*, which will focus on understanding the impacts in urban development and neighborhood revitalization by addressing issues such as food access, production, distribution, and consumption. The team aims to attract national scholars, generate innovative ideas on community food issues, and raise the profile of Ohio State. Jones and her team have already begun to generate excitement and enthusiasm around campus for the event. With a \$5,000 initial FIC investment, Jones leveraged additional funds from the Colleges of Food, Agricultural, and Environmental Sciences, Arts and Sciences, and Medicine and the Knowlton School of Architecture, totaling close to \$30,000 for the symposium.



Kay Bea Jones works with students at community gardening site

Eight colleges put food on the map

Michelle Kaiser, a newly appointed assistant professor in the College of Social Work, received a 2012 team award for her food mapping project. Her multidisciplinary team engages more than eight colleges and includes several community members. Her team explores ways that food mapping can provide understanding of the multi-dimensional food system at the local, state, and regional level. She hopes to provide evidence of geographic disparities associated with poverty, race, hunger, and health. Kaiser is the recent recipient of a 2013 FIC innovation initiative award to move this project forward and shows great promise as a new faculty member whom FIC helped to recruit to Ohio State.



Informative table display at recent food mapping team meeting

Innovation Initiatives 2012

Innovation Initiatives 2012	Collaborators	Colleges
Maternal obesity and child temperament as predictors of childhood obesity: mediating role of the intestinal microbiota	Michael Bailey Lisa Christian Ihumoa Eneli Sarah Schoppe-Sullivan Zhongtang Yu And 2 other collaborators	Dentistry Medicine Education/Human Ecology Food, Ag., Environ. Sci
Assessing the real and perceived food safety risks of urban agriculture programs	Jeff LeJeune Rosemary Chaudry Nicholas Basta	Vet Med Food, Ag., Environ. Sci Nursing
Livestock production and quality in anthropogenic floodplains	Mark Mortiz Rebeca Garabed David Barker Ningchuan Xiao	Arts and Scieneces Food, Ag., Environ. Sci Vet Med
Food choices and health status of food insecure families in central Ohio	Colleen Spees Steve Clinton Matthew Kleinhenz Michelle Kaiser Matt Habash And 3 other collaborators	Medicine Social Work Food, Ag., Environ. Sci

Local food security efforts with national impact

Two initiatives funded by FIC in 2012 attack food insecurity. *Food Choices and Health Status of Food Insecure Families in Central Ohio* and the *Food Security Special Initiative* help the food insecure in central Ohio. Dr. Colleen Spees sees a parallel between disparities in food access and health care. Her team brings Ohio State and community health resources to the table that allow for the creation of a coordinated structure to address the needs of food pantry clients. In addition, her projects support activities such as the creation of a graduate-level course on food insecurity and a food desert mapping collaborative with membership from eight colleges and departments.

A highlight of 2012 was the *Hunger.FOOD.Health Food Security Initiative Think Tank* held at the Mid-Ohio Food Bank on August 6, 2012. Over 60 stakeholders representing academia, business, community, industry,



Hunger.FOOD.Health Think Tank session at the Mid-Ohio Food Bank, August 2012

nonprofits, health organizations, and faith-based groups gathered to identify priority areas and collaborations to build a sustainable, viable, healthy, and food secure environment in central Ohio. Spees and her collaborators subsequently earned a \$150,000 USDA/NIFA award to study adolescent

and parent food activity patterns as drivers of food choices and behaviors. To this end, Ohio State may provide a local food security solution that becomes a template for the nation.



Graduate Student Travel 2012-13

Graduate Student Travel 2012-13	Recipients	Colleges
Spring 2012	16	Arts and Sciences (1) Medicine (3) Education/Human Ecology (4) Food, Ag., Environ. Sci (8)
Summer 2012	10	Arts and Sciences (2) Medicine (2) Public Health (1) Education/Human Ecology (1) Food, Ag., Environ. Sci) (2) Vet Med (2)
Spring 2013	15	Arts and Sciences (1) Public Health (1) Education/Human Ecology (4) Food, Ag., Environ. Sci (8) Vet Med (1)

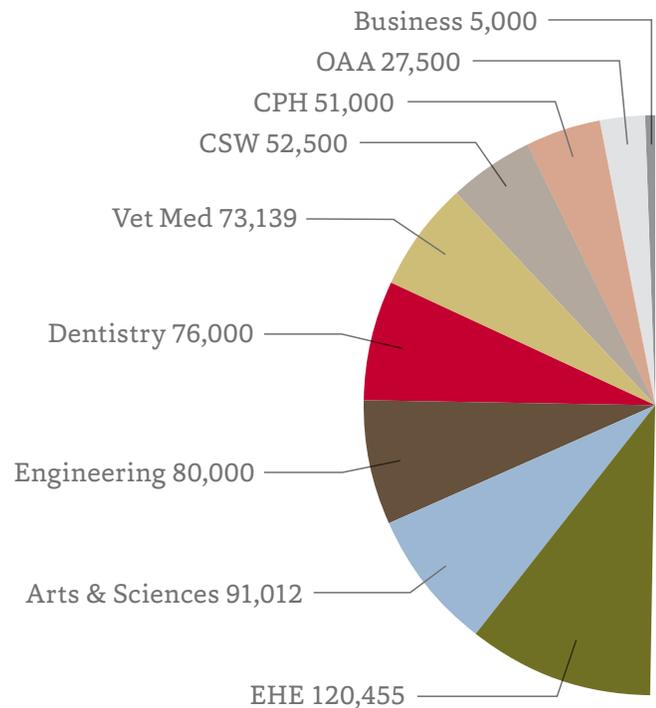
Collaborative Studies Program with the Center for Clinical and Translational Science 2012

Project Name	Collaborators	Colleges
Bioavailibility and distribution of black raspberry phytochemicals from novel Ohio State functional foods designed for cancer prevention	Yael Vodovotz, Ronney Abaza, Steve Clinton, Gregory Lesinkski, Dennis Pearl, Steve Schwartz, Christopher Weghorst	Food, Ag., Environ. Sci Arts and Sciences Medicine Public Health

Social Science Data Grants

Social Science Data Grant 2012	Grant Recipients	College and department
Changes in Provisioning and Shopping Habits at Findlay Market	Jeffrey H. Cohen and Lisa Beiswenger	Arts and Sciences, Anthropology
Local Foods and Supporting Policies: An Investigation of CSA Farms	Cristina Connelly, H. Allen Klaiber, and Brian Roe	Food, Ag., Environ. Sci. Ag., Environ., Devel. Economics
Organizational Response to Regulation: A Study of the European Chocolate Industry	Justin Miller and William Stromeyer	Business, Management, HR
Food Insecurity in Rural Latin America: A Food Systems Approach	Lindsey Ibanez and Kammi Schmeer	Arts and Sciences, Sociology

Competitively Funded Awards by PI College, \$1,160,956

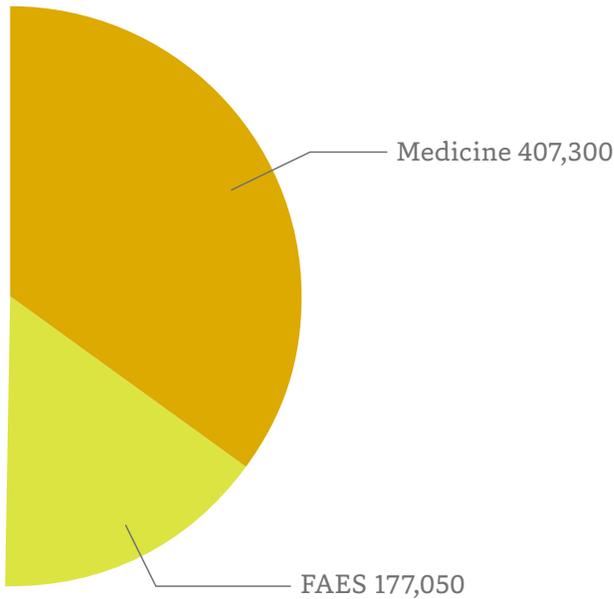


Doctoral Research Grants 2012

Project Name	Grant Recipient	Advisor
Chemopreventive mechanisms of newly formulated apigenin-rich diets in breast cancer	Daniel Arango-Tamayo, graduate research associate; Molecular, Cellular and Developmental Biology	Andrea Doseff
MCP proteins: Global regulation of adaptive responses of Campylobacter jejuni	Kshipra Chandrashekhar, graduate fellow; Vet Med	Gireesh Rajashekara
Reaction mechanism of human β -carotene 15-15'-oxygenase 1 (BCO1)	Carlo dela Seña, graduate research associate; Biochemistry	Earl Harrison
The effect of naringenin on postmenopausal obesity and fat distribution	Jia-Yu Ke, graduate fellow; Human Nutrition	Martha Belury
Lifestyle interventions to improve physical function and quality of life in endometrial cancer survivors: The role of combined diet and exercise based programs	Alexander Lucas, graduate fellow; Health and Exercise Science	Brian Focht
Urban food security: Addressing soil contamination and quality barriers	Kuhuk Sharma, graduate research associate; Environmental Science	Parwinder Grewal

Special Initiatives 2012

Special Initiatives 2012	Collaborators	Colleges
Food security	Colleen Spees, Matt Kleinhenz, Mary Ellen Wewersh, Diane Habash, Michelle Kaiser, Steven Clinton	Medicine Public Health Social Work Food, Ag., Environ. Sci.
A demonstration pilot for urban agriculture, ecology, and entrepreneurs	Katherine Bennett, Joseph Kovach, Peter Ling, Margaret McMahon, Judith Tansky, Bernadette Hanlon, Gail Kaye	Business Public Health Engineering Food, Ag., Environ. Sci.



Seed Grants 2013

Successful Seed Grants 2013	Collaborators	Colleges
Green tea confections for managing postprandial hyperglycemia-induced vascular endothelial dysfunction	Rich Bruno, Yael Vodovotz, Mark Failla	Education/Human Ecology Food, Ag., Environ. Sci.
Molecular mechanisms of lycopene metabolites in prostate carcinogenesis	Steve Clinton, Steve Schwartz, Robert Curley, Qianben Wang, Michael Freitas	Medicine Education/Human Ecology Food, Ag., Environ. Sci. Pharmacy
Establishing vitamin A bioequivalence of provitamin A carotenoids in foods	Earl Harrison, Robert Curley, Steven Schwartz, Hilary Goetz, Rachel Kopec	Education/Human Ecology Food, Ag., Environ. Sci. Pharmacy
Shelf to health: Can product formulations change our view of dietary impacts?	Neal Hooker, Colleen Spees, Chris Taylor	Glenn School/ Public Affairs Medicine
Mealtime behavior problems in preschool children born preterm: Associations with maternal sensitivity and executive function	Sarah Keim, Sarah Anderson, Barbara Gracious	Medicine Public Health
Evaluation of biologically relevant vitamin D metabolites in murine skin	Tatiana Oberyshyn, Ken Riedl, Kathleen Tober, Matthew Teegarden	Medicine Food, Ag., Environ. Sci.
Inline control of sanitization process in fresh produce using micromachined porous medium with integrated Bio Field-Effect-Transistors	Mohammad Shavezipur, Wu Lu, Gonul Kaletunc	Food, Ag., Environ. Sci. Engineering
Raspberry ketone (RK) in weight loss and anti-inflammation	Christopher Simons, Yael Vodovotz, Ken Riedl, Martha Belury, Lisa Yee	Food, Ag., Environ. Sci. Medicine Education/Human Ecology
3D reporter assays for studies of drug/nutrient interaction in cancer patients	Ouliana Ziouzenkova, Don Benson, Mark Failla	Education/Human Ecology Medicine

Innovation Initiatives 2013

Project Name	Collaborators	Colleges
Prospective open pilot of low vs. higher dose vitamin D in D-deficient asthmatic children: Does diet predict immune function and asthma symptom response to vitamin D supplementation?	Barbara Gracious, Diane Habash, Gregory Lesinski, Martha Belury, Ouliana Ziouzenkova, Mark Hall, Elizabeth Allen, Sarah Keim, Chris Simons	Medicine Education/Human Ecology Food, Ag., Environ. Sci.
Mapping the food environment to inform multi dimensional intervention strategies to enhance community health and well being	Michelle Kaiser, Ola Ahlqvist, Morton O'Kelly, Jill Clark, Casey Hoy, Matthew Kleinhenz, Jack Nassar, Kristy Rogers, David Norris	Social Work Arts and Sciences Medicine Food, Ag., Environ. Sci. Engineering Glenn School/ Public Affairs Law
The effect of early alterations in energy balance on immune markers	Susan-Olivo Marston, Gregory Lesinski, Tracey Papenfuss	Public Health Medicine Vet Med
Keeping a finger on the pulse of the American diet: National Nutrition Examination of Research Data (NNERD)	Christopher Taylor, Colleen Spees, Martha Belury, Gail Kaye, Sarah Anderson, Steve Clinton, Diane Habash	Medicine Public Health EHE
Evaluation of functional snack foods containing soy and safflower oil on endpoints of energy metabolism in adolescents	Yael Vodovotz, Rebecca Andridge, Martha Belury, Robert Murray	Food, Ag., Environ. Sci. Medicine Public Health Education/Human Ecology
2012 Total FIC awards — \$728,806		
2013 FIC awards to date — \$432,150		
Total 2012-2013 FIC awards — \$1,160,956		

Food Innovation Center Scorecard

Metric	Current Year	Progress
Build center membership	370 members from 14 colleges	Increase of 49%
Support innovative food research engaging multiple colleges	\$1,160,956 in project support	Increase of \$621,000 in overall project support
Leverage extramural support through FIC-funded projects	\$8.1 million total	Increase of \$627,000 in extramural support
Number of scholarly publications based on FIC-funded projects	32 publications either completed or in progress	Increase of 16 publications
Number of presentations based on FIC-funded projects	69 professional presentations	Increase of 24 presentations

Building the Ohio State food discovery network

The Food Innovation Center is a faculty-driven, member-based organization with membership categories available to faculty, staff, and graduate students. The benefits of membership include participation in funding programs, invitations to events, opportunities to network, advancing the food discovery portfolio, and sharing scholarly achievements via the center's many communication tools. FIC attracts diverse individuals from every college on campus. In 2012 FIC co-directors created an external affiliate member category for community partners and stakeholders.

Over the last year, membership in the FIC has increased by 49%, even though it has yet to lead a major membership drive. Opportunities to engage in trans-disciplinary discovery, learning, and outreach efforts that improve health and food well-being attract new members continuously.

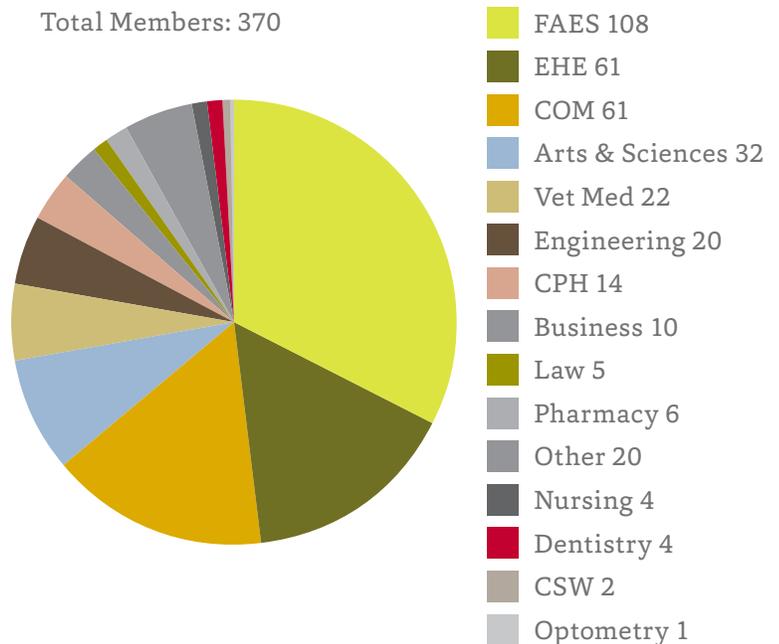
The FIC started with eight colleges, but now all 14 have members represented. Participation in FIC funding programs has led to an increase in membership from colleges not traditionally associated with food. For example:

- **Kay Bea Jones** and **Katherine Bennett**, both with the Knowlton School of Architecture, bring expertise in urban planning and landscape architecture that promote urban gardening in economically distressed areas.

- **Justin Miller**, Fisher College of Business, explores the organizational response to regulation in the food industry.
- **Neal Hooker**, John Glenn School of Public Affairs, leads the exploration of food sustainability strategies and key metrics of success of corporate social responsibility plans.

Member engagement in the FIC is high. To date, 218 unique individuals have collaborated on a multidisciplinary team to advance ideas in one of our funding competitions.

Total Members: 370



“I have been on campus for over 14 years and have to say the FIC initiative has been the single most valuable campus-wide activity in which I have engaged during my time at Ohio State. I have developed more knowledge of the broad array of talent at the university through FIC than through other means. As a result of FIC, I have developed collaborative relationships and research teams that have resulted in grant submissions. FIC has done a great job pulling people together and opening up possibilities for faculty.”

Jaqueline Goodway, College of Education and Human Ecology

FIC raises stature with major awards

A fast track to eminence is recognition of world-class scholarly achievement. FIC enabled successful national awards with these nominations:

Schwartz wins the Gilbert A. Leveille Lectureship and Award

FIC co-director Steve Schwartz was nominated by FIC for the Gilbert A. Leveille Lectureship and Award for outstanding research in nutrition science and food technology. More than 25,000 professionals in the fields of nutrition and food science are eligible for this honor, co-administered by the Institute of Food Technologists and the American Society for Nutrition. Dr. Schwartz is the only Ohio State faculty so honored. go.osu.edu/U9C



Steve Schwartz accepts the Gilbert A. Leveille Lectureship and Award at the ASN Annual Meeting in Boston.



Clinton appointed to the 2015 Dietary Guidelines for America Advisory Committee

Physician-scientist and FIC co-director Steve Clinton is one of 15 nationally recognized experts to serve on the 2015 Dietary Guidelines Advisory Committee, announced by U.S. HHS secretary

Kathleen Sebelius and USDA secretary Tom Vilsack. The committee will create the eighth edition of the Dietary Guidelines for Americans, which serve as the foundation for national nutrition programs, standards, and education. DietaryGuidelines.gov

Heldman wins the Carl L. Fellers Award for Honor to the Profession

Dennis R. Heldman was successfully nominated by FIC for the 2013 Carl R. Fellers Award for his outstanding work in improving the field of food science, inspiring food engineers and scientists, and for his many excellent leadership roles in both the IFT and Phi Tau Sigma.





Wampler wins University Distinguished Service Award

FIC external advisory board chair Dan Wampler received a 2013 University Distinguished Service Award.

In addition to mentoring dozens of students, Dr. Wampler and his wife, Lisa, give back to the university advancing both students and food research. Together, they established two endowments: The Lisa and Dan Wampler Endowment Fellowship for Food and Health Research and the Lisa and Dan Wampler Vice President's Excellence Fund Endowment. osu.edu/universityawards/2013/dsa.html



Diversity Catalyst Team wins Ohio State Distinguished Diversity Enhancement Award

FIC nominated the FAES diversity team, consisting of more than 20 faculty and staff, who received the 2013 Distinguished Diversity Enhancement Award for measurable progress in "Diversity, Unity, Community," an initiative to help guide diversity efforts within the College of Food, Agricultural, and Environmental Sciences.

American Association for the Advancement of Science Fellows

Three FIC members are new AAAS Fellows in 2012 for their scientifically or socially distinguished efforts to advance science or its applications. They join a cadre of over 200 fellows on the faculty at Ohio State.



- **Prabir Dutta**, Distinguished University Professor of Chemistry; for notable contributions in understanding zeolite formation and applications of zeolites in photo catalysis and sensing.
- **Mark Failla**, professor, FIC co-director and interim chair of human sciences; for distinguished contributions to the field of nutritional biochemistry for developing valuable models elucidating bioavailability, metabolism, and efficacy of health-promoting dietary constituents.
- **Susan Olesik**, professor and chair of chemistry and biochemistry; for distinguished contributions to the field of analytical chemistry as well as excellence in communicating science to the public.

Gathering innovators for food discovery

The Food Innovation Center held its 3rd Annual Meeting in September 2012, attracting 150+ members to network, brainstorm, and learn about multidisciplinary food research being conducted through the FIC.

Ohio State vice president for research Caroline Whitacre set the stage with opening remarks, noting the Food Innovation Center's achievements in engaging disciplines across the entire campus. She observed that the diverse membership would be even more important as the university's Discovery Themes emerge, challenging attendees to find ways to collaborate on issues relevant to health and wellness, and energy and the environment.



The FIC member network brainstormed on issues concerning behavior change, nutrition and immunity, global food security, and campus and community nutrition. Participants submitted fast evolving proposals in FIC's team award competition, and attendees conversed through a competitive poster



session that highlighted FIC seed funded projects. Subsequently, nearly 75% of attendees responding to a post-event survey reported that they had met a potential new collaborator from another college.

This was the first year the FIC hosted a keynote speaker from industry. Dr. Mary Wagner, senior vice president for research and development at Starbucks, spoke on "The Tastes and Trends of Tomorrow" sharing industry flavor trends, changing consumer dining behaviors, and marketability of foods with health claims. Her ideas inspired thoughts about how FIC researchers can engage with the private sector to improve both economic growth and human health.



Colleen Spees and Amy Alwood's poster *Food Choices and Health Status of Food Insecure Families in Central Ohio* was voted "Most likely to impact the world in 10 years" by peer members of FIC.

Science-based food solutions for Ohio's largest industry

The Food Innovation Center co-sponsored the Ohio Food Industry Expo along with the Center for Innovative Food Technology. Hundreds attended the March 2013 event aimed at convening food manufacturers and suppliers to discover new techniques and learn of industry trends and resources to strengthen the food industry in Ohio. Outspoken science journalist Jon Entine set the stage with his keynote on food fears. By joining 24 other vendors at the event, FIC established a network with the Ohio food industry, building Ohio State's reputation for science-based food solutions.



Columbus Metro Club hosts forum on food innovation

In February 2013 Matt Habash, president and CEO of the Mid-Ohio Foodbank and FIC external advisory board member, joined FIC director Ken Lee as the two experts on a CMC moderated forum “Changing Foodscape.” Moderator Dawn Tyler Lee of the United Way of Central Ohio, posed insightful questions on food waste, food security, eliminating hunger, and how the FIC delivers its tagline—collaborating for a healthier, hunger-free world.

“Through the Food Innovation Center, we have the ability to draw on all the different folks from different colleges to work together on an issue,” said Matt Habash. “From my perspective, that’s huge. I told (then) President Gordon Gee it’s probably the best example I can give him of ‘one university.’”

“Our world is upside down. When you think about food banking, it’s cheaper for me to deliver a bag of apples to you than a can of applesauce. But fresh fruit is more expensive to buy in the grocery store. If we have the ability to collect it we can get it out of the fields and into the hands of people who are hungry.”

Matt Habash on more fresh produce in the food bank system

Appealing to the “hire” power



Rich Bruno



Jill Clark



Neal Hooker



Sanja Ilic

In 2012, the university added four new faculty members to build food expertise. FIC co-directors assisted with recruitment and now help these new faculty launch promising careers at Ohio State.

- **Rich Bruno** joined the College of Education and Human Ecology as an associate professor in human nutrition. Rich won an FIC seed grant to study green tea confections for managing hyperglycemia.
- **Jill Clark** joined the John Glenn School of Public Affairs as an assistant professor. Interests include food system policy, planning and economic development, and sustainable food markets. Jill is on two FIC-funded teams.
- **Neal Hooker** joined the John Glenn School of Public Affairs as a professor of food policy. He is an expert in public policy, marketing, and management issues within global food supply chains. Neal won both an FIC team award and seed grant.
- **Sanja Ilic** joins the College of Education and Human Ecology Department of Human Sciences as an assistant professor this fall in the critical food safety area.

Challenges for the future of food innovation and discovery



How can the Food Innovation Center (FIC) help scholars conduct research on the most effective ways to provide adequate and

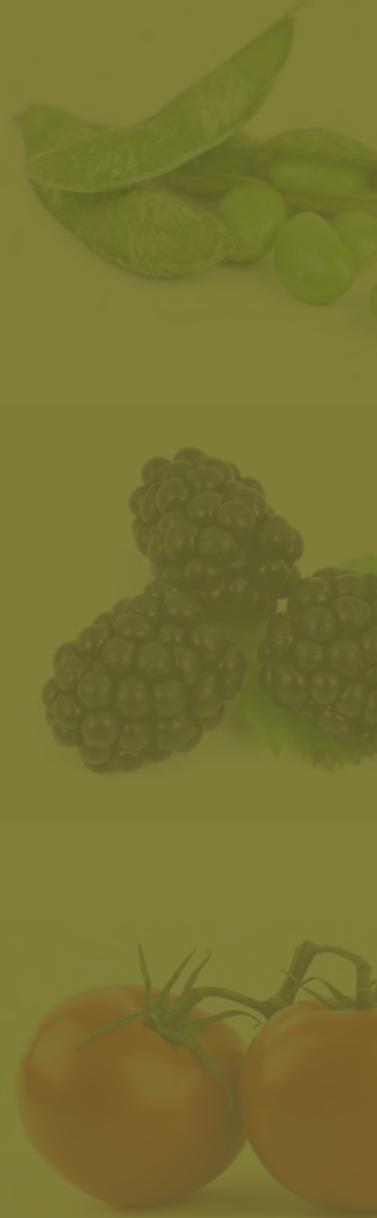
healthful food for a world of nine billion people? What competitive advantage do members of the FIC enjoy over business, food, and medical researchers attacking similar problems independently or as members of other university centers?

One potential source of competitive advantage for organizations such as the FIC is to stimulate knowledge transfer across disparate colleges. While an interdisciplinary approach promises unique benefits, achieving effective knowledge transfer requires that we recognize three main points. One, problems vary in ways that often are not captured by any one disciplinary way of thinking. Two, a number of distinct intellectual perspectives exist, and these perspectives differ in their ability to “solve” particular types of problems. Policy experts often emphasize the role of the executive in making resource allocation decisions through cost/benefit analysis, technological experts often emphasize the role individuals play in learning across specific trajectories, and organizational scholars often emphasize how attributes of economic and social institutions affect progress by favoring certain combinations of activities. Three, solving problems with significant social components, such as enhancing the distribution of nutritious food across an expanding global population, often requires insights from all three perspectives.

The FIC helps to frame novel research questions from multiple perspectives. For instance, an individual espousing a policy

perspective might suggest questions such as, “Should the government spend x millions of dollars on food education?” In contrast, someone with a technological perspective might suggest questions such as, “Do health benefits accrue to consumption of a particular vegetable?” Those emphasizing an organization perspective may suggest questions such as, “How can we design industries and organizations to consider costs and nutrition more seriously?” We can use the perspectives of our members, organize knowledge creation through distinct problem formulation exercises, and direct research in a manner that helps us avoid “errors of the third kind.” When you next attend an FIC meeting or encounter an FIC colleague, take it upon yourself to consider how that individual’s field might frame the food problem. As reportedly stated by famed statistician John Tukey, “Better a poor answer to the right question than a good answer to the wrong question.”

Michael Leiblein, FIC Co-Director



Food Innovation Center

We invite and encourage your participation in the FIC's efforts to improve global life quality through food research and innovation.

Visit us on the Web: fic.osu.edu.

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