Department of Food Science and Human Nutrition

- 392 Undergraduates
- 145 Graduates
- 31 Faculty

Includes National and International Students

Fall 2016

1943 - “Food and Nutrition” Division Approved
1947 – “Food Technology” Department Approved
1995 – “Food Science & Human Nutrition” Department Formed

246 Graduate Applications
63 Graduate Admissions
19/40 Doctoral/Masters Awarded

Numbers here are for 2016-2017 via U. Illinois Division of Management Information
Intellectual breadth,
MULTIDISCIPLINARY FOCUS

We implement research, education, and outreach programs designed to promote a safe, nutritious, accessible, and affordable food supply that enhances human health.
Achievement Through Shared Vision, Mission, and Values

Our Vision
To be a global leader at transforming lives through distinguished scholarship in food, nutrition, and hospitality sciences.

Our Mission
To implement research, education, and outreach programs designed to promote a safe, nutritious, accessible, and affordable food supply that enhances human health.

Our Core Values
The Department of Food Science and Human Nutrition delivers high-impact programs of research, education, and outreach through scholarship that exemplifies integrity, excellence, creativity, and collaboration.
Our Areas of Research Excellence

**Integrated Food, Nutrition and Health** - focus is on creating foods, exploring diets, and identifying food and nutrition patterns for optimal health, including gastrointestinal health, weight management, cancer prevention, and metabolic disease prevention.

**Biochemical and Molecular Nutrition** - attention is on metabolism of nutrients and bioactive food materials to elucidate mechanisms of action using genomics, sequencing, biomarker, and big data tools and analyses for health promotion, disease prevention, and survivorship.

**Food Materials Science and Engineering** - emphasis is on food ingredients, properties and interactions, as well as food microstructures, micro-carriers, and nanotechnology for developing novel, nutritious, abundant, and affordable foods.

**Food Safety and Security** - focus is on food microbiology and foodborne pathogen detection to ensure a safe and accessible food supply, as well as biomass conversion and balance across food, fuel, and fiber sources.
Intellectual Breadth, Multidisciplinary Focus: The Department of Food Science & Human Nutrition

At FSHN, students and faculty work collectively toward learning, discovering, and disseminating new knowledge and in applying novel technologies to achieve research goals.

98th percentile for number of faculty members with an award

- Academic Analytics 2016

100th percentile for percentage of authors with a citation

- Academic Analytics 2016

95th percentile for awards per faculty member

- Academic Analytics 2016

93rd percentile for articles per faculty member

- Academic Analytics 2016
Total Research and Development Expenditures

RESEARCH EXPENDITURES (IN MILLIONS)

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY12</td>
<td>$3.95</td>
</tr>
<tr>
<td>FY13</td>
<td>$3.65</td>
</tr>
<tr>
<td>FY14</td>
<td>$3.32</td>
</tr>
<tr>
<td>FY15</td>
<td>$4.16</td>
</tr>
<tr>
<td>FY16</td>
<td>$3.62</td>
</tr>
</tbody>
</table>

*U. Illinois Division of Management Information
Total Sponsored Research and Development Expenditures

SPONSORED RESEARCH EXPENDITURES (IN MILLIONS)

FY12: $5.35  FY13: $4.27  FY14: $3.68  FY15: $3.41  FY16: $3.70

*U. Illinois Division of Management Information
Expenditure Distribution by Source Type

FY16
$9.31M

State Appropriations & Tuition, 44%

Institutional, 15%

Grants & Contracts, 20%

Gifts & Endowments, 6%

Self-supporting, FWS & Land-grant, 15%

*U. Illinois Division of Management Information
Notable 2017 Research Grants

$781 K
immune & metabolic effects of prebiotics in the piglet model
Dr. Sharon Donovan via Nestle Nutrition

$106 K
military families learning network
Dr. Karen Chapman-Novakofski via Auburn University

$135 K
Cancer Research Advocacy Group – CRAG training program
Dr. Zeynep Madak-Erdogan via PCORI

$213 K
screening bioactives for anti-rotaviral activity in the piglet model
Dr. Sharon Donovan via Biosiberica

$40 K
construction of a xylodextrin fermenting yeast
Dr. Yong-Su Jin via Kookmin University

$40 K
developing vitamin A & iron fortified low sodium soy sauce
Dr. Youngsoo Lee via Schlumberg Foundation

$40 K
identification of predominant odorants in garlic powder
Dr. Keith Cadwallader via Colgate-Palmolive Co.

$41 K
moisture sorption & swelling of oats during pan and microwave heating
Dr. Pawan Takhar via PepsiCo Inc.
Notable 2017 Awards and Recognitions

**Dr. Hannah Holscher**
ACES Vision 20/20 Award
Awarded $20,000 over two years for the proposal “Hepatic Steatosis as a Novel Target for a Dietary Fiber Intervention in Overweight and Obese Adults”

**Dr. Juan Andrade**
ACES Office of International Programs
Awarded $4,000 for the proposal "Food Environments in Urban and Rural Ecuador"

**Dr. Zeynep Madak-Erdogan**
Campus Research Board
Awarded $29,900 for the project "Metabolic Rewiring of Breast Cancer Cells During the Therapy Resistance Progression"

**Dr. John Erdman**
ACES Vision 20/20 Award
Awarded $20,000 over two years for the proposal "Effect of Supplemental RRR-and All-racemic $\alpha$-tocopherol in Brains of Young and Aging Adult $\alpha$-tocopherol Transfer Protein Knockout Mice"

**Dr. Hao Feng**
Campus Research Board
Awarded $13,700 by the Campus Research Board for a project titled "Oxygen-controlled Germination to Enhance the Health Benefits and Functional Properties of Whole-wheat Flour"

**Dr. Shelly Nickols-Richardson**
United States Department of Agriculture
Awarded $227,955 for the continuation of the integrated program “PAWS Club: Peer-education About Weight Steadiness”

**Dr. Shelly Schmidt**
Association of Public and Land-Grant Universities
Awarded $3,000 via an Innovative Teaching Award for 2017

**Dr. Youngsoo Lee**
2017 Provost’s Faculty Retreat Program
Awarded $4,000 by the Teaching Advancement Board to design and implement an instructional enhancement
Faculty Publications in High Impact-Factor Journals

54% of publications in journals with impact factors ≥ 3.0

Publications in 184 different journals in 2017
<table>
<thead>
<tr>
<th>RESEARCH RESOURCES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Science and Human Nutrition</strong></td>
<td>A newly renovated, 10,000 square foot food processing pilot plant serving both research and instructional needs</td>
</tr>
<tr>
<td><strong>Pilot Processing Plant</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Human Nutrition Assessment Laboratory</strong></td>
<td>A shared resource for clinical interventions and behavioral studies needing anthropometric, body composition, dietary intake, and vital signs measures</td>
</tr>
<tr>
<td><strong>Metabolic Kitchen</strong></td>
<td>Supports design/distribution of meals down to the micronutrient level as required by research protocols; provides full kitchen facilities, analytical areas, and group and individual food intake areas</td>
</tr>
<tr>
<td><strong>Food Microbiology Suite</strong></td>
<td>The Food Microbiology Suite provides over 3,500 square feet of shared BSL-2 laboratory space for the Jin, Miller, and Stasiewicz groups. Current research topics include food safety, food fermentation, gut health, and value-added biotransformation.</td>
</tr>
<tr>
<td>RESEARCH RESOURCES</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Bevier Café</strong></td>
<td></td>
</tr>
<tr>
<td>Staffed/run by FSHN students, the café provides hands-on experience in challenges related to managing food quantity operations.</td>
<td></td>
</tr>
<tr>
<td><strong>Spice Box Restaurant</strong></td>
<td></td>
</tr>
<tr>
<td>A student-run fine-dining restaurant for FSHN’s Hospitality Management program, with senior students planning, executing, and evaluating a financially viable, themed meal.</td>
<td></td>
</tr>
<tr>
<td><strong>Integrated Bioprocessing Research Laboratory</strong></td>
<td></td>
</tr>
<tr>
<td>Advances research and education focused on renewable food, fuel, and fiber-based processing platforms, and translating research into commercialization.</td>
<td></td>
</tr>
</tbody>
</table>
We strive to be a
GLOBAL LEADER
at transforming lives through
distinguished scholarship