Grain Science & Industry at KSU

Shawn Thiele
September 2018
• Kaliramesh Siliveru – Assistant professor specializing in grain processing and storage.
• Rebecca Miller-Regan – Assistant professor specializing in bakery science and management
• Yi Zheng – Assistant professor specializing in food fermentation.
Open Positions

Only 2 faculty positions left to be hired until full staff in GSI Department

• IGP Senior Agricultural Economist
  – http://careers.k-state.edu

• BNEF Baking Lab Manger
  – Not yet posted
# Undergraduate Enrollment

<table>
<thead>
<tr>
<th>Year</th>
<th>BSM</th>
<th>FSM</th>
<th>MSM</th>
<th>GSI Total</th>
<th>GSI 5 yr average</th>
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<td>92</td>
<td>52</td>
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<td>Fall 2015</td>
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<td>Fall 2018</td>
<td>56</td>
<td>43</td>
<td>79</td>
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Recruiting Efforts

- Increased awareness through events like "Feed the Future"
- Consolidated “Promotional Materials" that can be shared directly or through industry partners, online web-based, and social media
- More "on-campus" and “trade show” recruiting activities
- Working through the how and who to create class room “teaching materials” and "lab kits" for high school teachers that promote grains, education, and build-brand awareness

bheptig@ksu.edu
Department News

• Job placement for our students continues at >100%
• Internships are numerous, occurring as early as summer after freshman year
• Gordon Smith spent 6 weeks with Ardent Mills over the summer
• Curriculum revisions addressing the 120 credit hour target for all three majors are complete
• Scholarship giving to the department remains strong
• Support for the department from the College of Agriculture remains strong
  – Ernie Minton assumed the role of Interim Dean for the College of Ag
• Jon Faubion will retire Spring 19
• Major targeted facility improvement on-going (classrooms, library, labs)
Milling Asset Improvements

Industry partners have committed in principle to substantial improvement of milling assets

• 10 new table top milling units in Shellenberger 101 (Alapala)
• New small bag packer in HRFM (FAWEMA)
• Construction of a research specialty mill in HRFM (Buhler)
• Programming update in HRFM (Buhler)
• Other HRFM Upgrades
  - Wheat heater
  - Wheat cooler
  - Vibronet conditioning system
  - Tempering aid addition system
GSI Milling Assets

Teaching
Research
Testing

Hal Ross Flour Mill
Buhler Laboratory Mills
Shellenberger Milling Labs
Miag Multomat Mill

O.H. Kruse Feed Technology Innovation Center
Extrusion Innovation Center
FGIS Approved Grain Grading Room and Equipment
IGP Institute Conference Center
IGP Institute

• Provides educational and technical programs in support of consumption, promotion and export of US cereal grain and oilseeds
• Education and training developed and delivered by university professors and industry experts

Core curricula areas

– Flour milling and grain processing
– Feed manufacturing and grain storage
– Grain marketing and risk management
IGP Institute

Flour Milling and Grain Processing

- **IAOM-KSU Milling Program**
  - Introduction to Flour Milling
  - Basic Milling Principles
  - Advanced Milling
  - Flour and Dough Analysis
- **Buhler-KSU Milling**
  - Executive Milling (English and Spanish)
  - Expert Milling (English and Spanish)
  - Flowsheet Technology (English)

Feed Manufacturing and Grain Quality Management

- **IGP-KSU Programs**
  - Feed Manufacturing
  - Extrusion Processing: Technology and Commercialization
  - Pet Food Workshop
  - Grain Elevator Managers
  - NGFA-KSU FSMA for the Feed Industry
  - Pet Food Formulation For Commercial Production

Grain Marketing and Risk Management

- **IGP-KSU Grain Purchasing**
- **IGP-KSU Risk Management**
The IGP Institute had 1,898 participants through on-site and distance courses in 2017.
Opportunities

• Drive program awareness to increase enrollment
• Update facilities
• Ensure the curriculum/course content is appropriate
• Leverage industry connections to drive program progress
• Identify and conduct industry meaningful research
  • Especially related to milling, baking and feed science
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IGP Institute, Kansas State University
Department of Grain Science and Industry

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@kstategrainsci
Questions?

Go Cats!

It’s a Grain-Based WORLD

Department trains leaders to meet future challenges

“We are the only program in the U.S. that trains its students to understand where grain comes from, how it is grown, how it is stored, how it is further processed, and how that processing affects what people and animals ultimately ingest as part of the food supply.”

—Gordon Smith

Training Global Leaders

With the world population expected to rise to more than 9.7 billion people by 2050, the pressure on the fertile resources has never been greater. To help meet that challenge, faculty in the Department of Grain Science and Industry are training future crop scientists and industry professionals in the areas of biotechnology, soils, grains and food science.

Through their research efforts and hands-on farm work, these students help ensure global food security through improved crop yields and increased income for farmers while maintaining the world’s resources among other things. This is accomplished through funding support via national grants as well as through industry partnerships. According to Department Head Gordon Smith, the department feels each step works to address these different challenges.

Marketing and Education

Malcolm is industry’s need for people with hands-on learning opportunities. All of the students are highly engaged with the industry and more than 85 percent have industry experience, so they can translate research to meet current and future demands.”

The department at Kansas State University trains 80 undergraduate and 60 graduate students annually. About half of our graduate students are international, so while training students who are going to work all over the globe,” Smith added. Undergraduate students participate in.cliations to their majors and areas of study and research.

A graduate student organization offers technical conferences and trips to national meetings. (Clarity) Golden Dollar Smith, Overland Park, said his appreciation for the opportunities he went on a biotechnology and agronomy student. 

“The Grain Science Club focuses on running a small business and producing baked goods for the Manhattan community. I find he production manager who first helped me with my internship, who has taken on an internship program,” Smith said. “The club allows students from different backgrounds and industries to experience the joy of baking and learn a lot by working on it.”
Grain Science Friends and Alumni Golf Tournament
Friday, September 28th • 1:00 p.m. Shotgun Start • Stagg Hill Golf Club

To register for the tournament or request more information contact Jason Watt jwatt1@ksu.edu or Shelby VenJohn venjohn52@ksu.edu

The tournament is hosted by the Bakery Science Club. Proceeds will be used for equipment updates in the baking labs.

$100 per person
Fee includes cart, greens fees and dinner catered by Blue Hills Catering. There will be golf games on the course and an auction with dinner.