

IGP Institute



2024 Year in Review

IGP Supporters and Partners

Supporters



Partners



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Director's Message



Joseph Awika
IGP Director

2024 featured multiple new developments at the IGP Institute highlighted by three expanded course offerings and changes in leadership within IGP and the Department of Grain Science and Industry.

IGP Welcomes New Leadership

On August 19, the IGP Institute and the Department of Grain Science and Industry welcomed Joseph Awika as the new department head and director of the International Grains Program Institute. Awika, an internationally renowned food scientist, also serves as director of the Food Science Institute at K-State.

Awika joined K-State from Texas A&M University, where he was the department head of food science and technology. He earned his undergraduate degree at Egerton University, Kenya, and a doctoral degree in food science and technology from Texas A&M.

The year began with a new Brewing and Fermentation Science course offered in January in partnership with Manhattan Brewing Company and held on location in their facility in Manhattan. The three-day program designed for hobbyists and professional brewers focused on the fundamentals of brewing science, brewing technology, safety, and sensory analysis.

Two new baking courses were offered in 2024. The Practical Flour and Dough Testing five-day course provided a broad understanding of standard analytical methods and procedures commonly used in flour quality testing through participant hands-on exercises. The course showed how analyses are done and how to evaluate, interpret, and use the results. The course also introduced wheat classes and uses, lab milling and grinding methods, and test baking methods and applications for breads, cakes, and cookies.

The Advanced Baking Training: Breads course provided professional training in bread and roll production including an in-depth look at the functions of ingredients, the fundamentals of modern bread production, and an objective

system of product evaluation. This course aims to make participants more effective troubleshooters by fine-tuning their knowledge of bread products.

These courses and many more are planned for 2025. IGP will continue to provide premium educational content in person, on location, and via distance that meets the needs of our participants.

I look forward to working with our international grain industry and commodity partners to improve the IGP course curriculum areas and increase the number of participants in the coming years. Kansas State University, the Department of Grain Science and Industry, and the IGP Institute are truly dedicated to providing the best programs to educate and train the next generations of grain industry employees and provide an efficient and sustainable source of nutrition worldwide.

Sincerely,

Joseph Awika

IGP Institute Director, Department Head,
Grain Science and Industry

In Memoriam

The IGP Institute and the K-State Department of Grain Science and Industry wish to recognize three former leaders who passed away during 2024. All of these men were important in moving the department and IGP forward during their time at Kansas State University.



Charles Deyoe
1933 – 2024

Grain Science and
Industry Department
Head (1977–1992)
and first IGP Institute
Director (1978–1996)



Roger Johnson
1938 – 2024

IGP Institute
Associate Director
(1986–1996)

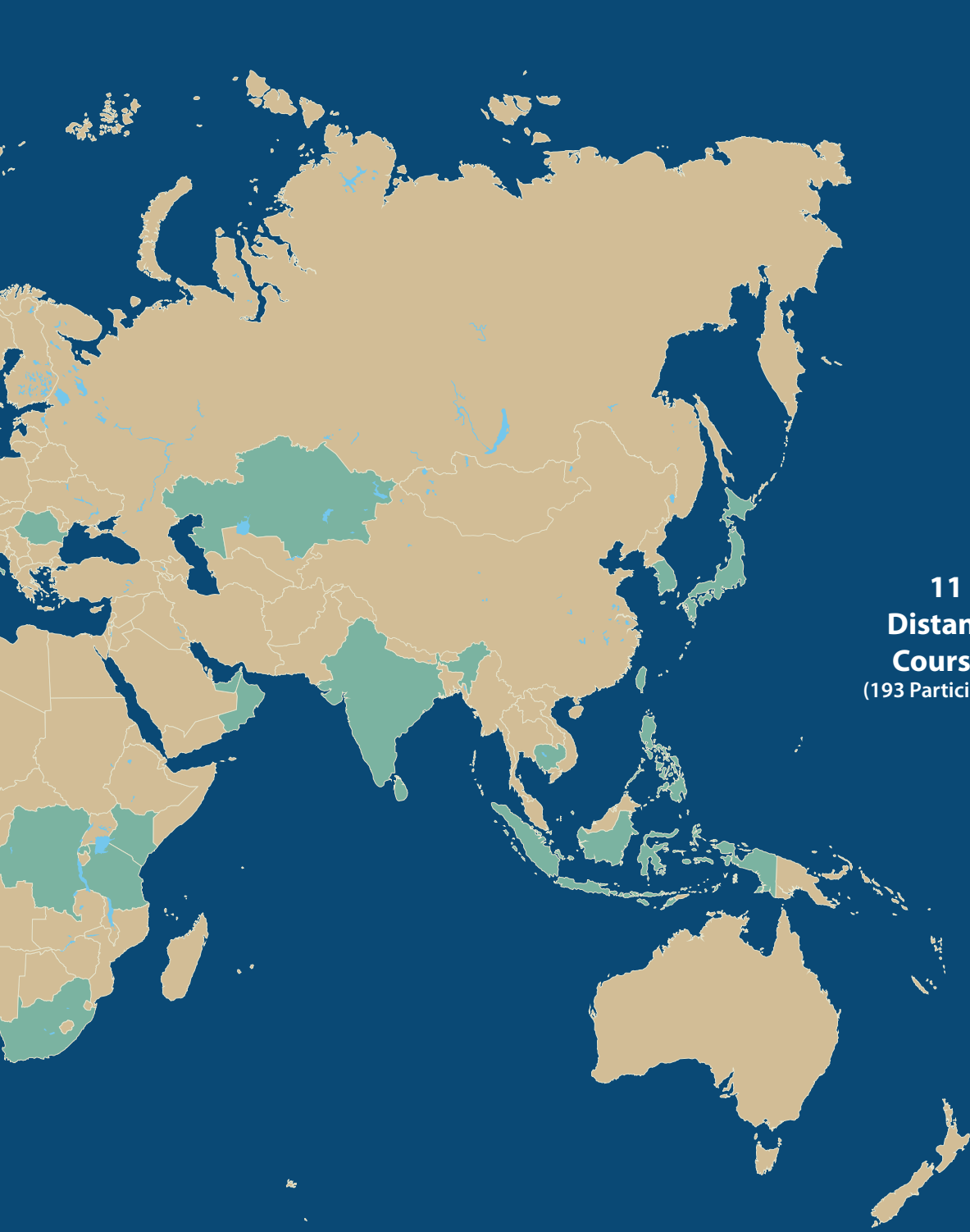


Gordon Smith
1961 – 2024

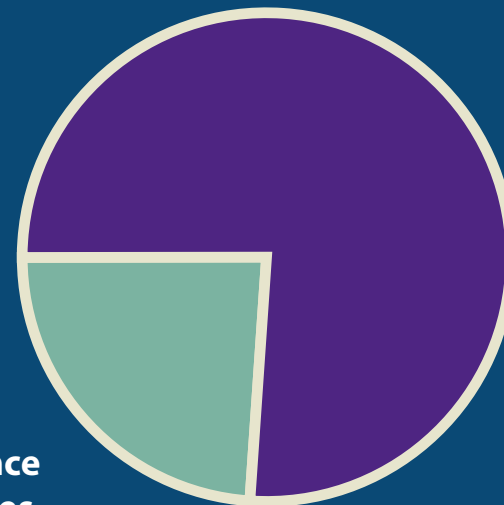
Grain Science and
Industry Department
Head and IGP
Institute Director
(2015–2022)

IGP Institute Mission

*To provide
technical,
research-
based training
benefiting
industry
professionals
globally and
enhancing
the market
preference
for U.S. grains
and oilseeds.*



Total Participants



31
On-Site
Courses
(621 Participants)

11
Distance
Courses
(193 Participants)

Impact

IGP Supported Courses

Soybean Excellence Centers

(≈15,000 Students enrolled in KSU-supported trainings)

International Association of Operative Millers

Correspondence Course

(Facilitated 191 testing units)

Additional IGP Institute Outreach

Workshops, Research, Presentations

(≈6,211 Attendees)



Training U.S. Wheat Customers

The IGP Institute partnered with U.S. Wheat Associates to train Taiwanese millers.

Taiwan is currently the fifth-largest customer of U.S. wheat using Hard Red Winter, Hard Red Spring, and Soft White wheat. As a service to their customers, U.S. Wheat Associates partnered with the IGP Institute to train a group including two U.S. Wheat representatives and eight millers from Taiwan that use wheat purchased from the United States.

The goal of the course was to help Taiwanese customers optimize their mill production using U.S. wheat. Different classes of U.S. wheat require different approaches for successful milling. This is true across all U.S. wheat classes and also applies when comparing U.S. wheat with wheat from various origins around the world. The course educated the participants on how to recognize those differences and set the mill correctly for the different U.S. wheat classes they were using.

Participants in the course learned about the U.S. milling industry and the end-use functionality of the various wheat classes. They toured the Kansas Wheat Innovation Center, and then spent time in hands-on sessions in the Shellenberger Hall tabletop milling lab, the Hal Ross Flour Mill, and the

Shellenberger baking lab where they baked bread, cakes, and cookies using different types of flour to determine how product quality is affected by the classes of wheat used in the recipes.



The course featured a combination of lectures and discussions and provided participants with a chance to ask questions about specific topics. The milling exercises began with an overview of the equipment used in the mill and progressed through the steps required to obtain the best results at each stage of the milling process from cleaning and tempering to optimizing flour extraction.

Shawn Thiele, IGP Associate Director and Flour Milling and Grain Processing Curriculum Manager, said the course went well. "It was the first U.S. Wheat-specific activity for this region in some time so it was great having new U.S. Wheat customers at IGP for technical training."

Thiele also commented on the course reviews at the end of the week where the participants provided their feedback. Many commented that the lectures created a better understanding of wheat classes and the benefits of using U.S. wheat for new product development, blending, purchasing, and developing market strategies. Others mentioned that the technical skills learned during the course would be useful in their mills when they returned to Taiwan.

Participants also suggested that future courses for Taiwan include additional information on grain storage and pest control as these are common challenges in humid environments.





Paul Blodgett, Hal Ross Flour Mill Program Manager, assists two participants from the U.S. Wheat Basic Milling for Taiwan course during their tabletop milling exercise held in Shellenberger Hall.



Sustainable Soybeans

IGP and USSEC educate Latin American buyers on sustainable farming practices.

The U.S. Soybean Export Council (USSEC) focuses on providing access to international markets for U.S. Soy products as a sustainable source of animal nutrition and energy worldwide. Partnering with the IGP Institute, a tailor-made course was developed specifically for the USSEC Americas Office to expand on sustainability, as all Latin American markets are asking for more sustainable products.

In July, IGP hosted 30 of the top U.S. soy buyers from Latin American companies focused on animal production, soybean crushing, and the feed industry for the USSEC Soybean Sustainability Master's Program. In this three-day course, participants had the opportunity to hear from industry professionals who specialize in soybean production and help companies align with layout trends in sustainability. Guest speakers included professors from Kansas State University and world-renowned sustainability experts.

This course was intended to educate customers of soy products in Latin America using technical lectures and workshops to improve their sustainable strategies. Participants were taught

reporting frameworks and standards to enhance their efforts in sustainability practices within their companies.

The primary goals of this course were to show how U.S. growers use renewable farming and how the participants can become certified in sustainability. The course discussed green marketing for



sustainable companies along with the principles of regenerative agriculture and included a tour of the ag research facilities at K-State. Additional lectures covered how the use of GMO crops requires less fertilizer and insecticide, resulting in more cost-efficient results.

Participants also had the opportunity to hear from an equipment manufacturer about new technological advancements for ag equipment. Additionally, IGP's

Carlos Campabadal, who served as course manager, showed participants the benefit circular economy has on the environment by creating a more sustainable system for producing and consuming goods. It also outlined ways to conserve more energy in feed manufacturing. "Overall, the message of U.S. soy products being sustainable was well-received by participants," Campabadal said.

With the partnership and support of USSEC and the Kansas Soybean Commission, this was the first general sustainability course held at the IGP Institute that provided lectures focused on the USSEC Americas office. "Hopefully, we can do this course every other year and expand to other USSEC offices and regions of the world," Campabadal added.





Chuck Rice from the K-State Department of Agronomy answers questions about no-till farming during the USSEC Soybean Sustainability Master's Program farm visit to showcase modern practices that conserve energy and benefit the environment.



Sorghum Specialists

IGP partners with national groups to host sorghum poultry feed course for India.

The IGP Institute partnered with several key organizations to fund, organize, and facilitate the India Sorghum Feed Manufacturing and Poultry Nutrition course held November 13–15. This partnership included the Kansas Grain Sorghum Commission (KGSC), the United Sorghum Checkoff Program (USCP), and the U.S. Grains Council (USGC).

IGP was responsible for hosting, teaching, organizing, and highlighting the benefits of U.S. sorghum to the participants. The course included nine participants from India, two U.S. Grains Council staff members also from India, and various guests from the sorghum industry who attended the course and social events.

This day-and-a-half course gave its participants a deeper insight into U.S. sorghum characteristics as well as its potential to enhance poultry nutrition. Through presentations and hands-on activities, participants learned how sorghum can be processed, formulated into poultry feed, and used to optimize poultry production and nutrition.

Participants included feed manufacturers and poultry nutritionist leaders from India. The primary goal was to introduce U.S. sorghum to these industry leaders and to demonstrate how it can be used to improve poultry feed formulations. This course was designed to give a better understanding of basic concepts on how to implement sorghum in poultry feed diets to improve overall poultry nutrition.

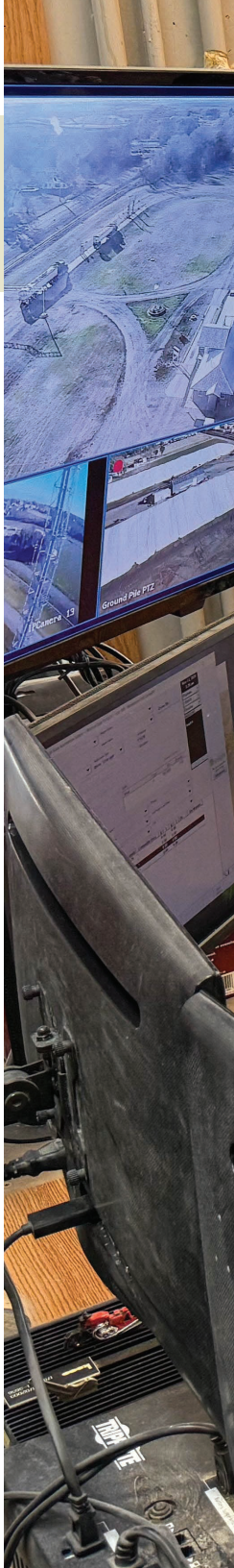


While this course was held at IGP, participants had the opportunity for hands-on education outside of the classroom through various site visits. The first stop was the Concordia Terminal in Concordia, Kansas, a shuttle-loading terminal connected to the Burlington Northern Santa Fe (BNSF) railway. Participants learned about the logistics

of grain transportation, gaining insight into the efficiency and scale of U.S. grain handling. At the terminal, they met with IGP faculty member and course manager Carlos Campabadal and KGSC staff and board members.

Participants also visited a local sorghum farm where they met with sorghum farmers and experts to learn more about the industry. Back at IGP, they toured the O.H. Kruse Feed Technology and Innovation Center, where they participated in a feed-quality workshop, using the knowledge they had gained throughout the course.

“We had the ability to do a tailor-made course focusing on sorghum to create a market in India by showing them the benefits of no tannins, non-GMO grains, and all the nutritional benefits sorghum can provide to increase poultry production,” said Campabadal. “Based upon interest and feedback from this course, preparations are in place for implementing an online course next year for those who want to learn more about sorghum and its benefits to the poultry industry.”





Poultry producers from India toured the Concordia Terminal to learn how the shuttle-loading facility handles sorghum and other commodities as part of the U.S. supply chain that moves grain from farms to export facilities by rail.



Growing to Meet Demand

IGP expands course offerings with new baking and brewing training opportunities.

IGP continues to meet the needs of our clients by expanding our course offerings to include specialized courses in new areas or advanced courses that build on our current curriculum areas.

IGP offered two new courses in our baking program in 2024 to provide a more complete understanding of the important science behind successful baking operations.

The Advanced Baking Training: Breads course had 13 participants and was designed to provide professional training in bread and roll production. It featured an in-depth look at the functions of ingredients, the fundamentals of bread production, and an objective product evaluation system. It was designed to make participants more effective troubleshooters by fine-tuning their knowledge of bread products.

Topics covered in the course included functions of major and minor ingredients, bread processing steps like mixing and fermentation, common dough systems, production problems, and objective evaluation techniques for finished products.

The course was a blend of lecture classes focused on theory and practical hands-on sessions in the Shellenberger Hall baking lab. It was taught by K-State grain science baking faculty Aaron Clanton and Elisa Karkle. The course will continue to be offered each year.

The second baking course, Practical Flour and Dough Testing welcomed eight participants to experience hands-on application of analytical tests used to determine attributes of different flours. Participants were introduced to the analytical techniques that are encountered when working with flour mills and bakeries. The five-day course provided a broad understanding of these methods and procedures commonly used in flour quality testing. The course taught how analyses are done as well as how to evaluate, interpret, and use the results.

The course also introduced wheat classes and uses, lab milling and grinding methods, and test baking methods and applications for breads, cakes, and cookies.

The third new course for 2024 opened a new curriculum area for the IGP

Institute. The Brewing and Fermentation Science course was a three-day program in which hobbyists and professional brewers had the opportunity to learn and experience the fundamentals of brewing science, brewing technology, safety, and sensory analysis.

Nine participants gained valuable industry insight from the professionals at Manhattan Brewing Company, as well as instruction from faculty at Kansas State University on the brewing process and the science behind it.

The short course was held at Manhattan Brewing Company's Taproom and Brewery in Manhattan, Kansas, where participants received hands-on training in addition to lectures from the industry instructors.

The curriculum included all facets of the brewing process including raw ingredients, brewing technology and techniques, fermentation, safety, packaging, and tasting of the finished product.





Participant Shelby Gourley from Handtmann Inc. takes measurements from the previous day's baking exercise as part of the evaluation process to determine product quality during the Advanced Baking Training: Breads course.



International Impact

IGP faculty provide knowledge to a worldwide audience through advisory roles.

IGP Institute faculty are making a global impact through their teaching efforts. By creating a range of training programs, presentations, and other educational resources, they are effectively sharing their knowledge and expertise with industry professionals worldwide.

During the months of August and September, IGP faculty member Carlos Campabadal was the lead instructor for the Soybean Excellence Center (SEC) Feed Manufacturing Intermediate Course for the U.S. Soybean Export Council (USSEC). Campabadal developed the curriculum for this course and traveled to present it in Honduras, India, and Egypt.

The first course, SEC Basic Level, is taught online. The next level course is SEC Intermediate, which is in-person. In this course, industry professionals are taught feed manufacturing and topics related to operations, quality control, as well as grain and feed ingredient storage.

One of the benefits of this program is the offering of on-site training to industry professionals who may not have the ability to travel due to the restrictions of

their job activities. USSEC and IGP offer the on-site courses as an attempt for participants to gain exposure to specific training levels so their technological knowledge will be increased.



Guy Allen, another IGP faculty member, presented a paper on current “Oilseed and Soybean Market Outlook and Issues” at the 15th China International Cereals and Oilseeds Industry Summit in Shangri-La, Nanjing, China.

Other highlights of the year included hosting the World Bank, the world’s largest biofuel producer, and participating in U.S. Grains Council (USGC) Global Starch Conference Symposium. Organized by IGP’s Carlos Campabadal, the World Bank’s goal was to learn about work

related to food security focused on grain and learn about storage from a commercial perspective. Allen attended in search of opportunities for the World Bank to work with Kansas State University. The USGC symposium was held June 10–12 in Chicago, Illinois. Allen presented a portion of a paper on “Developing a Value-Based Business Model.”

Campabadal also traveled to Manila in the Philippines with Shawn Thiele, IGP Associate Director and Flour Milling and Grain Processing Curriculum Manager, in January 2024 to present at a Core Competency Milling Seminar hosted by the U.S. Wheat Associates. Their presentations covered topics including developing effective maintenance programs, wheat quality, wheat storage, pest management, and mill performance indicators.

Campabadal and Pat Hackenberg, IGP Educational Media Coordinator, traveled to Neiva, Colombia, to film a tilapia farm for use in an upcoming presentation on modern aquaculture production using U.S. commodity grains in aquaculture nutrition.





IGP faculty members traveled worldwide as subject matter specialists during 2024 to provide training, education, and technical assistance in multiple countries while promoting U.S. grain commodities in the global market.



2024 IGP Institute Year in Photos

NEW!

IGP 2024 Course
Highlight Video



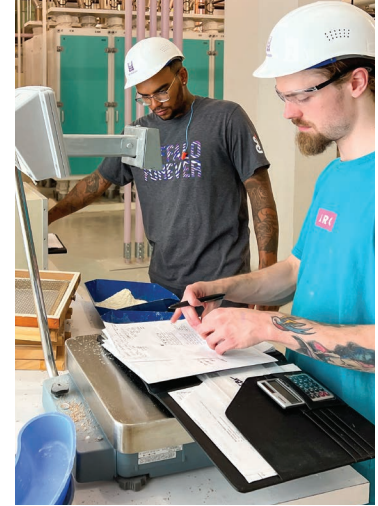
Scan the QR Code
to watch the video
on your device.







2024 IGP Institute Year in Photos







2024 IGP Institute Year in Photos







2024 by the Numbers

31 On-site Courses • 621 Participants

On-site Courses	Month	Participants	Countries
KSU–MBC Brewing and Fermentation Science	January	9	United States
IAOM–KSU Introduction to Flour Milling	February	9	United States
NGFA–KSU Food Safety Modernization Act Industry Training	April	29	United States
IGP–KSU Grain Procurement and Purchasing	April	14	Canada, Mexico, South Korea, Sri Lanka, United States
IGP–KSU Grain Export Supply Chain Expedition	April	13	South Korea, United States
USSEC New Trends in Animal Nutrition	April	22	Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Peru, United States
KSU–GEAPS Grain Elevator Managers	April	39	United States
USSEC Aquaculture Executive Nutrition	May	28	Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Peru
IGP–KSU Baking Basics Training: Breads, Cakes and Cookies	May	13	St. Vincent and the Grenadines, United States
USSEC Think, Learn & Succeed	June	18	Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru
USW Flour Milling for Sub-Saharan Africa	July	11	Nigeria, Rwanda, Tanzania, South Africa
IGP–KSU Feed Manufacturing	July	52	Canada, El Salvador, Ghana, Guatemala, Kazakhstan, Nigeria, Panama, United States
IGP–KSU Advanced Baking Training: Breads	July	13	Cameroon, United Kingdom, United States
USSEC Sustainability Masters Course	July	24	Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Venezuela
IGP–KSU Practical Flour and Dough Testing	August	8	Cameroon, United States
IAOM–KSU Introduction to Flour Milling	August	17	Canada, St. Lucia, United States
IGP–KSU Pet Food Workshop	August	44	India, United States
Buhler–KSU Milling for Experts (Spanish)	August	6	Chile, Colombia, Panama
IGP–KSU Extrusion Processing: Technology and Commercialization	August	57	Canada, India, United States
Buhler–KSU Milling for Executives (English)	August	14	Canada, Colombia, Mexico, United States

On-site Courses	Month	Participants	Countries
NGFA–KSU Food Safety Modernization Act Industry Training	August	31	United States
IGP–Scoular Hands-On Training	August	21	Canada, United States
IAOM–KSU Basic Milling Principles	September	13	Brazil, Japan, United States
IAOM–KSU Advanced Milling	September	18	Canada, Trinidad & Tobago, United States
USW Advanced Milling for South Korea	October	5	South Korea
USW Basic Milling for Taiwan	October	10	Taiwan
Buhler–KSU Flowsheet Technology	November	8	Canada, Japan, United States
NGFA–KSU Food Safety Modernization Act Industry Training	November	25	United States
USCP–USGC Sorghum in Poultry Nutrition and Feed Manufacturing	November	11	India
GEAPS–KSU Hands-On Training on Operation and Maintenance of Conveying Equipment	December	28	Oman, United States
IGP–KSU Flour Milling for State Wheat Commissioners and Staff	December	11	United States
Total		621	



2024 by the Numbers

11 Distance Courses • 193 Participants

Distance Courses	Month	Participants	Countries
AFIA 500A: Overview of U.S. Feed Industry*	Jan. – Dec.	3	Brazil, United States
AFIA 500B: Particle Size, Batching and Mixing*	Jan. – Dec.	15	United States
AFIA 500C: Pelleting Process*	Jan. – Dec.	4	Trinidad & Tobago, United States
AFIA 500D: Finished Product Packaging and Bulk Loadout*	Jan. – Dec.	6	United States
AFIA 500E: Basics of Quality Assurance*	Jan. – Dec.	2	United States
AFIA 500: Fundamentals of Feed Manufacturing	February	34	Dominican Republic, India, United States
USSEC Aquaculture Nutrition Executive Program (hybrid)	March	31	Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Peru
AFIA 500: Fundamentals of Feed Manufacturing	April	23	Ireland, Trinidad and Tobago, United States
AFIA 500: Fundamentals of Feed Manufacturing	June	16	Canada, Dominican Republic, United States
AFIA 500: Fundamentals of Feed Manufacturing	August	21	Romania, Mexico, United States
AFIA 500: Fundamentals of Feed Manufacturing	October	38	Cambodia, Canada, Indonesia, Italy, United States
<i>*On-demand courses from Global Campus Catalog</i>			
Distance Total		193	

Distance Courses

Month Participants Countries

Other IGP-Supported Courses

IAOM Correspondence Course Testing Units	Jan. – Dec.	191 testing units	Belize, Canada, Guatemala, Japan, Kenya, Mexico, Philippines, Puerto Rico, Republic of Korea, St. Vincent and the Grenadines, South Africa, Trinidad and Tobago, United Arab Emirates, United Kingdom, United States, Venezuela
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Our Facilities



IGP Institute Conference Center – our primary building for hosting course participants featuring meeting spaces, technology-enhanced classrooms, and dining facilities



Bioprocessing and Industrial Value Added Products (BIVAP) Innovation Center – research facility for bioprocessing and renewable energy, biomaterials, and extrusion laboratories



Hal Ross Flour Mill – state-of-the-art pilot scale flour mill used for teaching, research, and industry training on full-scale equipment and control systems found in commercial flour mills



O.H. Kruse Feed Technology Innovation Center – a modern feed mill used for teaching feed production, pet food development, grain handling, and featuring an embedded BSL-2 research facility



Shellenberger Hall – home of offices and classrooms for the Department of Grain Science and Industry on the Kansas State University main campus



Shellenberger Baking Laboratory – IGP course participants bake cakes, bread, and cookies with different types of flour to see the effects on the finished products



Shellenberger Milling Laboratory – table-top milling equipment provides a hands-on understanding of the basic grinding techniques used in the flour milling process



Shellenberger Milling Laboratory – small-scale milling and sifting equipment is also available for teaching and research use



Faculty and Staff Directory

Core Staff



Joseph Awika

IGP Institute Director and Department
Head Grain Science and Industry
awika@ksu.edu



Shawn Thiele

Flour Milling and Grain Processing
Curriculum Manager, Associate Director
smt9999@ksu.edu



Pat Hackenberg

Educational Media Coordinator
phack@ksu.edu



Guy H. Allen

Grain Marketing and Risk Management
Curriculum Manager, Agricultural
Economist
guyhallen@ksu.edu



Carlos A. Campabadal

Feed Manufacturing and Grain Quality
Management Curriculum Manager,
Spanish Outreach Coordinator
campa@ksu.edu



Kate Williamson

Events Coordinator
and Communications Specialist
kate89@ksu.edu



April Darnell

Education Manager
adarnell@ksu.edu

Contributing Faculty

Kansas State University Grain Science and Industry

Sajid Alavi
Paul Blodgett
Fran Churchill
Aaron Clanton
Hulya Dogan
Elisa Karkle
Eric Maichel
Haley Otott
Julia Guazzelli Pezzali
Kaliramesh Siliveru
Charles Stark
Jason Watt

Other K-State Faculty

Vincent Amanor-Boadu
Agricultural Economics

Katelyn Gaffield
Animal Sciences and Industry

Dan O'Brien
Agricultural Economics

Tom Phillips
Entomology

Chuck Rice
Agronomy

Martin Talavera
Food, Nutrition, Dietetics and Health

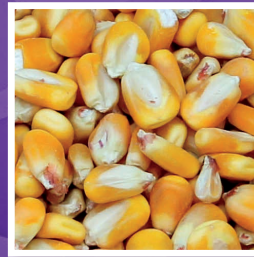
Harold Trick
Plant Pathology

2024 IGP Institute Faculty and Staff



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Kansas State University is committed to nondiscrimination on the basis of race, color, ethnic or national origin, sex, sexual orientation, gender identity, religion, age, ancestry, disability, genetic information, military status, veteran status, or other non-merit reasons, in admissions, educational programs or activities and employment, including employment of disabled veterans and veterans of the Vietnam Era, as required by applicable laws and regulations. Responsibility for coordination of compliance efforts and receipt of inquiries concerning Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and the Americans With Disabilities Act Amendments Act of 2008, has been delegated to the Director of Institutional Equity, Kansas State University, 103 Edwards Hall, Manhattan, KS 66506-4801, (Phone) 785-532-6220; (TTY) 785-532-4807. Revised August 14, 2014.



KANSAS STATE
UNIVERSITY

IGP Institute
Department of Grain Science and Industry

1980 Kimball Avenue, 102 IGP Institute Conference Center | Manhattan, KS 66506-7000
Tel. 785-532-4070 | Fax 785-532-6080 | www.grains.k-state.edu/igp | igp@ksu.edu