Borlaug Fellowship program – Advance list of potential opportunities for U.S. universities to mentor and host Borlaug Fellows in 2019.

(The Borlaug Fellowship Program is funded by the U.S. Dept. of Agriculture, Foreign Agricultural Service)

For 2019 the USDA Foreign Agricultural Service (USDA/FAS) Borlaug Fellowship Program will be accepting applications from prospective Fellows from the countries listed below in the specified targeted research areas. Once USDA/FAS has competitively selected the Fellows, it will put out calls to U.S. universities for proposals to mentor and host the selected Fellows for 8- 12 weeks in the Fellows' targeted research area. Although this call for proposals from USDA/FAS to U.S. universities is not expected until sometime in Spring 2019, universities potentially interested in mentoring and hosting a Fellow may want to look at the list below in advance of the actual calls for proposals so as to have more time to plan if they wish.

While it is not guaranteed that every country and topic on the list will result in an actual call for university proposals, typically most do.

Also, if you as a U.S. university faculty member know a person in a listed country who would be eligible to apply for a Borlaug Fellowship and you are willing to host that person at your university as a Borlaug Fellow you may want to encourage the person to apply and have that person note in their Fellowship application who they have identified a potential mentor and at what U.S. institution.

For more info on the Borlaug Fellowship see:

https://www.fas.usda.gov/programs/borlaug-fellowship-program

Although this is not a program of the USDA National Institute of Food and Agriculture (NIFA), we send out information on this global engagement opportunity as a service to our stakeholders in cooperation with our colleagues at USDA/FAS. USDA/NIFA will also send via email through our Center for International Programs listserv USDA/FAS's individual calls for proposals (Notices of Funding Opportunities) for U.S. universities to mentor and host Borlaug Fellows as we begin receiving them from USDA/FAS in Spring 2019.

2019 Borlaug Fellowship Research Priorities by Country

Country	**Targeted Research Areas**
Algeria	Hydroponics: To research methods to Increase capacity to support value chain development in fresh produce sector. Post-Harvest Loss (Horticulture): To learn best practices and research technologies on food and vegetable harvesting, post-harvest care, and cold storage technology to reduce post-harvest loss.
Bangladesh	Plant Health, Post-Harvest Loss, and Food Safety: Research and development methods should be learned and demonstrated on how to ensure food safety through plant health management and postharvest management for value addition. Resilient Agriculture: Research and development activities should demonstrate how it will

	sustainably increase productivity, enhance resiliency (e.g., reduced vulnerability to pests, drought, diseases, or erratic weather etc.), or reduce greenhouse gas emissions.
Burkina Faso	Food Safety: To enhance and protect public health and agriculture through the development of technologies, strategies, policies, and data that safeguard food from pathogens, toxins, and chemical contaminants during production, processing, and preparation. Post-Harvest Loss (Horticulture): To develop cost-effective technologies and methods to minimize post-harvest loss caused by biotic and abiotic factors in the horticulture sector.
Cambodia	Food Safety (Antimicrobials): To support research the science-based approach to the use of antimicrobials in livestock production, antimicrobial residues in food, and antimicrobial resistance; In addition, this fellow would be exposed to science-based information on microbial contamination, such as Salmonella. Pesticides and MRLs: To provide training and support research on the science-based approach to the use of pesticides and minimum residue levels. Post-Harvest Loss: To research post-harvest technology and methods of reducing post-harvest loss in rice production.
Colombia	Biotechnology (Cacao): To research gene editing technology for cacao varieties so that cacao plants do not absorb cadmium. Geographic Information System (Cacao): To develop a geographic Information system (GIS) for sustainable cacao production. Plant Health (Cacao): To research the impact of the use of fertilizers on cacao on Green House Gas emissions.
Costa Rica	Resilient Agriculture; Food Security: To research methods and technologies to reduce greenhouse gas emissions in the agricultural sector to address resilience to climate change and enhance food security.
Ecuador	Cacao: To conduct analysis of cacao's functional metabolites. Cacao: To research application of bioinformatics in the identification and cacao genetics, particularly transcriptome.
El Salvador	Quarantine and Non-Quarantine Pests: To research quarantine and non-quarantine pests (especially Trigoderma glabrum).
Egypt	Agricultural Production: To research horticulture production in desert climates: vegetable production, management of production under hydroponic systems or greenhouses, nutrient requirements, optimum levels of production, integrated pest management under protected hydroponic systems, etc. Food Safety: To research risk assessment and standards in veterinary drug residues and standards.

	Post-Harvest Loss (Aquaculture): To research post-production requirements for sustainable aquaculture production.
Ethiopia	Biotechnology: To research workable import approval systems and low-level presence policies for biotech crops, especially maize. Fall Army Worm: To research integrated pest management for Fall Armyworm. Market Information Systems: To research reduction of artificial (i.e. avoidable) price shocks by enhancing collection, dissemination, and analysis of agriculture market data (e.g. crop production, trade, prices, and stocks).
Georgia	Food Safety (Dairy Production): To develop the recommendation for prescribed procedures based on comprehensive risk analysis, including quantitative and qualitative analysis. Integrated Pest Management: To research the biology of Brown Marmorated Stink Bug or other insect pests of economic importance, pest risk assessments, integrated pest management, and international standards for phytosanitary measures. WTO Trade Facilitation: To research the effects of domestic trade barriers on the competitiveness on Georgian industries. Advance research on the requirements of SPS and TBT agreement and strengthen knowledge on international trade standards.
Ghana	Animal Health: To increase capacity in animal and veterinary science remains a challenge for the scaling up of local livestock industries. Market Information Systems: To research methodology and management of programs for preparing official agricultural statistics to increase agricultural statistics capacity of candidates in order to provide more accurate data for agricultural planning purposes. Post-Harvest Loss: The training is to cover advances in post-harvest technology of horticultural crops. The objective is to improve the capacity of participants to handle horticultural crops in order to decrease food spoilage.
Guatemala	Quarantine and Non-Quarantine Pests: To research quarantine and non-quarantine pests (especially trigoderma glabrum). Aflatoxin Prevention and Control (post-harvest): To research aflatoxin and mycotoxin control and prevention in food grains. Nutrition: To research methods and technologies for determining amino acid profiles and composition in food as an indicator for protein quality; provide alternative food options to develop new products or recommend improved nutrition options.
Honduras	Quarantine and Non-Quarantine Pests: To research quarantine and non-quarantine pests (especially trigoderma glabrum).
India	Nutrition: To research applications for and the efficacy of soy-, dairy-, and poultry-based protein products to help alleviate high malnutrition rates in rural communities.

	Resilient Agriculture (Drought Tolerant Crops): To research the variety, adaptability, and production benefits of genetically engineered, drought-tolerant crops.
Indonesia	Plant Health: To research the eradication of plant pests, such as nematode, fruit fly, and bugs; especially for plant quarantine researchers. Post-Harvest Loss: To research new methods on reducing post-harvest losses on horticulture products to increase capacity in improving handling, storage, and supply chain/logistics issues on horticulture products.
Jordan	Agricultural Production: To research horticulture production in desert climates: vegetable production, management of production under hydroponic systems or greenhouses, nutrient requirements, optimum levels of production, integrated pest management under protected hydroponic systems, etc. Animal Health (Poultry Nutrition): To research poultry feed formulation to include Distillers Dried Grains with Solubles (DDGS). Food Safety: To research risk assessment and standards in veterinary drug residues and standards. Post-Harvest Loss (Aquaculture): To research post-production requirements for sustainable aquaculture production.
Kazakhstan	Animal Health: To improve animal health including breeding techniques, disease identification, prevention, and treatment, and overall herd management. Food Safety: To research cold-chain and safe handling measures, transportation logistics, and international standards and best practices in testing food products. Resilient Agriculture: To research drought and salt-tolerant crops, irrigation, water management, new technologies, and other topics related to improving capacity to respond to droughts and other weather-related events.
Kenya	Agricultural Strategic Communication: To enhance the ability to create and implement effective social marketing campaigns - promoting science-based decision making and ultimately a shift in consumer behaviors/acceptance of genetically engineered agricultural products; to increase proficiency with tools required for agricultural data collection, data visualization, and storytelling (e.g. geographic information systems, market information systems, social media platforms) so that they may effectively gather science-based information and convey it in a compelling manner to the public. Food Safety: To study the processes, best practices, and results of safety and risk assessments of genetically engineered foods.
Liberia	Agricultural Strategic Communication: To enhance the ability to create and implement effective social marketing campaigns - promoting science-based decision making and ultimately a shift in consumer behaviors/acceptance of genetically engineered agricultural products; to increase proficiency with tools required for agricultural data collection, data

	visualization, and storytelling (e.g. geographic information systems, market information systems, social media platforms) so that they may effectively gather science-based information and convey it in a compelling manner to the public. Food Safety: To study the processes, best practices, and results of safety and risk assessments of genetically engineered foods.
Malawi	Agricultural Strategic Communication: To enhance the ability to create and implement effective social marketing campaigns - promoting science-based decision making and ultimately a shift in consumer behaviors/acceptance of genetically engineered agricultural products; to increase proficiency with tools required for agricultural data collection, data visualization, and storytelling (e.g. geographic information systems, market information systems, social media platforms) so that they may effectively gather science-based information and convey it in a compelling manner to the public. Food Safety: To study the processes, best practices, and results of safety and risk assessments of genetically engineered foods.
Malaysia	Biotechnology (Animal): To research the use of conventional breeding tools to improve aquaculture and ruminant animals production and genetics in the humid tropics; to develop a databank of genomic breeding values for aquaculture and livestock programs. Biotechnology; Plant Health: To research marker assist breeding in identifying fungal pathogens and viral infection in developing local plants that able to sustain diseases and infections. Plant Nutrition: To research fundamental plant nutrition and its influence on organic plant health and produce; use of correct nutrient assist farmers in maximizing the usage of fertilizers in improving quality of their plants, thus increasing yields and reducing waste and contamination to environment.
Mali	Food Safety: To enhance and protect public health and agriculture through the development of technologies, strategies, policies, and data that safeguard food from pathogens, toxins, and chemical contaminants during production, processing, and preparation. Post-Harvest Loss (Horticulture): To develop cost-effective technologies and methods to minimize post-harvest loss caused by biotic and abiotic factors in the horticulture sector.
Mexico	USDA Global Cocoa Initiative: To research issues focused on cocoa breeding, integrated pest management, and post-harvest management: genomics, genetics and breeding; plant propagation methods; soil fertility and plant nutrition; plant pathology and control methods for witches' broom and frosty pod. Plant Health: To research efficient use of organic and inorganic fertilizers.
Mongolia	Animal Health (Livestock Genetics): To enhance the capacity to manage, staff, and operate the new National Center for Animal Gene Bank; receive training in good laboratory practices, training to operate and troubleshoot testing and calibration of equipment, and training on management of long-term embryo storage banks and genetic testing to improve cattle breeds.

	Plant Health; Rangeland Management: To research hardy grain and forage varieties to withstand Mongolia's harsh climate and remediate depleted grasslands; and to enhance the capacity to manage, staff, and operate an aging national plant genetics repository.
Morocco	Animal & Plant Health: To research the protection of agriculture from transboundary animal and plant pests and diseases (Red Palm Weevil, Med Fly, and Tuta absoluta, as well as Peste des Petites Ruminants (PPR), Tuberculosis, Brucellosis, Foot and Mouth Disease, Bluetongue, and Rabies). Biotechnology: To enhance researcher capacities to develop, promote, and defend the safe use of biotechnology in the promotion of global food security. Food Safety: To enhance public health through research of appropriate risk-based regulations that safeguard the food chain.
Mozambique	Animal Health (Breeding and Genetics): To research methods to bolster food security and agricultural trade by supporting biotechnology research in livestock genetics, animal breeding and reproduction, animal genomics, and animal genetics managements, and others. Biotechnology: To research advances in agricultural biotechnology, focusing on drought-resistant crop varieties, aquaculture genetics and biotechnology, and biosecurity/phytosanitary issues in horticultural production.
Myanmar	Agricultural Statistics: To improve methodologies for collecting and analyzing agricultural statistics in order to improve market information. Animal Health and Nutrition: To strengthen livestock and aquaculture sector through research on animal health issues including sanitary and phytosanitary challenges and animal nutrition. Biotechnology: To support research related to understanding, implementing, and regulating agricultural biotechnology and new breeding techniques.
Nicaragua	Resilient Agriculture: To increase knowledge and expertise in areas related to reduction in greenhouse gas emissions in the agricultural sector.
Peru	Food Safety: To research methodologies to measure heavy metals content in Cacao bean and correlation in its derivatives. Wood Construction: Wood structural design and construction techniques developed. The objective of this training is to increase knowledge of U.S. softwood species and their use in construction.
Philippines	Agricultural Production (Coffee): To research methods and technologies to increase production and improve marketing of coffee in the Philippines, specifically: decrease cost of production; eliminate transportation inefficiencies, conduct genetic analysis/ mapping/ fingerprinting of species available in the Philippines (Arabica, Robusta, Liberica, Excelsa); study impact of coffee as buffer crop in Philippine protected and watershed areas.

	Resilient Agriculture (Agro-Meteorology): To research improved agro-meteorology and weather forecasting capacity to enhance mapping variables and help planners monitor identified strategic agricultural and fishery zones; the objective is to mainstream climate change in policy formulation, development planning, and decision making. Resilient Agriculture (Agro-Meteorology): To research modern farm technologies that build climate-resiliency to strengthen production in identified strategic agricultural and fishery zones; the objective is to mainstream climate change in policy formulation, development planning, and decision making.
Rwanda	Agricultural Strategic Communication: To enhance the ability to create and implement effective social marketing campaigns - promoting science-based decision making and ultimately a shift in consumer behaviors/acceptance of genetically engineered agricultural products; to increase proficiency with tools required for agricultural data collection, data visualization, and storytelling (e.g. geographic information systems, market information systems, social media platforms) so that they may effectively gather science-based information and convey it in a compelling manner to the public. Food Safety: To study the processes, best practices, and results of safety and risk assessments of genetically engineered foods.
Senegal	Food Safety: To enhance and protect public health and agriculture through the development of technologies, strategies, policies, and data that safeguard food from pathogens, toxins, and chemical contaminants during production, processing, and preparation. Post-Harvest Loss (Horticulture): To develop cost-effective technologies and methods to minimize post-harvest loss caused by biotic and abiotic factors in the horticulture sector.
South Africa	Animal Health (Breeding and Genetics): To research methods to bolster food security and agricultural trade by supporting biotechnology research in livestock genetics, animal breeding and reproduction, animal genomics, and animal genetics managements, and others. Biotechnology: To research advances in agricultural biotechnology, focusing on drought-resistant crop varieties, aquaculture genetics and biotechnology, and biosecurity/phytosanitary issues in horticultural production. Food Safety: To research international, science-based sampling and testing standards for meat and poultry meat products for certain contaminates (salmonella and listeria); risk assessment at ports of entry.
Sri Lanka	Post-Harvest Loss: To research advances in small-scale food processing technology to reduce post-harvest losses for fruit and vegetable production.
Tanzania	Agricultural Strategic Communication: To enhance the ability to create and implement effective social marketing campaigns - promoting science-based decision making and ultimately a shift in consumer behaviors/acceptance of genetically engineered agricultural products; to increase proficiency with tools required for agricultural data collection, data visualization, and storytelling (e.g. geographic information systems, market information systems, social media platforms) so that they may effectively gather science-based information and convey it in a compelling manner to the public.

	Food Safety: To study the processes, best practices, and results of safety and risk assessments of genetically engineered foods.
Thailand	Agricultural Value Chain: To study the effect of domestic trade barriers on the competitiveness of Thai agricultural industry; research will show that Thailand's domestic barriers (tariff and non-tariff) on imports impede the competiveness of Thailand's own industries. This program will help the Thai Government assess the impact of its economic policies before implementation. Food Processing: To conduct research in food processing technologies, the use of different ingredients, and product development and testing; how to use ingredients such as pulses and dairy products. Food Safety: To research post marketing surveillance for cost/benefit and effective food safety surveillance; study the presence of unsafe substances and contaminants in Thai food and the effects that they have on human health.
Tunisia	Biotechnology: To enhance researcher capacities to develop, promote, and defend the safe use of biotechnology in the promotion of global food security. Food Safety: To enhance public health through research of appropriate risk-based regulations that safeguard the food chain. Animal & Plant Health: To research the protection of agriculture from transboundary animal and plant pests and diseases (Red Palm Weevil, Med Fly, and Tuta absoluta, as well as Peste des Petites Ruminants (PPR), Tuberculosis, Brucellosis, Foot and Mouth Disease, Bluetongue, and Rabies).
Turkey	Biotechnology: To research issues related to biotechnology risk assessment, risk communication, and risk management. Biotechnology: To research innovative plant breeding technologies, such as gene mapping, gene expression, gene deletion, gene introduction, marker-assisted plant breeding, DNA mapping, and other tools. Pest Risk Assessments: Pest Risk Assessments, International Standards for Phytosanitary Measures, and Proper Development of Quarantine Lists.
Uganda	Agricultural Strategic Communication: To enhance the ability to create and implement effective social marketing campaigns - promoting science-based decision making and ultimately a shift in consumer behaviors/acceptance of genetically engineered agricultural products; to increase proficiency with tools required for agricultural data collection, data visualization, and storytelling (e.g. geographic information systems, market information systems, social media platforms) so that they may effectively gather science-based information and convey it in a compelling manner to the public. Food Safety: To study the processes, best practices, and results of safety and risk assessments of genetically engineered foods.
Ukraine	Veterinary and Animal Health:

	• Research on African Swine Fever (ASF) and Lumpy Skin Diseases (LSD), other animal diseases. • Research on animal welfare as a basis of preventive veterinary medicine. • Research on etiology, distribution and pathogenesis of antibiotic resistance in modern farming conditions. • Bacteria antagonism utilization in dairy cows mastitis prophylactics.
Vietnam	Animal Health: To research nutritional quality, processing, and utilization of sorghum for swine. Animal Health: To research the linkages between early nutrition, long-term health, and lifetime performance of dairy cattle. Animal Health: To research disease control in aquaculture/fish farming.
Zambia	Animal Health (Breeding and Genetics): To research methods to bolster food security and agricultural trade by supporting biotechnology research in livestock genetics, animal breeding and reproduction, animal genomics, and animal genetics managements, and others. Biotechnology: To research advances in agricultural biotechnology, focusing on drought-resistant crop varieties, aquaculture genetics and biotechnology, and biosecurity/phytosanitary issues in horticultural production. Food Safety: To research international, science-based sampling and testing standards for meat and poultry meat products for certain contaminates (salmonella and listeria); risk assessment at ports of entry.

The list above has been compiled and disseminated by the USDA/NIFA Center for International Programs from the USDA/FAS list of "2019 Borlaug Fellowship Program Research Priorities by Country" found at: https://www.fas.usda.gov/2019-borlaug-fellowship-research-priorities-country