FLC
Mid-Atlantic Region

MID-ATLANTIC AWARDS

NOVEMBER 14, 2018

The Universities at Shady Grove
Rockville, MD

Welcome Message

Educational Institution and Federal Laboratory Partnership Award

Excellence in Technology Transfer Award

Interagency Partnership Award

Outstanding Technology Transfer Professional Award

Rookie of the Year Award

State and Local Economic Development Award

Welcome to the 2018 FLC Mid-Atlantic Regional Awards

Thank you for being with us as we honor our newest class of FLC Mid-Atlantic regional award honorees. Our Region is not only home to the headquarters of our respective member agencies, but it also boasts a significant number of laboratories that have set the standard for moving remarkable technologies out of the laboratory and into the world. The winners you will meet today have played crucial roles in making this technology transfer possible through their knowledge, hard work, and dedication to the idea that their creation could produce benefits for people worldwide.

This year, the Mid-Atlantic Region is pleased to honor individuals and organizations in the following categories:

Educational Institution and Federal Laboratory Partnership Award – Recognizes the efforts of federal science and technology employees and educational institutions in the Region who have collaboratively accomplished outstanding work in the process of transferring a technology.

Excellence in Technology Transfer Award – Recognizes laboratory employees and their partners who have accomplished outstanding work in the process of transferring federally developed technology to the marketplace.

Interagency Partnership Award – Recognizes the efforts of agency and/or laboratory employees from at least two different agencies who have collaboratively accomplished outstanding work in the process of transferring a technology.

Outstanding Technology Transfer Professional Award – Recognizes the efforts of an FLC laboratory technology transfer professional who has demonstrated outstanding work transferring a technology in a manner significantly above and beyond what was called for.

Rookie of the Year Award – Recognizes the efforts of an FLC laboratory technology transfer professional who has demonstrated outstanding work in the field of technology transfer in a manner significantly over and above what was called for in the normal course of their work during the past year. The nominee must be new to technology transfer, with three years (or less) experience in a technology transfer position.

State and Local Economic Development Award – Recognizes successful initiatives that involve partnership between state or local economic development groups and federal laboratories for economic benefit.

We congratulate the winners on their well-deserved success.

Dr. Jack Pevenstein
Mid-Atlantic
Regional Coordinator
National Institute of Standards and Technology

Carmen Krieger
Mid-Atlantic Deputy
Regional Coordinator
Environmental Protection Agency

EDUCATIONAL INSTITUTION AND FEDERAL LABORATORY PARTNERSHIP AWARD

NCI Immunotherapy Cosponsored by Society for Immunotherapy of Cancer

Department of Health and Human Services
National Cancer Institute / Society for Immunotherapy of Cancer

The National Cancer Institute (NCI) and the Society for Immunotherapy of Cancer (SITC) partnered to cosponsor a one-year NCI fellowship to train physicians who have completed their medical oncology fellowship and are seeking specialized training in cancer immunotherapy, focusing on clinical trials and clinical trial development.

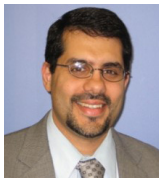
The purpose of the cancer immunotherapy fellowship is to train the next generation of physicians to develop and conduct immunotherapy clinical trials. The breadth and depth of opportunities for training in clinical immunotherapy at the NCI Center for Cancer Research (CCR) are unsurpassed, with active programs in therapeutic cancer vaccines, immune checkpoint modulation, adoptive cellular therapies, and antibody-based immunotherapies. NCI designed the fellowship program, including the rotations/tracks and didactic opportunities for the fellows, reviewed the fellowship applications, selected the recipients, and managed administrative tasks and the training.

SITC, a 501(c)(3) not-for-profit organization with more than 1700 members serves patients, clinicians, and researchers by fostering education and the scientific exchange of cancer immunotherapy information. While SITC sponsors other fellowships, those fellowships are awarded to individuals who will continue to work at their existing institution during the fellowship period. The NCI fellowship is unique in that candidates are recruited to relocate to NCI for a year of specialized training in cancer immunotherapy. SITC's role in the partnership has been to promote and advertise the fellowship and to educate the fellow through the SITC annual meeting, which may include the fellow participating in preconference training on tumor immunology and cancer immunotherapy. After completing the fellowship, fellows present their work and experiences at the SITC annual meeting.

One of the major challenges to making this immunotherapy fellowship a reality was identifying funding. While NCI CCR leadership was in favor of the fellowship, no NCI funding was available to pay the fellowship participants. NCI ultimately determined that the only viable funding route was to use a Cooperative Research and Development Agreement (CRADA) to direct funds to the fellowship. NCI discussed this fellowship proposal with some of its CRADA partners that are developing cancer immunotherapies, and one such partner, EMD Serono, was interested in supporting the fellowship.

NCI plans to use this approach moving forward so that other interested CRADA partners can direct CRADA funds to support the fellowship. To date, two fellows have successfully completed the NCI Immunotherapy Fellowship funded by EMD Serono, and both transitioned into roles where they can make a positive impact in the field of cancer immunotherapy.



Left to right:
Dr. Laura Henmueller
James Gulley, M.D.
Michael Pollack
Ravi Madan, M.D.

Winners not pictured:
Dr. Marijo Bilusic
Dr. Christian Hinrichs
Dr. Kathleen Carroll
Eric Hale
Dr. Howard Kaufman

Contact: Dr. James Gulley, (301) 480-7164, gulleyj@mail.nih.gov

EXCELLENCE IN TECHNOLOGY TRANSFER AWARDS

Unlocking the Protein Potential of Grasshoppers and Locusts

U.S. Agency for International Development

In Kenya, food security, increasing poverty, and the ravages of climate change are international development challenges that the U.S. Agency for International Development (USAID) is trying to curb as part of its international development mission, all while trying to empower countries to find development solutions in conjunction with U.S. foreign aid and assistance.

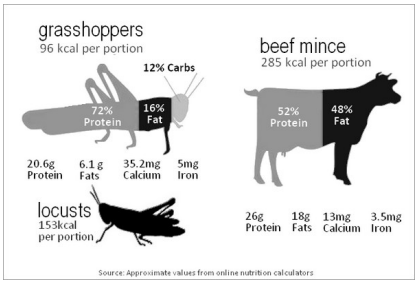
The demand for protein-rich foods in Kenya is increasing, which increases the demand for animal feeds, and the production of such feed has serious environmental effects. Animal feed is often sourced from fish, but because of climate change some fish from the wild are becoming extinct. Dairy and beef cattle are becoming a challenge to raise because the amount of available arable land is shrinking, and many small-scale farmers cannot afford the infrastructure to support dairy and beef cattle. In contrast, the rearing of non-ruminant animals, such as poultry, is potentially an economically accessible and more environmentally responsible solution if the cost of feed, which accounts for 70 percent of the production cost for chicken, can be surmounted.

Researchers from Kenya's Egerton University identified several local species of grasshopper and locust conducted studies to optimize and scale controlled breeding conditions, and developed processes for converting the protein contained in the insects for human consumption and animal feed. This technology provides an inexpensive method of obtaining proteins in a country where, according to the Food and Agricultural Organization, 39 percent of Kenyan children—more than double the emergency threshold—suffer from chronic malnutrition due to poverty.

A student attending to chickens in a feeding trial.

To empower individual small farmers, the researchers developed a toolkit that would make insect rearing and processing accessible. The researchers also developed processing methods in the hopes of transferring the technology to investors interested in mass-producing an inexpensive protein source.

The recipients occur at varying levels. The "classic" recipient of the transferred technology is the Kenyan investor based in Nairobi who is presently commercializing the technology. Additional recipients are Kenyans themselves, who will be consumers of the food products that result from this technology. The researcher, John Nduko, received technical assistance on innovation commercialization—a sort of "meta-technology transfer"—from Michigan State's Global Center for Food Systems Innovation (GCFSI) in 2017. He accessed this expertise through GCFSI's competitive selection process of various researcher proposals from around the world, received a classic research grant, and participated in GCFSI's workshop on marketing his research as an innovation useful for practical application. In turn, Michigan State's GCFSI was the recipient of an ongoing cooperative agreement (entered into in 2012) with USAID's Global Development Lab as a part of the Higher Education Solutions Network.



Showing the protein value of grasshoppers and locusts versus cattle.

Growing locusts and grasshoppers

Top to bottom: Dr. Emanuella Delva, Dr. John Nduko, Dr. Kurt Richter

Contact: Patricia Doutriaux, (202) 712-4930, pdoutriaux@usaid.gov

Genetic Improvement of Germplasm for the U.S. Atlantic Salmon Industry

U.S. Department of Agriculture
USDA/ARS National Cold Water Marine Aquaculture Center

The National Cold Water Marine Aquaculture Center (NCWMAC) selects improved salmon genetics for the North American strain of Atlantic salmon and transfers the germplasm to the domestic salmon farming industry. At least five commercial genetic companies produce and sell eggs from breeding programs for Atlantic salmon based on European strains of Atlantic salmon. In 2000, federal management agencies listed a distinct population segment for Downeast Maine Atlantic salmon as endangered at a time Maine accounted for 73 percent of all domestic production of farmed salmon.

One result of the listing was that the Maine salmon farming industry was restricted to growing salmon of North American origin in 2003. Maine farmers were then required to test all their brood stock for the presence of European genes and to cull all brood stock and offspring that tested positive. They have been required to continue to test all brood stock annually for European genes, and to eliminate animals and offspring that fail to pass the test. This left Maine producers and the domestic salmon farming industry at a significant competitive disadvantage as they no longer had access to improved genetics from the over 30-year-old European salmon breeding programs.

The NCWMAC was established in 2003 to provide a genetic improvement program for North American salmon and to make it available to the domestic industry. Starting with a range of North American strains of Atlantic salmon, the NCWMAC established a family-based breeding program to select for industry-desired traits. The program has gained tremendous industry support due to its success, collaborative nature, and annual gamete releases.

The improved North American salmon genetics are transferred to the salmon farming industry under an agreement with the Maine Aquaculture Association. The program has provided genetic material to four industry partners over the past 10 years. Those partners accounted for over 60 percent of the farm-raised Atlantic salmon in the U.S. when the program began, and currently they account for over 95 percent of the domestic farm-raised Atlantic salmon. Industry participants in the program receive fertilized eggs annually that they are then able to multiply through internal hatcheries. Initially, about 500,000 eggs were transferred to industry annually, but that has increased to over 750,000 eggs the past several years. Over 6 million eggs have been transferred to the industry since 2008.

The availability of an improved line is one of numerous factors that have sparked the current wave of interest in increasing domestic salmon production. Ultimately, this increase will improve our nation's food security, reduce the enormous seafood deficit, and improve public health by providing high-quality, lower cost protein.

Left to right:
Sharon Barron, Gretchen Upson, Michael Pietrak, Melissa Milligan, Gary Burr , Brian Peterson and Ryan Hastey.
Winner not pictured:
Davin O'Connell

Contact: Dr. William Wolters, (207) 299-5104, william.wolters@ars.usda.gov

'Pepper Jack,' 'Midnight Creeper,' and 'Lil' Pumpkin'

U.S. Department of Agriculture
Genetic Improvement for Fruits and Vegetables Laboratory

The introduction of dark purple to nearly black pigmented landscape and garden plants has created great consumer awareness. Because many of these plants had limited seasonal interest, a team of scientists from the U.S. Department of Agriculture - Agricultural Research Service's (USDA-ARS) Beltsville Agricultural Research Center introduced the black-leaved pepper named 'Black Pearl.' Besides its ornamental foliage, 'Black Pearl' produces small, black, round fruit that is hot, turns red as it ripens, and can be harvested for culinary spice. Because of the substantial commercial interest in 'Black Pearl,' USDA-ARS scientists developed a series of additional ornamental peppers with black foliage.

To reduce the time to commercialization, these peppers were vegetatively propagated, as opposed to seed-propagated, which reduces breeding time by 3-5 years. A Cooperative Research and Development Agreement (CRADA) was established with McCorkle Nurseries to help establish a commercial production protocol as well as evaluate selections. As a result of the CRADA, three plants were selected for release, with patents filed and subsequently issued. To facilitate marketing, McCorkle gave the three plants trademarked names with a Halloween theme—'Lil' Pumpkin'™, 'Midnight Creeper'™ and 'Pepper Jack'™. 'Lil' Pumpkin' plants produce unique black foliage and orange pumpkin-shaped fruit; 'Pepper Jack' bears greenish black foliage and a mix of both orange and black small, cone-shaped fruit, like the ever-popular Halloween treat, candy corn; and 'Midnight Creeper' is a low-growing, dark-leafed plant that produces small, round, dark-colored peppers that turn bright red when fully ripe. In addition, the fruit of the plants, although small, is somewhat hot to the taste.

In 2009, McCorkle exclusively licensed all three plant patents; however, attempts to increase plants for sale failed because of production issues and cost. Thus, the CRADA was amended to develop seed lines for each of the cultivars. Since McCorkle was not in a commercial position to either produce seed for sale or market a seed-propagated crop, a new partner, Seeds by Design, was found and signed a Biological Materials License (BML) in 2018.

Seeds by Design offers a diverse line of vegetable and herb seeds from heirlooms to hybrids that are suited for the commercial as well as the home gardener. It offers more heirloom varieties than any other production company and, in addition to improving its bottom line, was looking to add additional variety to its diverse line of vegetables, including peppers, tomatoes, and vine seeds.

Left column (top to bottom): Diana Halsey, James A. Poulos III
Right column (top to bottom): Dr. Robert Griesbach, John Stommel

Contact: James Poulos, (301) 504-6464, jim.poulos@ars.usda.gov

A Cell Line Sensitive to Foot and Mouth Disease Virus

U.S. Department of Agriculture
USDA ARS Plum Island Animal Disease Center

Foot-and-mouth disease virus (FMDV) is perhaps the most devastating disease affecting livestock, costing billions of dollars annually. Seven strains of FMDV exist; all are highly contagious and can cause severe morbidity in livestock (cloven-hoofed animals). The disease causes economic loss in affected countries. In 2001, an outbreak of foot-and-mouth disease (FMD) in the United Kingdom caused a crisis in British agriculture and tourism when 2,026 cases of the disease were found on farms across the British countryside. Over 6 million cows and sheep were killed to halt the disease in the absence of vaccination. This stamping-out control method faced serious public outcry and likely will not be used to control future outbreaks.

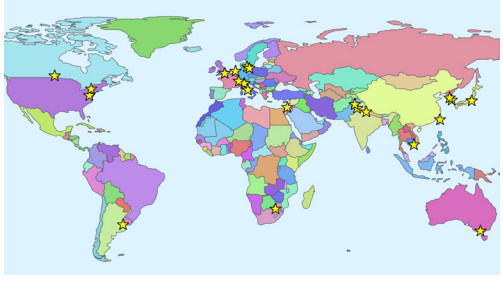
Effective vaccines are specific for isolated strains, and therefore rapidly detecting and determining the strain of a circulating virus during an FMDV outbreak is critical to selecting an appropriate vaccine. In the past, FMDV diagnostic laboratories have utilized primary calf thyroid cells as the cell line for diagnostics. These cells are prepared by sacrificing calves and collecting their thyroid to prepare primary cell cultures that can be passaged only once.

The LFBK-αVβ6 cell line, identified as kidney epithelial cells of porcine origin, are an immortalized cell line that is stable and can be passaged over 100 times. The cells have been shown to be the most sensitive tool for isolating FMDV. The cell line was rationally designed by U.S. Department of Agriculture Agricultural Research Service (USDA-ARS) scientists at the Plum Island Animal Disease Center (PIADC) using their knowledge about the mechanisms that FMDV uses to enter into cells (discovered by ARS scientist Barry Baxt in 1994). The cell's initial use was for studying mechanisms of virus cell entry. However, ARS microbiologist Michael LaRocco, in collaboration with Dr. Peter Krug and other ARS scientists, continued development of the cell line for more practical purposes such as virus growth for diagnostic detection and vaccine production.

Numerous FMDV diagnostic laboratories requested and received the LFBK-αVβ6 cells from ARS's Foreign Animal Disease Research Unit at PIADC under Material Transfer Agreements and used the cells in FMD diagnostics and research. Most importantly, the USDA-Animal Plant Health Inspection Service (APHIS) National Veterinary Services Laboratory (NVSL) requested that the cell line be used at its Foreign Animal Disease Diagnostic Laboratory, which is the first line-of-defense laboratory in the U.S. to detect and diagnose incursions of foreign animal disease agents such as FMDV. Since 2015, the cell line has been sent to 16 countries, i.e., Argentina, Australia, Canada, Denmark, India, Israel, Italy, Japan, Pakistan, South Korea, South Africa, Switzerland, Taiwan, The Netherlands, United Kingdom, and the U.S.

Left to right:
Mike Larocco, Dr. Barry Baxt

Winners not pictured:
Dr. Hernando Duque
Dr. Peter Krug
Dr. Luis Rodriguez



Map showing geographic locations using the cell line.

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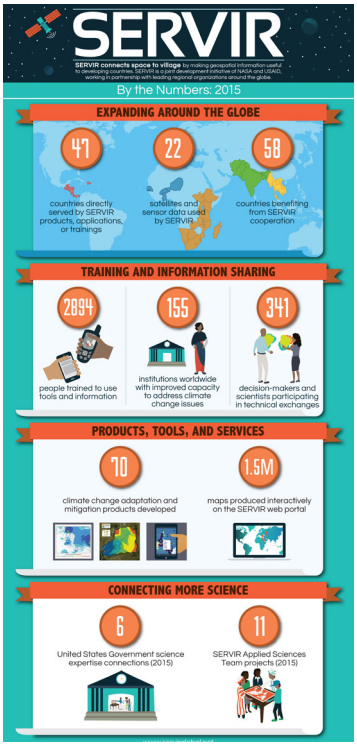
INTERAGENCY PARTNERSHIP AWARD WINNERS

Connecting Space to Village – NASA and USAID's SERVIR Program

U.S. Agency for International Development
National Aeronautics and Space Administration

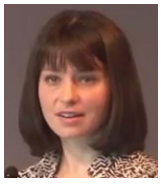
The SERVIR program was conceived in 2004 by NASA's Marshall Space Flight Center researchers to provide state-of-the-art, satellite-based Earth monitoring, imaging and mapping data; geospatial information; predictive models; and science applications to improve environmental decision-making among developing nations.



The impact of SERVIR is remarkable and measurable, and it has been an integral part to helping U.S. foreign assistance incorporate sustainability and planning into development projects.

In turn, the U.S. Agency for International Development (USAID), through the Global Climate Change Office under the Bureau for Economic Growth, Education and Environment, brings its international development expertise and developing country "ground game" to the partnership, through climate adaptation and climate mitigation particular to the developing country context and humanitarian assistance scenarios, and by connecting NASA's technical expertise with local and regional partners who work hand-in-hand with USAID.

USAID helps select and manage the local and regional partners who deploy SERVIR in-country, and provide technical assistance on how this technology can be used to address economic development challenges. What started as a single regional hub in Panama City, Panama, which served the Mesoamerican region and the Dominican Republic, has expanded to serve four regional hubs (with a fifth planned for this year), with activities in more than 30 countries and counting,


Left to right:
Dan Irwin
Jennifer Frankel-Reed
Raymond French

Byron Anangwe of SERVIR-Africa/RCMRD shows Eastern and Southern African Global Land Cover Workshop participants features of a false color composite Landsat 8 image of the Rift Valley and the Aberdare Forest during a field session to help them understand various land cover types and field methodologies. (Photo Credit: RCMRD)

developed more than 40 custom tools, collaborated with more than 200 institutions, and trained approximately 1,800 regional support staffers, developing local solutions and linking regional offices around the globe to create a thriving interactive network.

Web-based satellite imagery, decision-support tools and interactive visualization capabilities previously inaccessible across many of these regions now enable stakeholders to work together to combat floods, wildfires, superstorms and other calamities, and to address long-term environmental shifts tied to climate change, biodiversity, drought and other factors.

Children in the Sunamganj district of northern Bangladesh are curious about the SERVIR sensors installed as part of the Wireless Sensor Network (WSN) Flash Flood Early Warning System (Photo Credit: NASA)

Contact: Patricia Doutriaux, (202) 712-4930, pdoutriaux@usaid.gov

SBIR-Technology Transfer Program

Department of Agriculture

Agricultural Research Service | National Institute of Food and Agriculture

The U.S. Department of Agriculture's (USDA) National Institute of Food and Agriculture (NIFA) was established to find innovative solutions to issues related to agriculture, food, the environment, and communities. The agency is structured to direct federal funding effectively to programs that address key national and global challenges. NIFA administers the USDA Small Business Innovation Research (SBIR) program, under which qualified, established small businesses with proposals for high quality advanced research are eligible for competitive awards. Their research must relate to important scientific problems and opportunities in agriculture that may lead to significant public benefit through commercialization.

USDA's Agricultural Research Service (ARS) conducts research to develop and transfer solutions to agricultural problems of high national priority. Research is only successful if the information and technologies developed are transferred to those who need it. Collaboration with outside organizations, whether public or private, allows ARS scientists to obtain expertise, proprietary products, and information that would not otherwise be available to them.

To encourage more partnerships between ARS and small businesses, a formal collaboration between NIFA SBIR and ARS began in 2014 as a formal collaboration known as SBIR-TT. ARS and NIFA work with potential SBIR applicants to connect them with ARS researchers and technologies for partnerships and licensing opportunities.

The first step in setting up the SBIR-TT program involved ARS and NIFA working together to expand the federal USDA SBIR funds exemption. The program allows a small business to use a portion of USDA SBIR-awarded grant money to fund a Cooperative Research and Development Agreement (CRADA) with an ARS lab. Next, ARS developed a CRADA template for SBIR applicants. A small company can sign a CRADA that contains language stating that the start of the CRADA project is contingent upon the company receiving USDA SBIR funds. If the company is awarded a USDA SBIR grant, the company uses a small portion of that money to fund the CRADA and the project begins.

The SBIR-TT program has been very successful. During the first year of the program in 2015, six SBIR proposals were submitted and five were funded; in 2016, eleven SBIR proposals were submitted and nine were funded; and in 2017, eight SBIR proposals were submitted and six were funded. Over the three years, an average of 77 percent of the SBIR-TT proposals were funded, while the average funding rate was approximately 16 percent.



Left to right:
Mojdeh Bahar
Dr. Robert Griesbach
Cathleen Cohn

Winners not pictured:
Dr. Charles Cleland
Scott Dockum
Brian Nakanishi

Contact: Mojdeh Bahar, (301) 504-6905, mojdeh.bahar@ars.usda.gov

INDIVIDUAL AND TEAM AWARD WINNERS

James A. Poulos III

U.S. Department of Agriculture
USDA/ARS

James A. Poulos III heads up technology transfer activities for the USDA-ARS Northeast Area. One of five geographic areas of the ARS, the Northeast Area was created by the merger of the Beltsville (MD) Area and the North Atlantic Area in 2014.

Through Poulos' efforts, the Northeast Area is considered a leader in technology transfer. In the past two years (October 2017 to July 2018), he negotiated 29 Cooperative Research and Development Agreements (CRADAs), and negotiated and signed over 50 Material Transfer Research Agreements (MTRAs). In 2017 he assumed responsibility for the technology transfer efforts of the Plum Island Animal Disease Center, and in 2018 was assigned the task of clearing most export control reviews for Material Transfer Agreements (MTAs), CRADAs, MTRAs and licenses for the entire ARS. In FY18 to date, 171 export control reviews have been made, leading to Poulos filing four export control licenses, three of which have been granted and one that is pending.

Outside of ARS, Poulos' technology transfer activities included participation as a lecturer in an intellectual property training course at the 2018 FLC national meeting in Philadelphia. He also served as the national FLC awards chair from 2011 through 2014.

His leadership efforts in technology transfer can be found in many of the agreements in which he is involved, and the "Transfer of seeds for commercialization" is just one example of those efforts. Ornamental pepper plants were produced by cooperating labs in Beltsville, and a CRADA was established with a commercial nursery in Georgia to commercialize the peppers. The peppers—named Lil' Pumpkin, Midnight Creeper and Pepper Jack—have a Halloween-type theme that increases their commercial appeal. The CRADA partner signed a license and because *intra alia* the peppers themselves could not be propagated as anticipated, the CRADA partner experienced difficulty commercializing them. Through Poulos' efforts, which included proposing new licensing tools, drafting creative MTAs, and practicing calm and collected negotiations while pushing a reasoned ARS strategy, a second Material Transfer Agreement was signed with a new partner in mid-June 2014. The new partner grew some of the seed in California in summer 2015 and ultimately filed an application for license.

The new partner reported to Poulos in spring 2018 that, "We grew a new crop of each Pepper Jack, Midnight Creeper, and Lil Pumpkin. We look forward to growing out each lot and continuing our marketing efforts. Thanks for your assistance with these productions and licenses. I am happy to send you an update on our final quality grow outs and marketing efforts. Typically, it takes 3 years to introduce a new seed variety."

Contact: James Poulos, (301) 504-6464, jim.poulos@ars.usda.gov

Dr. Sidra Ahsan

Department of Health & Human Services
National Cancer Institute

In less than two years, rookie Technology Transfer Manager Dr. Sidra Ahsan is making a significant, positive impact on behalf of the National Cancer Institute (NCI). Through a diligent effort to steadily increase her knowledge and application of technology transfer (T2), the volume and scope of projects that she has tackled in her short tenure have positioned NCI to meet its mission today and in the future. Since 2017, Dr. Ahsan has managed T2 projects for NCI's extramural Division of Cancer Prevention (DCP), a complex division with multiple programs and initiatives that provides funding and administrative support to clinical and laboratory researchers, community and multidisciplinary teams, and collaborative scientific networks nationwide. On behalf of DCP, she streamlined its T2 process to provide the most efficient solutions for its complex T2 needs: agreements to facilitate interactions with universities, hospitals, small and large private companies, and NCI's contractors. Dr. Ahsan personally conducted more than a dozen outreach meetings with different programs and elements of the DCP to brief them on T2 mechanisms, benefits, and processes. She has closely worked with DCP investigators to draft a template for DCP PREVENT, an important DCP program that supports development of the best ideas in cancer prevention using NCI contract resources. The template established a standard agreement for future PREVENT collaborations with NCI.

Dr. Ahsan also supports investigators from NCI's Center for Cancer Research (CCR), the largest division of the NCI intramural research program, which has a vision to be the "world's leading catalyst for tomorrow's cancer research and patient treatments." In the last year, Dr. Ahsan negotiated several Cooperative Research and Development Agreements (CRADAs), Clinical Trial Agreements (CTAs), and amendments for CCR and DCP. These agreements made possible the initiation of four important clinical trials examining: therapies for breast cancer, a rare brain cancer, colon cancer prevention, and ovarian cancer development and progression.

Beyond the demands of her T2 manager responsibilities, Dr. Ahsan consistently strives to expand her T2 knowledge. She volunteered for special T2 working groups tasked with examining NCI's invention evaluation process and its approach to patenting and licensing. She completed additional courses offered by the Licensing Executives Society, as well as the U.S. Patent and Trademark Office exam, becoming a licensed patent agent in 2018. Her newly acquired expertise enables her to carve out patentable products from invention disclosures by NCI investigators, develop strategies for patent prosecution, and assist with interactions with law firms filing patent applications. Most T2 managers within TTC support NCI's intramural laboratories. That Dr. Ahsan has proven up to the challenge of supporting both NCI extramural and intramural programs is notable. In her limited time as a T2 professional, her contributions to TT and NCI have been substantial.

Contact: Dr. Sidra Ahsan, (240) 276-5530, sidra.ahsan@nih.gov

Partnership Between NETL and the City of Pittsburgh

Department of Energy

National Energy Technology Laboratory | City of Pittsburgh

Known as the Steel City due to its rich industrial heritage, Pittsburgh, home to about 300,000 residents in western Pennsylvania, is the nation's second-largest natural gas producer and third largest coal producer in 2017. As the city prepared to enter its third century, leaders signed a Memorandum of Understanding (MOU) with the U.S. Department of Energy's (DOE) National Energy Technology Laboratory (NETL) to establish Pittsburgh as the "Clean Energy City of the Future." The MOU initiated a collaboration between Pittsburgh and NETL, a longtime regional partner with world-renowned expertise in energy technology solutions, to transform the city's energy system and aging infrastructure by implementing an innovative "grid of microgrids" concept.

Capitalizing on five existing energy districts and the city's unique geographic features, NETL is working with Pittsburgh and regional partners to create a network of small-scale distributed energy systems that supply local residents with clean, reliable and cost-effective power. Rather than relying on a centralized grid supplied by distant facilities, these systems can operate independently or in conjunction with the main electrical grid and incorporate a diverse mix of energy sources, including advanced energy technologies pioneered by NETL and other national laboratories.

Since the MOU was signed in 2015, Pittsburgh has been actively engaged in economic development and clean energy initiatives, including the U.S. Department of Transportation's Smart Cities Challenge, which earned the city $10.9 million. NETL has examined electricity and natural gas use across 165 square miles of the greater Pittsburgh area, funded development of a new fuel-cell power plant that runs on clean natural gas, connected the city with DOE experts on combined heating and power opportunities, launched studies of geothermal energy options, and initiated a pathway assessment that evaluates the benefits of deploying different energy technologies. NETL has also connected the city with university and industry stakeholders who have invested tens of millions of dollars in groundbreaking energy endeavors that will create jobs and benefit future generations.

The near zero-emission prototype fuel cell system that NETL funded. It will be tested at the NRG Energy Center.

Pittsburgh's collaboration with NETL has cemented the city's position as a global leader in next-generation energy planning and development. This innovative partnership creates a model for other local governments and demonstrates how the federal government—and national laboratories, specifically—can be key assets in helping cities meet the economic development and job creation needs of the 21st century. The City of Pittsburgh MOU has also shown that fossil fuels can play a valuable role in a clean energy future and has proven that NETL is developing cutting-edge technologies that make safe and efficient use of the nation's abundant domestic resources.

Winner not pictured: Tom Feeley

Left to right: Ashley LeDonne, Dan Oryshchyn, Grant Ervin, James Ferguson, Jim Wilson, Kristen Welsh, Mark McKoy, Dr. Randy Gemmen, Robert James, Thomas Tarka

Contact: James Ferguson, (412) 386-6043, james.ferguson@netl.doe.gov

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Building better business through technology transfer

MEET FLC BUSINESS

FLC Business is a robust search engine and comprehensive federal laboratory resource database. This unique search platform gives innovators everywhere the opportunity to search thousands of ready-to-license technologies, federal resources, funding and programs.

FLC Business is your solution for accessing R&D resources.

Easy-to-Find Laboratory Data

- Federal laboratories
- Facilities
- Available technologies
- Equipment
- Funding
- Programs
- Lab publications

SEARCH FLC BUSINESS TODAY!

"Each year we never cease to be amazed at the high level of innovation and commercialization coming from our laboratories. This is only possible through the commitment of our scientists, inventors, technology transfer professionals, and their partners. The FLC Mid-Atlantic Region is pleased to have the opportunity to give these individuals the recognition they truly deserve."

- **Dr. Jack Pevenstein**
Mid-Atlantic Regional Coordinator

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