FLC™
FEDERAL LABORATORY CONSORTIUM
FOR TECHNOLOGY TRANSFER

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February 26, 2015

The Honorable Nikki Haley
Office of the Governor
1205 Pendleton Street
Columbia, SC 29201

Dear Governor Haley:

The Federal Laboratory Consortium for Technology Transfer (FLC) will present its annual awards on April 29, 2015 in Denver, Colorado at its national meeting. Awards will be given in several categories recognizing various aspects of technology transfer. This year the USDA Coastal Plains, Soil, Water and Plant Research Center, located in Florence, will be honored.

The FLC would like to offer you the opportunity to join us in recognizing these award winners by including your personal letter of congratulations at the awards ceremony. For your convenience we have enclosed a brief summary of the award winners' accomplishments and their contact information. In addition, we cordially invite you or a member of your staff to attend this year's awards luncheon. Your presence and recognition will add additional prestige to what is already a high-profile honor in the world of technology transfer.

The FLC Award for Excellence in Technology Transfer honors outstanding efforts of federal government personnel, and government contractors who, with their industry partners, have successfully created and transferred federally developed technologies in support of agency missions and national economic development. Nominations are made by federal laboratory representatives and judged by a panel of industry; academia; and federal, state, and local government members. One of this year's awards will be presented to the Center.

The FLC is the nationwide network of federal laboratory technology transfer professionals that provides the forum to develop strategies and opportunities for linking laboratory mission-related technologies and expertise with the marketplace. Organized in 1974 and formally chartered by the Federal Technology Transfer Act of 1986, the FLC today includes more than 300 major federal laboratories and centers and their parent departments and agencies. Our driving mission is to promote and facilitate the rapid movement of federal laboratory research results and technologies into the mainstream of the U.S. economy.

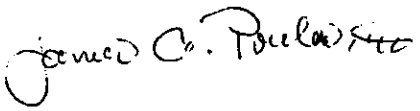
Michele Chambers of the FLC Management Support Office (856-675-1022) will be pleased to provide electronic copies of the enclosed documents and additional information for your staff. Please send all letters, addressed to Ms. Chambers, no later than Wednesday, April 22, 2015 to:

FLC Management Support Office
950 N. Kings Hwy, Suite 208
Cherry Hill, NJ 08034
Attn: Michele Chambers

Your strong support of domestic technology transfer contributes greatly to the success of these endeavors and is much appreciated.

Sincerely,

Paul Zielinski
FLC Chair



James Poulos, III
FLC Awards Committee Chair

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FEDERAL LABORATORY CONSORTIUM

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FOR TECHNOLOGY TRANSFER

2015 Award Winner

USDA Coastal Plains, Soil, Water and Plant Research Center

Award for Excellence in Technology Transfer

Coastal Plains, Soil, Water, and Plant Research Center
Quick Wash Process for Removing and Recovering Phosphorus from Wastes

Winners: Jeff Dawson, Patrick Hunt, Ariel Szogi, Matias Vanotti

Summary: A new treatment process, called "quick wash," was originally developed for extraction and recovery of phosphorus from poultry litter and animal manure solids, but research has shown that the approach is equally effective with municipal biosolids. Nutrient pollution, caused by too much nitrogen and phosphorus in the environment, is one of America's most widespread, costly and challenging environmental problems, impacting many sectors of the US economy that depend on clean water. These environmental problems can be mitigated with the quick wash process, because phosphorus is selectively extracted from solid manure or municipal biosolids prior to land application. The quick wash process selectively recovers more than 80 % of the phosphorus from solid waste, while leaving most of the nitrogen in the washed solid residue. Consequently, the washed solid residue has a more balanced nutrient composition for crop production and is safe for land application. The concentrated phosphorus materials contain more than 90% of its phosphorus in plant available form that provides a recycled phosphorus source for use as crop fertilizer.

This quick wash process was invented a by a Team of scientists at the Coastal Plains, Soil, Water & Plant Research Center. An exclusive license has been granted by the US Department of Agriculture to a small business—Renewable Nutrients LLC, of Pinehurst, North Carolina—for commercial use of the quick wash process. The Center worked closely with Renewable Nutrients to develop approaches for commercializing this new technology for municipal biosolids and the poultry markets.

A pilot plant is under construction for the Borough of Ephrata Wastewater Treatment Plant in Pennsylvania which annually produces 370 dry tons of biosolids, most of which are landfilled. While most technologies for phosphorus removal are not profitable, the recovery of phosphorus from biosolids using the quick wash results in annual revenue per plant of $70,000 - $500,000. The business model of Renewable Nutrients consists of sublicensing the technology to each municipal treatment plant. In addition, the company will participate in the value of the phosphorus recovered as fertilizer material and nutrient credits.

For the agricultural market a sublicense agreement with Triea Systems of Frederick, Maryland, has already secured $250,000 from the Maryland Industrial Partnerships (MIPS) to accelerate efforts to introduce the quick wash process to the market to recover phosphorus from animal and poultry waste. The expectations of the commercial partner to reach the market with a reliable and proven technology to recover phosphorus that has competitive advantages for commercialization were exceeded. For the first time a technology developed for agricultural waste crossed the discipline boundaries and is being adopted by the municipal wastewater treatment industry.

Mr. Ariel Szogi
USDA ARS Coastal Plains, Soil, Water & Plant Research Center
2611 W. Lucas St
Florence, SC 29501-1242

Mr. Matias Vanotti
USDA ARS Coastal Plains, Soil, Water & Plant Research Center
2611 W. Lucas St
Florence, SC 29501-1242

Mr. Patrick Hunt
USDA ARS Coastal Plains, Soil, Water & Plant Research Center
2611 W. Lucas St
Florence, SC 29501-1242

Mr. Jeff Dawson
Renewable Nutrients, LLC
115 N. Brackenfern Ln.
Southern Pines, NC 28387

TESTIMONIALS

As a direct result of the FLC Technology Locator Service, the Exploratory Advanced Research Program for the Federal Highway Administration's (FHWA) Turner-Fairbank Highway Research Center is now able to explore options to identify large (i.e., no smaller than tennis or basketball courts), multi-story environmental chambers outside the U.S. These chambers must have the capability to subject aircraft to numerous environmental conditions such as temperature, light exposure, humidity, and salt spray.

"I am pleased with the service, response, and quick turnaround the FLC Locator has provided in my search. The resources and content that were provided are an invaluable help to our search of a facility to accelerate the testing of partial or full-scale structures.

—Lance Warren, MLS, Research Librarian, Exploratory Advanced Research (EAR) Program, FHWA Research Library

A global consumer products company is in contact with several federal laboratories in a continuing effort to improve product performance and reduce the product's environmental footprint.

"With the assistance of the FLC Technology Locator, we have initiated discussions with several federal laboratories to identify technologies that we can incorporate into our products and manufacturing process to meet consumer expectations and achieve our sustainability goals."

—Innovation Manager

Harlyn Thompson, R.N., of Harlyn Medical, LLC (HM) (www.harlynmedical.com), introduced the Lumbar Vicinity Inflatable Support (LViS) device at the FLC meeting in Portland, Ore. The FLC Technology Locator has been working with Ms. Thompson to introduce the device to military medical personnel.

"We are collaborating with a military surgeon in Afghanistan who is testing LViS for use under wounded soldiers during long medical air flight evacuations. We are also working with VA, military, and civilian hospitals across the country. We at HM are nurses finding solutions…and our products are proudly made in the USA."

—Harlyn Thompson, R.N.

CONTACT INFORMATION

To locate a technology, partner with a federal laboratory, or request more information, contact:

FRANK KOOS
FLC Technology Locator
fkoos@utrs.com
856-667-7727
www.federallabs.org/locator

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