



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science



For immediate release

## **DOE Funding Leads to New Technology that is Revolutionizing Chemical Analysis**

*Research funded by the DOE Office of Science has led to the commercialization of a new product, the Polyarc™ reactor, which is improving chemical analysis for scientists using gas chromatography (GC) with flame ionization detectors (FID).*

(NEWARK, DE) November 9, 2015— A universal carbon detection technology discovered by researchers at the Catalysis Center for Energy Innovation (CCEI), an Energy Frontier Research Center (EFRC) funded by the Department of Energy (DOE) Office of Basic Energy Sciences, is the basis for a newly developed reactor technology commercialized by Activated Research Company (ARC).

ARC's recently-launched Polyarc™ reactor is a catalytic microreactor designed to enhance the detection of compounds in GC/FIDs including biofuels, foods, fragrances, pharmaceuticals, petroleum-based chemicals and fuels, and pesticides. The technology is transforming the speed and techniques used in research and practice allowing scientists to accurately quantify complicated mixtures without standards. The Polyarc™ reactor was recently recognized as the 2015 Best New Product by the Gulf Coast Conference for its novel design and universal application to GC/FID analysis.

"We are excited by all the unique applications of the Polyarc™ reactor in a number of different industries," says Andrew Jones, ARC's Partner, Co-Founder, and Lead Technologist. "Scientists and engineers are not only saving time and money, but they are also able to easily perform analyses that were cumbersome or even impossible before."

"The goal of the CCEI is to create breakthrough technologies for the production of biofuels and chemicals from biomass. Fast analysis of complex biofuels using the Polyarc™ reactor allows us to measure the molecular details of hundreds and possibly thousands of chemicals for the first time. This provides a deeper understanding of the catalytic chemistry for processing biomass and enables more efficient and affordable biofuels," says CCEI Co-Director, Professor Paul Dauenhauer.

The EFRCs were established by the DOE to drive transformative discoveries by supporting fundamental research that leads to a new scientific foundation for the future U.S. energy economy. These centers involve partnerships among universities, national laboratories, non-profit organizations and for-profit firms.

### **About ARC**

Activated Research Company is a growing chemical engineering company dedicated to its mission "To make the world a better place through catalysis." Their recently launched flagship product, the Polyarc™ reactor, is their first of many innovative products as they work to fulfill this vision. For more information, visit [www.activatedresearch.com](http://www.activatedresearch.com).

### **About CCEI**

The Catalysis Center for Energy Innovation is a multi-institutional research center founded in 2009 and led by the University of Delaware. It is comprised of nine academic institutions and one national research laboratory. Established and supported by the U.S. Department of Energy, Office of Basic Energy Sciences through its Energy Frontier Research Centers (EFRC) program, CCEI and its researchers have been developing innovative catalytic technologies to efficiently convert biomass, such as trees and grasses, into chemicals and fuels. For more information, visit [www.efrc.udel.edu](http://www.efrc.udel.edu).