

UCF engineering team wins \$100,000 for clean energy plan

A University of Central Florida engineering team that developed a business plan for a start-up that promotes renewable and green energy solutions won a \$100,000 prize from the [U.S. Department of Energy](#).

Mesdi Systems Inc., the company founded by UCF engineering students Brandon Lojewski, Jian Liu, Cheng Li, Michael Tullbane, Thomas Yang, and Johan Rodriguez, will represent the southeast region at the DOE National Clean Energy Business Plan finals at the White House in Washington, D.C. June 12-13.

UCF's team beat out plans submitted by [Georgia Tech](#), [Duke University](#), [University of Maryland](#), and [Virginia Tech](#).

The award is part of the DOE's inaugural [ACC Clean Energy Challenge](#), a business plan competition that encourages university students throughout the southeastern United States to develop business plans for new clean energy companies focused on renewable energy, energy efficiency improvements, and advanced fuels and vehicles.

The challenge coincides with five additional regional competitions in the U.S. as part of its network of student-focused clean energy business plan competitions that will take place over the next three years.

UCF officials said Mesdi Systems' winning plan uses "electrospray technology to vastly improve the manufacturing process for making lithium ion batteries and other products to ultimately reduce production costs and increase product life. For example, an electric car battery made with the UCF process would be able to travel for hundreds of miles on a single charge."

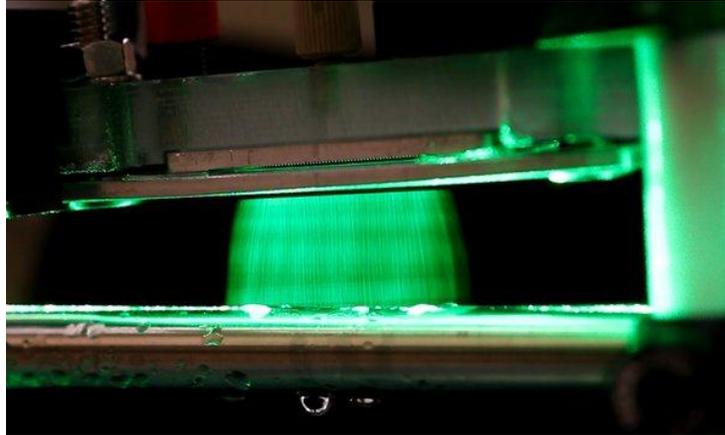
Many products and parts, such as solar cells and batteries, are made with coatings or particles that require materials to be uniformly sprayed during the manufacturing process. The technology that produces the spray can greatly impact the final product.

Current technology uses pressurized gas to spray the liquid resulting in large non-uniform droplets and significant manufacturing waste.



[left]UCF undergraduate mechanical engineering student Johan Rodriguez (left) and mechanical engineering graduate student Brandon Lojewski accept the \$100,000 prize from the U.S. Department of Energy. (U.S. Department of Energy / May 3, 2012)

But Mesdi Systems proposes using electrospray technology that employs electrical charges to create uniform, ultrafine droplets with precision control. That technology can be developing batteries, photovoltaic solar cells, medical devices, pharmaceuticals and other products.



A demonstration of the electrospray technology that helped UCF's engineering team win the ACC Clean Energy Challenge. (UCF / May 3, 2012)