the NEWSSTAND

Clemson University Research Foundation awards funds for technology development

MEDIA RELEASE

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CLEMSON — The Clemson University Research Foundation (CURF) has announced six recipients of fiscal year 2017 Technology Maturation Fund awards.

The CURF Technology Maturation Fund provides grants to faculty to support the last critical development step needed to move their technology to the marketplace.

“There is no limit to innovation at Clemson,” said CURF director Casey Porto, “however, it’s a long and arduous journey from innovation to commercialization. Our Maturation Fund supports a handful of projects each year that show the most promise of one day reaching the marketplace but need further development to attract industry partners.”

This year’s awards range from approximately $20,000 to $60,000 and were granted to:

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- Ahmad Khalilian and Young Han from the department of agricultural and environmental sciences, with post-doctoral fellow Ali Mirzakhani Nafchi and graduate student Nicklaus Rogers, will refine, test and promote a prototype of a sensor-based mechanism for distributing fertilizer that adjusts to soil and other variables on-the-go, providing a more targeted application of fertilizer to the agricultural field. For growers, even a small reduction in nitrogen usage can mean a significant cost savings — and early pilot studies of this technology showed an almost 50 percent reduction in nitrogen use without a reduction in crop yield.

- Kendall R. Kirk and G. Scott Sell from the Edisto Research and Education Center, and John Andrae from the Simpson REC, will further develop and test prototypes of a device that fits onto existing hay round balers to measure hay yield. Hay yield monitoring is an emerging commercial opportunity in the larger precision agriculture industrial market.
- Joseph Kolis from the department of chemistry will focus on controlling the chemistry in hydrothermally grown crystals, allowing for two doping ions to be inserted in the same region of the crystal, which has been extremely difficult and expensive in most traditional crystal-growth methods. The co-doping makes the crystals particularly appropriate for mass production of lasers that can be used for many commercial applications, such as automated manufacturing vision systems and vehicle vision systems, including autonomous vehicles.
- Jiro Nagatomi from the department of bioengineering will refine a product that could replace internal sutures in laparoscopic and robotic surgeries, which would shorten surgeries and reduce complications. The hemostatic tissue adhesive technology, which has garnered early attention from industry, will undergo additional pilot studies in cardiovascular and gastrointestinal applications in collaboration with surgeons at the Greenville Health System.
- Jeffrey Adelberg from agriculture and environmental sciences will further develop — integrating industry feedback — the prototype of a system to reduce costs in commercial plant micropropagation. Initial data show the potential for a 20-fold reduction in direct labor costs by adapting existing tissue culture vessels to new harvesting techniques.
- Hong Luo, from the department of genetics and biochemistry will be conducting transient and stable gene expression experiments on a protein kinase gene promoter to demonstrate its functionality and tissue specificity in two important crop species: soybean and cotton. A successful outcome will accelerate the licensing of this technology to major agro-biotech corporations and other small biotech companies.

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The Clemson University Research Foundation manages technology transfer for Clemson's thriving innovation environment. Established in 1981, CURF is a 501(c)(3) corporation founded exclusively for charitable, educational and scientific purposes. CURF operates for the benefit of, to perform the functions of and to carry out the purposes of Clemson University. CURF is governed by a board of directors who are leaders in the public and private sectors.

Categories: College Of Agriculture, Forestry And Life Sciences, College Of Engineering, Computing And Applied Sciences, College Of Science, Economic Development, Public Service And

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