Funding Opportunities  (from the past 7 days)
For previous funding opportunities, see
http://teesresearch.tamu.edu/funding-opportunities/

LIMITED SUBMISSIONS
If you would like to receive all notices of limited submission opportunities, please email shelly.martin@tamu.edu. Note that if you are on this list, you will receive any and all announcements, whether or not they apply to you. All limited submission opportunities are also posted on the VPR’s site.

Limited Submission  American Diabetes Association Pathway to Stop Diabetes – Email of Intent Due April 4, 2016; Internal Proposal Due April 11, 2016

DOE
Synchrophasor Applications and Tools for Reliability, Market Efficiency, and Asset Management  (link) – Due June 30, 2016 – Total Amount Available $5,000,000

EPA
Early Career Awards: Integrating Human Health and Well-Being with Ecosystem Services Grant  (link) – Due April 21, 2016 – Total Amount Available $3,000,000
Clean Diesel Funding Assistance Program – FY 2016  (link) – Due April 26, 2016 – Total Amount Available $26,000,000

NASA
Research Opportunities in Space and Earth Sciences – 2016 (ROSES – 2016)  (link) – Due June 1, 2017 – Award Amounts Vary

NIH
Cooperative Study Group for Autoimmune Disease Prevention (U01)  (link) – Due June 29, 2016 – Total Amount Available $3.6 million
Modeling of Infectious Disease Agent Study Research Projects (R01)  (link) – Due May 5, 2016 – Contingent upon Meritorious Applications
Cooperative Agreement to Develop Targeted Agents for Use with Systemic Agents Plus Radiotherapy (U01)  (link) – Due June 14, 2016 – Budgets Must Not Exceed $450,000 per Year in Direct Costs
NSF
Broadening Participation in Engineering (link) – Due June 16, 2016 – PD 16-7680
Structural and Architectural Engineering and Materials (link) – Due Sept. 15, 2016 - PD 16-1637
Materials Research Science and Engineering Centers (link) – Due July 1, 2016 – Total Award Amount $23,000,000
Innovation Corps – National Innovation Network Sites Program (I-Corps Sites) (link) – Due May 25, 2016, and February 9, 2017 – Total Amount Available $2,500,000
Science Learning+ Partnership Grants (link) – Due June 14, 2016 – Total Amount Available $12,000,000
Cyber-Physical Systems (CPS) (link) – Due June 7, 2016 – Total Amount Available $34,000,000
Dear Colleague Letter: Developing New Data to Illuminate Science and Innovation Policy (link)

TEES/Engineering/Division of Research
Strategic Areas Interdisciplinary Research Seed Grants (link) – Due May 1, 2016 – Up to $50,000

Upcoming Events
See also http://teesresearch.tamu.edu/events/ for a complete listing and links to handouts/presentations

TEES Research Development
We will post upcoming events as they are announced

Other Opportunities

Register Now
Texas A&M ENG-Life Workshop
April 29, 2016
8:00 a.m. - 4:30 p.m.
Engineering Technology Building (ETB), Room 2005
Information and Registration

Spring 2016 NIH Regional Seminar
May 11-13, 2016
Baltimore, MD
Renaissance Baltimore Harborplace Hotel
Registration and Information

Science of Team Science (SciTS) 2016 Conference
May 16-19, 2016
Phoenix, Arizona (Hyatt Regency Hotel)
Banerjee Uses NSF I-Corps Program to Teach Students Engineering Entrepreneurship

The National Science Foundation Innovation Corps (NSF I-Corps) program is designed to challenge engineers during a seven-week business boot camp in an effort to help foster entrepreneurship and the commercialization of technology. Engineers participate in a set of activities and programs that are aimed at teaching business skills that can’t be gained in the laboratory alone.

NSF I-Corps teams are comprised of a student entrepreneurial lead (EL), who does most of the marketing and research for the project, a principal investigator (PI), typically the student’s graduate advisor, and an industry mentor (IM), who helps to ensure the project activities are focused on a viable commodity to a specific industry.

Ronita Roy, a graduate student in the Department of Mechanical Engineering at Texas A&M University, served as the EL for her team which recently completed the program.

“Our specific project was concerned with creating and developing technology that would increase energy storage and use nano-particles as surface coating to enhance cooling,” said Roy. “The focus of this NSF I-Corps program is to explore this technology as an energy application in industries such as the oil and gas industry, HVAC and cooling solutions for electronic companies.”

In response to this the team adjusted its targeted industry and pivoted to market its device to electronics companies, such as data centers, which they estimated could still gain from improvement to their current cooling techniques.

“Data centers are becoming more power hungry,” said Dr. Debjyoti Banerjee, a professor in the mechanical engineering department and the PI for the team. “Their waste heat could be used to supply hot water to entire cities rather than dumping the heat into the environment.”

In January, Banerjee formed another NSF I-Corps team to focus on market research segments in the oil and gas industry—primarily businesses involved in mid-stream operations—for the
insertion of nanotechnologies in novel heat exchanger development by leveraging 3-D printing and additive manufacturing technologies.

Though more customer discovery must be made to identify the factors that can accelerate the universal adoption of these nano-particle paints, these innovations were patented by Banerjee to enable Roy and her team to be more effective in its commercialization endeavors and the creation of new markets for these technologies.

To view the complete story, please visit the website.

Tai’s Research Seeking to Advance Unsupported 3-D Printing Capabilities

Dr. Bruce Tai, an assistant professor in mechanical engineering and director of the Manufacturing Innovation Laboratory at Texas A&M, and his students have developed a method that on a small scale eliminates the need for support structures and allows them to 3-D print soft objects.

The team developed a support-free fabrication processes by creating a hydrostatic condition inside of a polymer resin. By employing this technique the researchers will also be able to eliminate the traditional layer-by-layer printing technique for geometric soft structures.

“This is a cross-disciplinary research project involving polymer science, optics, fluid mechanics and machine design,” said Tai. “The challenge for our team as mechanical engineers was to integrate all the knowledge from the multiple concentrations to test, design and ultimately develop a new low-cost manufacturing process.”

A challenge the team faced was accurately curing a specific region of the silicone to create the soft geometric objects. The team had to obtain low one-photon polymerization (LOPP) inside the resin, as opposed to stereolithography where polymerization takes place on the resin surface. The liquid pressure around the cured object then holds the shape in position creating the hydrostatic condition needed to cure the target area of the silicon resin and form a precise three-dimensional geometry.

“There are currently commercial printers which have the capabilities to make soft materials, gel or even real tissues,” said Tai. “These printing techniques are either limited to low-profile shapes or require support structures. Our research provides a starting point for the future of unsupported 3-D printing.”

To view the complete story, please visit the website.

Prepared by TEES Research Development under the auspices of the Associate Agency Director for Strategic Initiatives and Centers. For questions, email researchnews@tees.tamus.edu.