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16 Technology Product Development Grants, Worth $3.7M, Approved by Mtech Maryland Industrial Partnerships Program

COLLEGE PARK, Md., Feb. 17, 2011 /PRNewswire-USNewswire/ -- The Maryland Industrial Partnerships Program (MIPS) -- an initiative of the Maryland Technology Enterprise Institute (Mtech) at the University of Maryland -- is authorizing 16 new high-technology and biotechnology product development grants worth $3.7 million.

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MIPS fosters technology innovation and creates jobs in Maryland by funding commercially promising product development projects that partner Maryland companies with University System of Maryland researchers. Both companies and MIPS contribute money, all of which supports the work of faculty and graduate students.

The projects combine $2.4 million from participating companies and $1.3 million from MIPS. Funding from the Maryland Department of Natural Resources, Environmental Protection Agency and the Maryland Biotechnology Center supported select MIPS projects.

"As Maryland transitions into the new economy, programs like MIPS are proof that by investing in innovation, we can move forward by creating high-tech jobs," said Governor Martin O'Malley. "Together, we can continue to make the choices that spur innovation, choices that promote education and achievement, and choices that advance the creative capacity of our people."

New technologies approved for funding include: a new, biofuel-producing scrubber to remove CO2 from smokestacks, biofouling screen systems that remove harmful nutrients and sediment from the Chesapeake Bay, a variable-torque wind turbine with a speed converter, pest-resistant soybeans, ultra-thin rechargeable batteries, a system that speeds Internet-via satellite communications and more.

Five are in the Baltimore area, four are in College Park, two are in western Maryland, two are in Frederick, one is in Silver Spring, one is in Dayton, and one is on the lower Eastern Shore.

Companies and faculty for each project include:

- ***Baltimore-based Blackrock Algae LLC (www.blackrockalgae.com) and Patrick Kangas, associate professor, environmental science and technology, University of Maryland, College Park ($277,848)***: testing new biofouling screen systems that remove harmful nutrients and sediment from aquatic ecosystems such as the Chesapeake Bay.
- ***Frederick-based Cerona Networks (www.cerona.com) and John Baras, professor, electrical and computer engineering and Institute for Systems Research, University of Maryland, College Park ($268,600)***: developing a broadband Internet-via-satellite system with two-way performance approaching terrestrial Internet connections that saves costs for providers and can be retrofit to existing systems.

- ***Owings Mills-based Differential Dynamics Corporation (www.ddmotion.com) and Weidong Zhu, professor, mechanical engineering, University of Maryland Baltimore County ($160,000)***: developing a new type of wind turbine with a speed converter and a variable-torque generator that can reduce the failure rate and maintenance cost, harness more energy, and reduce unit cost.
- ***Frederick-based FiberCell Systems Inc. (www.fibercellsystems.com) and Dean Mann, professor, University of Maryland Baltimore ($263,212)***: validating a prototype, large-scale, hollow-fiber bioreactor system for use in manufacturing in the biotechnology industry.
- ***College Park-based FlexEl LLC (www.flexelinc.com) and Victor Granatstein, professor, electrical and computer engineering, University of Maryland, College Park ($141,025)***: developing an integrated battery management system for FlexEl's thin-film batteries incorporating upstream energy scavenging circuitry and downstream load management circuitry to give end-users an ultra-thin, plug-and-play power solution.
- ***Dayton-based HY-TEK Bio LLC (www.hytekbio.com) and Feng Chen, associate professor, Institute of Marine and Environmental Technology, University of Maryland Center for Environmental Science ($227,961)***: optimizing HY-TEK Bio's technology to sequester CO2( )and additional harmful nutrients from flue gas produced from burning fossil fuels using enhanced micro algal growth, simultaneously creating clean energy from fossil fuels.
- ***Cumberland-based J Green Natural Foods (www.jgreenfoods.com) and Y. Martin Lo, associate professor, nutrition and food science, University of Maryland, College Park ($396,500)***: optimizing a novel, plant-based protein strip that sets a new standard in the field of vegetarian meat alternatives.
- ***Princess Anne-based Luke's Premier Foods, LLC (www.lukespremierfoods.com) and Jurgen G. Schwarz, director agriculture, food and resource sciences, University of Maryland, Eastern Shore ($256,362)***: developing and testing a fixed, then prototype mobile processing facility in Maryland for efficiently processing fresh heirloom tomatoes from Maryland farmers into tomato nectar.
- ***College Park-based OmniSpeech LLC and Shihab Shamma, professor, electrical and computer engineering, University of Maryland, College Park ($135,000)***: improving the performance of software that separates speech from background noise for clear cellular and other communications.
- ***Baltimore-based Plant Sensory Systems LLC (www.plantsensorysystems.com) and James A. Saunders, director molecular biology, biochemistry and bioinformatics, professor, department of biological sciences and department of chemistry, Towson University ($142,320)***: developing pest-resistant soybeans.
- ***Friendsville-based Red Rock Forestland Services LLC (www.redrockllc.com) and Matthew E. Ramspott, assistant professor, geography, Frostburg State University ($172,500)***: validating a multi-sensor, airborne forest inventory and mapping system.
- ***College Park-based Remedium Technologies Inc. (www.remediumtechnologies.com) and Srinivasa Raghavan, professor, chemical and biomolecular Engineering, University of Maryland, College Park ($103,950)***: developing a novel wound care technology called HemoGrip((TM)), an effective hemostatic bandage that rapidly stops traumatic bleeding and serves as a protective anti-bacterial barrier.
- ***Silver Spring-based Speech Conversion Technologies Inc. (www.speechtechno.com) and William Idsardi, associate professor, linguistics, University of Maryland, College Park ($143,278)***: developing a new, annotated, spoken-word corpus (database of speech audio files and text transcriptions) for use in the development of novel automated speech recognition (ASR) software.
- ***College Park-based Tseai Energy Unlimited (www.tseai.com) and Stephanie Lansing, assistant professor, environmental science and technology, University of Maryland, College Park ($260,330)***: optimizing the bio-methane potential of effluent from West African palm oil mills by developing a biodigestion system that will convert the mill effluent to biogas for electricity production.
- ***Baltimore-based Under Armour (www.underarmour.com) and Jae Kun Shim, assistant professor, kinesiology, University of Maryland, College Park ($698,000)***: conducting a biomechanical and

physiological assessment of running and comparing the differences between traditional and new running shoes.

- ***Owings Mills-based Universal Security Instruments (www.universalsecurity.com) and James A Milke, professor and associate chair, fire protection engineering, University of Maryland, College Park ($142,639)***: validating the performance of the company's patent-pending smoke sensing technology, which responds 87 percent faster to smoldering fires while still responding quickly to fast flaming fires and has immunity to nuisance alarms.

This is the 47th round of MIPS funding. The program has supported research projects with more than 450 different Maryland companies since 1987.

Ten of the projects will take place at the University of Maryland, College Park, while one will occur at each of the following institutions: Frostburg State University, Towson University, the University of Maryland, Baltimore, University of Maryland, Baltimore County, University of Maryland Center for Environmental Science, and the University of Maryland, Eastern Shore.

Projects are subject to final contract negotiations.

About the Maryland Industrial Partnerships (MIPS) Program (www.mips.umd.edu)

MIPS, an initiative of the Maryland Technology Enterprise Institute (Mtech), brings university innovation to the commercial sector by supporting university-based research projects to help Maryland companies develop technology-based products. Commercial products benefiting from MIPS projects have generated more than $21.6 billion in revenue, added thousands of jobs to the region, and contributed to successful products such as Martek Biosciences' nutritional oils, Hughes Communications' HughesNet(TM), MedImmune's Synagis®, and Black & Decker's Bullet® Speed Tip Masonry Drill Bit.

SOURCE Maryland Technology Enterprise Institute