



Maryland Technology Enterprise Institute

Mtech Press Releases

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Mtech's Maryland Industrial Partnerships Program Announces 17 Collaborative Research Projects Between Maryland Companies and Faculty to Develop High-Tech Products

COLLEGE PARK, Md.—The Maryland Technology Enterprise Institute's (Mtech) **Maryland Industrial Partnerships Program** (MIPS), a University of Maryland initiative, today announces 17 high-tech research projects between Maryland companies and university faculty to develop commercial products.

Almost half (seven) of the projects are energy-related, from new wind turbines to energy-scavenging batteries to green roof materials and wireless energy monitoring systems. Five are biotechnology projects, including therapeutics for malaria, West Nile Virus, hepatitis C, human immunodeficiency virus, cancer, and staph infections.

Worth \$3.7 million, the projects combine \$2.3 million from participating companies and \$1.4 million from MIPS. Funding supports research in the laboratories of participating university faculty, who work closely with partner companies to advance their products. All funding goes to the project faculty and often supports the work of graduate students.

Seven University System of Maryland institutions are participating:

- University of Maryland, College Park, with nine projects;
- University of Maryland Baltimore, with two projects;
- Frostburg State University, with two projects;
- University of Maryland, Baltimore County, with one project;
- University of Maryland, Eastern Shore, with one project;
- University of Maryland Biotechnology Institute, with one project; and
- Towson University, with one project.

There are four project companies in Baltimore or Baltimore County, six in Montgomery County, three in western Maryland, one on the Eastern Shore and one each in Cecil, Prince George's and Howard County. Company partners include 11 start-ups, five small companies and one large company. Projects approved include:

- **Rockville-based Amplimmune (www.amplimmune.com) and Dean Mann, professor, University of Maryland, Baltimore (\$143,754)**: developing a protein to overcome immune suppression, allowing the immune system to fight successfully against cancer and chronic infections.
- **Baltimore-based Community Analytics (www.communityanalytics.com) and Lise Getoor, associate professor, University of Maryland, College Park (\$187,440)**: developing enhanced methods to identify opinion leaders in a given field, as well as comparative analysis tools to identify differences between leaders.
- **Takoma Park-based CoolCAD Electronics (www.coolcadelectronics.com) and Shuvra Bhattacharyya, professor, University of Maryland, College Park (\$144,100)**: developing a cost-efficient, wireless sensor network for monitoring residential and commercial energy use.
- **Baltimore-based Encore Path Inc. (www.encorepath.com) and Appa Anjanappa, professor, University of Maryland, Baltimore County (\$95,584)***: developing a new rehabilitative TREADTRAC Device to enable stroke patients to regain

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walking skills.

- **College Park-based FlexEI LLC and Patrick O'Shea, professor, University of Maryland, College Park (\$141,025):** developing an integrated circuit chip that draws power from the environment and converts it into electric energy suitable for driving real systems such as FlexEI's high-capacity, thin film, rechargeable batteries.
- **Baltimore-based Fyodor Biotechnologies Inc. (www.fyodorbio.com) and Ganesh Sriram, assistant professor, University of Maryland, College Park (\$170,105):** developing and optimizing a yeast-based platform to reliably produce the drug artemisinin, a therapeutic effective against malaria and other diseases.
- **Frostburg-based Instant Access Networks LLC (www.stop-EMP.com) and Hilkat Soysal, lecturer, Frostburg State University (\$220,000)*:** developing renewable energy-powered, electromagnetic pulse (EMP)-protected micro-grids that could provide electricity for critical infrastructure facilities in the event of a disaster.
- **Germantown-based Integrated BioTherapeutics, Inc. (www.integratedbiotherapeutics.com) and Mary-Claire Roghmann, associate professor, University of Maryland, Baltimore (\$141,908):** developing a toxin-based vaccine against *Staphylococcus aureus*, a common cause of both hospital acquired and community acquired infections and bacterial sepsis.
- **Baltimore-based Intertwine Health Solutions LLC and Ritu Agarwal, professor, Center for Health Information and Decision Systems, University of Maryland, College Park (\$174,420):** developing an Electronic Health Record (EHR) system customized to the specific needs of the cardiology practice.
- **Lonaconing-based J Green Foods LLC (www.jgreenfoods.com) and Y. Martin Lo, associate professor, University of Maryland, College Park (\$826,500):** developing a novel, integrated processing system to manufacture leading-edge meat replacements from plant-based protein (PBP).
- **Columbia-based PCTEST Engineering Laboratory, Inc. (www.pctestlab.com) and Byeng Youn, assistant professor, University of Maryland, College Park (\$308,846):** developing a Smart Thermal Management (STM) platform to improve the safety and reliability of lithium batteries used in portable wireless devices, handsets, laptop computers, power tools, and automotive hybrid electric vehicles.
- **Silver Spring-based SEGMA Technologies Inc. (www.segma-technologies.com) and Harry Zhou, professor, Towson University (\$141,686):** developing a set of knowledge mining and integration technologies to enhance the capabilities and scalability of Kaelo®, an automated corporate governance rating software—a tool for assessing the effectiveness of the board and management of public companies by investors, market analysts and regulators.
- **Perryville-based Stancills Inc. (www.stancills.com) and Andrew Ristvey, regional extension specialist, Steven Cohan, professor, and John Lea-Cox, associate professor, University of Maryland, College Park (\$191,000):** developing a low-carbon footprint planting media for green or vegetated roofs, which mitigate storm water runoff, reduce the urban heat island effect, doubles the roof life, and increases green space for public use, among other benefits.
- **Frostburg-based Sustainable Systems Inc. and Julie Wang, assistant professor, Frostburg State University (\$136,000):** developing a prototype, vertical axis wind turbine with an innovative, active, aesthetically pleasing turbine design that is lower cost, lower noise, performs well in low and high winds, and is safer to people, birds and bats living around it, for deployment on residential and commercial buildings and cell phone communications towers, as well as utility-scale wind farms.
- **Princess Anne-based U.S Orchid Laboratory and Nursery Inc. (www.usorchid.com) and Thomas Handwerker, professor, University of Maryland Eastern Shore (\$185,600):** developing a dual-reservoir geothermal heating/cooling system to economically heat and cool orchid greenhouses and reduce utility demand during peak energy periods.
- **Silver Spring-based United Therapeutics Corporation (www.unither.com) and Brenda Lee Fredericksen, assistant professor, University of Maryland College Park (\$340,350):** testing United Therapeutics' broad-spectrum antiviral drug against West Nile Virus in mice; the drug can also treat viral diseases such as hepatitis C, HIV, viruses that are bioterror threats, and others.
- **Rockville-based VectorLogics Inc. (www.vectorlogics.com) and Vikram**

Vakharia, professor, University of Maryland Biotechnology Institute

(\$162,030)*: developing a treatment for the hepatitis C virus using viral vectors to deliver therapeutic proteins.

This is the 44th round of MIPS funding. The program has supported research projects with more than 400 different Maryland companies since 1987.

Projects are subject to final contract negotiations.

Commercial products benefiting from MIPS projects have generated more than \$16.9 billion in revenue, added jobs to the region, and contributed to successes such as Martek Biosciences' nutritional oils, Hughes Network Systems' HughesNet™, MedImmune Inc.'s Synagis®, and Black & Decker's Bullet® Speed Tip Masonry Drill Bit.

* Denotes this is the second of a two-phase project. All other projects are new.

About MIPS (www.mips.umd.edu)

The Maryland Industrial Partnerships Program, an initiative of the A. James Clark School of Engineering's Maryland Technology Enterprise Institute, or Mtech (www.mtech.umd.edu), brings university innovation to the commercial sector by supporting university-based research projects to help Maryland companies develop technology-based products.

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