



News Release

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University of Maryland Announces 17 Research Projects Between Faculty, Maryland Companies to Develop New Commercial Products

COLLEGE PARK, Md.--The University of Maryland's Maryland Industrial Partnerships Program (MIPS) today announces 17 research projects between Maryland companies and university faculty to develop technology-based commercial products.

The projects, which span the State of Maryland, include environmentally friendly floors for poultry houses, portable wind turbines for generating energy, sound-expanding technologies for electric guitars, therapeutics for lupus, breast and ovarian cancer, and new, fast diagnostics for the flu and a common bacterial infection in children.

Worth \$4.8 million, the projects combine \$3.4 million from participating companies and \$1.4 million from MIPS. Funding supports research in the laboratories of participating University System of Maryland 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.

Projects approved include:

- **Salisbury-based AviHome LLC (www.avitechllc.com) and Jeannine M. Harter-Dennis, associate professor, University of Maryland, Eastern Shore (\$381,325):** developing a litter-less floor for poultry houses that could significantly reduce the amount of ammonia gas produced and released into the environment in the 88,000 operational poultry houses in the U.S. today.
- **Rockville-based Cellex Inc. (www.cellexinc.com) and Richard Zhao, associate professor, University of Maryland, Baltimore (\$158,750):** developing a 5-10 minute flu test that is economical, easy-to-use, and more sensitive than a leading rapid flu test. There are 25-30 million cases of influenza in the U.S. each year.
- **Laurel-based Coil LLC (www.coil-guitars.com) and Patrick O'Shea, professor, University of Maryland, College Park (\$135,000):** developing novel signal processing and programmable hardware technologies for electric guitars and other audio applications.

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- **Baltimore-based Columbia BioSystems Inc. and Vincent Lee, assistant professor, University of Maryland, College Park (\$149,000):** developing a diagnostic to rapidly detect antibiotic-resistant nosocomial (hospital-acquired) infections, such as pseudomonas aeruginosa, which result from medical treatment but are not part of a patient's original condition.
- **Columbia-based Emerald Sky Technologies LLC (www.fly-esky.com) and J. Sean Humbert, assistant professor, University of Maryland, College Park (\$202,816):** developing an integrated aircraft flight display and control system with a collaborative autopilot that will allow pilots to maintain situational awareness and engage in the higher level task of managing and directing a flight.
- **Rockville-based Foligo Therapeutics Inc. (www.foligot.com) and William Bentley, professor, University of Maryland Biotechnology Institute (\$136,900):** evaluating the folate receptor, a protein involved in ovarian cancer, as a target in cancer treatment.
- **Rockville-based Fuzbien Technology Institute Inc. and Laundette P. Jones, assistant professor, University of Maryland, Baltimore (\$222,348):** Developing rapid bioassays utilizing Fuzbien's ultrasensitive, carbon nanotube (CNT)-based biosensors to accurately and inexpensively detect biomarkers of breast cancer.
- **Baltimore-based Gliknik Inc. (www.gliknik.com) and Dean Mann, professor, University of Baltimore (\$144,499):** screening novel drug candidates for lupus to move forward into pre-clinical testing.
- **Rockville-based Innovative Biosensors Inc. (www.innovativebiosensors.com) and Pamela Abshire, associate professor, University of Maryland, College Park (\$235,596):** developing a hand-held diagnostic instrument for Group B Streptococcus, a type of bacteria that causes illness in newborn babies, pregnant women and the elderly, that will enable rapid, automated detection for clinicians at the point-of-care.
- **Baltimore-based Juxtopia LLC (www.juxtopia.com) and Carol Espy-Wilson, professor, University of Maryland, College Park (\$168,960):** Developing advanced speech enhancement software for Juxtopia's augmented reality products that need speech recognition to work in noisy environments.
- **Bethesda-based Lakenheath Electronic Design (www.lakenheathelectronics.com) and Ramani Duraiswami, associate professor, University of Maryland, College Park (\$156,000):** developing a portable acoustic analyzer system for use in surveillance that can identify where a sound came from and its visual source while filtering out extraneous noise.

- **Baltimore-based ProParts LLC (www.propartslc.com) and Jewel Barlow, Director, Glenn L. Martin Wind Tunnel, University of Maryland, College Park (\$51,000):** developing low-wind, low-cost wind turbines that can be easily mounted in residential or urban markets, as well as portable turbines for military applications.
- **Hollywood-based Recovery Science LLC (www.recoveryscience.com) and Dr. Jae Kun Shim, assistant professor, University of Maryland, College Park (\$2,082,800):** developing a neuromuscular training device and regimen that corrects motor control dysfunction in the hands and fingers due to aging or disease
- **Columbia-based Resensys LLC (www.resensys.com) and Martin Peckerar, professor, University of Maryland College Park (\$165,750):** developing thin-film, hybrid-power-source batteries for Resensys' wireless, distributed sensors that monitor the structural integrity of bridges, buildings, or pipelines.
- **Gaithersburg-based Sirnaomics Inc. (www.sirnaomics.com) and Archibald Mixson, associate professor, University of Maryland, Baltimore (\$158,199):** Developing a RNAi-based therapeutic to reduce scar formation and increase the tensile strength of skin from burns or chronic skin ulcers caused by pressure, venous stasis, or diabetes mellitus.
- **Baltimore-based Syan Biosciences (www.syanbiosciences.com) and Gregory Payne, Director, Center for Biosystems Research, University of Maryland Biotechnology Institute (\$136,721):** developing an electrochemical, multi-analyte biosensor solution for next generation mobile analytics applications such as point-of-care diagnostics, water and food analysis, chemical and biological agent detection, and research.
- **Greenbelt-based TRX Systems (www.trxsystems.com) and Patrick McCluskey, associate professor, University of Maryland, College Park (\$190,605):** developing rugged electronic packaging that can withstand extreme heat for TRX Systems' Sentinel Tracking Beacon, an active tracking system that determines the indoor location of a first responder during an emergency.

This is the 43rd round of MIPS funding. The program has supported research projects with more than 400 different Maryland companies since 1987.

Nine of the projects are medical therapeutics or diagnostics; four relate to homeland security or defense, two involve energy, and two are in electronics. Four institutions are participating: the University of Maryland, College Park, with ten projects; the University of Maryland Baltimore, with four projects; the University of Maryland Biotechnology Institute, with two; and the University of Maryland Eastern Shore, with one. Four project companies are in Baltimore or Baltimore County, four are in Rockville, one is in

southern Maryland, and one is on the Eastern Shore. Company partners include 14 start-ups and three small companies.

Projects are subject to final contract negotiations.

Commercial products benefitting 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.

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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