



Maryland Names Winners of Inaugural \$3M Nanobiotech Grant Program

June 05, 2009

Newsletter: [Biotech Transfer Week](#)

Maryland this week announced the recipients of \$2.9 million in research funding through the inaugural Maryland Nanobiotechnology Research and Industry Competition grants program.

Under the program, project winners from the public and private sectors will receive a one-time award of up to \$250,000 for operating and capital funding.

Each of the selected projects will be led by either a private company or academic institution in the state of Maryland, in collaboration with various other companies, universities, non-profit organizations, or government labs, though some of the collaborators hail from neighboring states.

The University of Maryland system will benefit most from the awards: Overall, eight of the 12 projects involve a UM school or institute, with UM-College Park leading the way as lead institute on four of the projects. Johns Hopkins University is also heavily involved in the program as a lead institute on two projects and collaborator on another.

The 12 winning projects are:

- Aeras Global TB Vaccine Foundation, of Rockville; \$250,000 for a project led by John Fulkerson entitled "Targeted protein expression;"
- AparnaBio, of Rockville; \$250,000 for a project led by Puthupparampil Scaria in collaboration with the University of Maryland-Baltimore and Sirnaomics, of Gaithersburg, entitled "Targeted anti-angiogenic siRNA nanoparticle to treat lung cancer;"
- Applied Sensor Research & Development Corporation, of Arnold; \$250,000 for a project led by Jacqueline Hines in collaboration with Philadelphia's Temple University and Drexel University, and Aviana Molecular Technologies, of Bryn Mawr, Pa.; entitled "Acoustic array biosensor utilizing nanostructured films for multiplexed point-of-care diagnosis of infectious agents;"
- Bioactive Surgical, of Baltimore; \$250,000 for a project led by Lew Schon in collaboration with Johns Hopkins and Union Memorial Hospital, entitled "High-density nanofilms for orthopedic therapies;"
- Cytimmune, of Rockville; \$250,000 for a project led by Gulio Paciotti in collaboration with Virginia Polytechnic Institute and the University of Maryland Biotechnology Institute, entitled "Development and pilot manufacturing for a multifunctional tumor-targeting nanomedicine;"
- Johns Hopkins, \$230,000 for a project led by Jeff Bulte in collaboration with Surgivision, of

Baltimore, entitled "Image-guided encapsulated cell therapy using multimodal nanoparticles;"

- Johns Hopkins, \$250,000 for a research project led by Venu Raman in collaboration with the University of Maryland-Baltimore County, entitled "Functional characterization of a novel RNA helicase inhibitor encapsulated in dual-MR contrast nanoparticles for breast cancer treatment;"
- UM-Baltimore, \$250,000 for a research project led by Joseph Lakowicz in collaboration with the UM School of Medicine and Advanced Fluidics, entitled "Plasmon-controlled fluorescence and its application to fluorescence sensing;"
- UM-College Park, \$200,000 for a project led by Arthur La Porta in collaboration with the National Cancer Institute Robert Wood Medical School, entitled "Advanced optical torque wrench for manipulation of DNA structures;"
- UM-College Park, \$250,000 for a project led by Bruce Yu in collaboration with the National Institute for Standards and Technology, entitled "Force-sensitive nano networks;"
- UM-College Park, \$232,000 for a project led by Volker Briken in collaboration with the UM Medical School entitled "Targeted drug delivery mediated nanocontainers;" and
- UM-College Park, \$250,000 for a project led by Reza Ghodssi in collaboration with the UMBI entitled, "A micro-direct methanol fuel cell with nanostructured platinum catalysts using the tobacco mosaic virus."

The Maryland Department of Business and Economic Development is funding the program and, through its recently formed Maryland Biotechnology Center, jointly administered the grant competition along with the Maryland Technology Development Corporation.

The organizations received 103 applications and selected 43 finalists for a more in-depth technical project review. A total of \$3 million was available for research projects. Recipients were awarded between \$200,000 and \$250,000, with nine of the 12 projects receiving the maximum award.

If any intellectual property evolves from the projects, its ownership will be determined on a case-by-case basis through the participating institutions' policies, Gayatri Varma, executive director of the University of Maryland Office of Technology Commercialization, told *BTW* this week.

"Our policy is that if it is a joint invention it is jointly owned, and if the invention is made by the University of Maryland then it is owned by UM," Varma said. "Our collaborators, all of which are located near us, are co-inventors with us all the time, so we're used to working with them on IP."

For its part, UM-College Park has a "huge nanotechnology center, with a very prolific research group," Varma said, adding that "nanobiotech is the next step for this research."

In a statement, Christian Johansson, secretary of DBED, said that he was "pleased that the newly created Maryland Biotechnology Center is already making a significant impact in our state's life sciences enterprise with this \$3 million in research funding. This investment in nanobiotechnology demonstrates Maryland's commitment to supporting emerging technologies that will ultimately stimulate job creation and financial benefits in our state."

The MBC, which falls under the aegis of DBED, was launched earlier this year as a "one-stop shop" for biotechnology business in the state. As reported in May by *BTW* sister publication [BioRegion News](#), DBED debuted the MBC at the Biotechnology Industry Organization annual meeting in Atlanta.

Last year, the Maryland General Assembly enacted the Coordinating Emerging Nanobiotechnology

Research, or CENTR program, which authorizes TEDCO to provide future grants for nanobiotech research projects.

"This year's one-time program is providing the Maryland science and technology community with an impressive amount of valuable data on this novel topic," Reneé Winsky, president and executive director of TEDCO, said in a statement.

"The interest we received in the grant competition validates the General Assembly's establishment of the CENTR program in the TEDCO statute, and I look forward to the progress and results that stem from this important research," she added.

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