

For Immediate Release

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UMass Amherst researchers awarded Center of Excellence in Apoptosis Research pilot grants

Two teams of University of Massachusetts Amherst scientists have been awarded the first Center of Excellence in Apoptosis Research (CEAR) pilot grants. The program provides up to \$25,000 per proposal to support development of new ideas with the potential to attract significant external funding as well as projects that extend research results toward commercial biomedical applications. "With this program, we can help research progress beyond points at which it is often difficult to secure government or industry funding. In doing so, it is our intention to accelerate the development of high potential ideas and technologies," says Dr. Lawrence Schwartz, science director at the Pioneer Valley Life Sciences Institute (PVLSI) and director of CEAR.

Barbara Osborne and Rafael Fissore, professors in the veterinary & animal sciences program who specialize in immunology and developmental biology respectively, were awarded support for their project "IP3Rs, calcium, and thymocyte apoptosis." Thymocytes are major components of the immune system and careful control of their survival is a delicate balance between the extremes of immunodeficiency and autoimmune disease. Their work brings together expertise in both thymocyte biology and calcium signaling to examine a key regulatory step in thymocyte function.

Professors Vincent Rotello, chemistry, and D. Joseph Jerry, veterinary & animal sciences and director of PVLSI's breast cancer working group, were awarded support for "Targeted apoptotic treatment of breast tumors using inductive magnetic heating of iron oxide nanoparticles." Their project will determine if iron oxide nanoparticles can be targeted specifically to breast tumors through conjugation of antibodies that recognize specific specific tumor markers. Once targeted, the use of alternating magnetic fields will induce the nanoparticles to heat up and kill the tumor cells without causing significant injury to normal adjacent cells.

The Center of Excellence in Apoptosis Research is part of the Pioneer Valley Life Sciences Institute. CEAR's membership includes 45 researchers from the Institute, Baystate Medical Center, and UMass Amherst. Apoptosis, or programmed cell death, is a genetic program resident in all of our cells that allows the body to effectively dispose of defective or surplus cells. Aberrations in apoptosis have been estimated to play a role in approximately 70% of human disease including cancer, autoimmune disorders, and cardiovascular disease. The John Adams Innovation Institute of the Massachusetts Technology Collaborative supports CEAR's innovative research programs.

About the Pioneer Valley Life Science Institute (PVLSI)

PVLSI was created in 2002 as a joint venture of Baystate Medical Center and the University of Massachusetts Amherst with the dual missions of biomedical research and economic development. Drawing on each of the founders as well as its own researchers, the Institute brings together physicians, scientists, and engineers to create interdisciplinary and multidisciplinary teams focused on the molecular mechanisms of disease and the development of new diagnostic and therapeutic tools. For more information, go to www.pvlsi.org.

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