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National Cancer Institute Awards nearly $4M to University of New Mexico Cancer Center to Support Cancer Nanotechnology Partnership with Sandia Labs

ALBUQUERQUE, N.M. – The National Cancer Institute (NCI) recently announced two five-year awards totaling nearly $4 million for a partnership between the University of New Mexico Cancer Center and Sandia National Laboratories. One $1.95 million grant will fund the creation of a joint Cancer Nanotechnology Platform Partnership, and another $1.8 million grant will pay for a new Cancer Nanotechnology Training Center to train a new generation of multi-disciplinary scientists. In addition, the State of New Mexico is providing another $2 million to build a lab supporting Sandia Fellow and UNM Professor Jeff Brinker’s research, which is devoted to nano-bio materials and nanomedicine. UNM donated more than 4500 square feet of lab space in the new Centennial Engineering Building for the project, and construction is scheduled to begin December 2010.

“The UNM Cancer Center is the only institution in the nation to receive two distinguished nanotechnology awards from NCI,” said Dr. Cheryl Willman, director and CEO of the UNM Cancer Center. “We are thrilled to work closely with Sandia National Labs to help develop new and innovative cancer diagnosis and treatment methods for many types of cancer through the use of nanotechnology. In addition, we will educate future physicians and scientists on the importance of a multidisciplinary approach to cancer research based on this partnership.”

The awards comprise the second phase of the NCI’s Alliance for Nanotechnology in Cancer Program, which initiated an investment of more than $30 million per year for the next five years to establish Centers of Cancer Nanotechnology Excellence, Cancer Nanotechnology Platform Partnerships, training grants and the Nanotechnology Characterization Laboratory. The Alliance was founded in 2004 to leverage specific advantages of nanotechnology to improve cancer diagnosis, treatment and prevention. Since then, the Alliance has led to the discovery of many novel technologies, some of which are currently undergoing commercialization and clinical trials.

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“Sandia is proud to be a part of this important undertaking,” said Steve Rottler, Chief Technology Officer and Vice President of Science and Technology at Sandia Labs. “Pairing Sandia’s expertise in materials science with UNM Cancer Center researchers’ knowledge of cancer biology, oncology and clinical attributes provides an ideal setting in which to move forward in our nation’s fight against cancer.”

Dr. Janet Oliver, regent’s professor of pathology at UNM and associate director for research at the UNM Cancer Center, and Dr. Abhaya Datye, distinguished regent’s professor of chemical and nuclear engineering at UNM and member of the UNM Cancer Center, will act as co-PI’s for the Cancer Nanotechnology Training Center. The grant will create a program that will integrate graduate and post doctoral researchers with backgrounds in health and chemical-related sciences. The program will provide an interdisciplinary education to bridge the gap between physical and chemical sciences to extend understanding of cancer biology and create methods to more effectively prevent, diagnose, and treat cancer through nanotechnology.

Brinker, who is co-PI on the Cancer Nanotechnology Platform Partnership grant with Willman and a Distinguished Professor of Chemical and Nuclear Engineering at UNM, used a Sandia-funded Laboratory Directed Research and Development (LDRD) grant to conduct preliminary research in nanofabrication. The nanostructures he developed form the basis for delivering drugs directly to a wide variety of cancer targets, a method that increases the drug’s effectiveness and reduces side effects. “The technology I developed with now Truman Fellow, Carlee Ashley, and UNM colleagues is really a generic platform to target any arbitrary cancer, so we’ve already written other proposals and are interacting with other cancer research centers throughout the U.S. and Canada, to go after low-outcome cancers like breast, lung, pancreatic, and liver,” Brinker said.

In addition, Brinker will lead the team at the Cancer Nanotechnology Training Center, which is focused on training multidisciplinary scientists at both Sandia and UNM. One such student, Ashley, started working as an undergraduate student in Brinker’s lab in Sandia’s Advanced Materials Laboratory. Brinker then served as her graduate co-advisor with David Peabody of UNM, and Ashley recently earned one of Sandia’s prestigious Truman Fellowships. “Carlee’s experience was the model for the training grant. Her work was used as the basis for what we’d like to do in the future,” Brinker said. “She went from biochemistry to training in my lab and then chemical engineering. That kind of interdisciplinary training is something that Sandia and UNM are actively encouraging.”

The next five years of the NCI’s Alliance program will be focused on rapidly advancing new nanotechnology discoveries and speeding their transformation into cancer-relevant applications in clinical practice; aiding nanoparticle characterization and standardization of characterization methods to enable technology transfer from university laboratories to companies.
that bring these technologies to patients; and developing the next-generation of cancer researchers in the area of nanotechnology.

The UNM Cancer Center is the Official Cancer Center of the State of New Mexico, and one of only 66 National Cancer Institute designated cancer centers in the nation. It is home to 85 board-certified oncology physicians representing every cancer specialty and more than 120 research scientists hailing from such prestigious institutions as M.D. Anderson, Johns Hopkins and the Mayo Clinic

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