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### **New Jersey Researcher Shows Promise in Combined Image Testing for Prostate Cancer**

*The Cancer Institute of New Jersey Member/Rutgers Biomedical Engineer Given Grant to Further Study*

**New Brunswick, N.J., July 21, 2008** – In this age of advanced imaging technology in the area of cancer detection, a member of The Cancer Institute of New Jersey (CINJ), who is a biomedical engineer at Rutgers, The State University of New Jersey, is one step closer to making image screening the norm for prostate cancer, thanks to a \$260,000 Phase II research grant he just received from the Wallace H. Coulter Foundation. CINJ is a Center of Excellence of UMDNJ-Robert Wood Johnson Medical School.

The current methods for detecting prostate cancer are a blood test known as PSA – or prostate specific antigen – and a digital rectal exam, in which a gloved finger is inserted into the rectum to feel for unusual characteristics in the prostate. Imaging methods such as ultrasound and MRI (magnetic resonance imaging) and others, which are commonly used to help diagnose breast, lung and brain cancers, are rarely used in the clinical setting as a screening tool for detecting prostate cancer.

Anant Madabhushi, Ph.D., an assistant professor at the Rutgers School of Engineering, who also is an adjunct assistant professor of radiology at UMDNJ-Robert Wood Johnson Medical School, has been working to change that through the use of high-powered MRI technology. With the new phase of research, Dr. Madabhushi's team will look at aspects known as MRI spectroscopy, in which chemical imbalances within the prostate can be analyzed, and Dynamic Contrast Enhanced MRI, which looks at how injected dye in the bloodstream affects the prostate gland.

Madabhushi notes these tests -- unlike the PSA, which could allow for an unnecessary biopsy and missed diagnosis -- allow for cancer "hot spots" to be visualized within a prostate tumor. He says coupled with computer-aided diagnosis techniques, this method of screening could help radiologists better diagnose prostate cancer. This, he says, could lead to targeted treatment. For instance, with radiation therapy, if certain hot spots are identified, healthy tissue surrounding the prostate area can be spared, thus enhancing a patient's quality of life. The technology is also being applied to help discriminate between different prostate cancer grades on histology tissue and will help pathologists better diagnose biopsy specimens, as well as help them better determine closely-related grades of the disease.

"What this technology does is allow for data to be analyzed in a quantitative fashion in a way that marries multiple sets of information together. If we are able to develop tools for computerized analysis and utilize them in the clinical area, we will save more lives," said Madabhushi.

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According to the American Cancer Society 183,000 new cases of prostate cancer will be diagnosed in the United States this year, with the illness affecting more African-American men than those of Asian or Caucasian descent. In New Jersey alone, there will be 5,000 new cases and 800 deaths. It is the most frequently diagnosed cancer in men, other than skin cancer, and the second leading cause of cancer death in men.

Madabhushi was one of seven recipients out of 25 Phase I awardees to receive the award from the Coulter Foundation. His selection stems from results leveraged as part of the Phase I award given to him in 2006. He hopes to use the results from this phase of study to obtain funding for a clinical trial.

His team includes Michael Feldman, M.D. Ph.D., associate professor of pathology and laboratory medicine; Mark Rosen, M.D., Ph.D., assistant professor of radiology; and John Tomaszewski, M.D., professor of pathology and laboratory medicine, all of the University of Pennsylvania School of Medicine.

### **About The Cancer Institute of New Jersey**

The Cancer Institute of New Jersey is the state's first and only National Cancer Institute-designated Comprehensive Cancer Center, and is dedicated to improving the prevention, detection, treatment and care of patients with cancer. CINJ's physician-scientists engage in translational research, transforming their laboratory discoveries into clinical practice quite literally bringing research to life. The Cancer Institute of New Jersey is a center of excellence of UMDNJ-Robert Wood Johnson Medical School. To support CINJ, please call the Cancer Institute of New Jersey Foundation at 1-888-333-CINJ.

The Cancer Institute of New Jersey Network is comprised of hospitals throughout the state and provides a mechanism to rapidly disseminate important discoveries into the community. Partner Hospital: Robert Wood Johnson University Hospital. Affiliate Hospitals: Bayshore Community Hospital, CentraState Healthcare System, Cooper University Hospital\*, Jersey Shore University Medical Center, JFK Medical Center, Morristown Memorial Hospital, Overlook Hospital, Raritan Bay Medical Center, Robert Wood Johnson University Hospital at Hamilton (CINJ-Hamilton), Saint Peter's University Hospital, Somerset Medical Center, Southern Ocean County Hospital, The University Hospital/UMDNJ-New Jersey Medical School\*, and University Medical Center at Princeton. \*Academic Affiliate

### **About Rutgers, The State University of New Jersey**

Established in 1766, Rutgers, The State University of New Jersey, is America's eighth oldest institution of higher learning and one of the nation's premier public research universities. Serving more than 50,000 students on campuses in Camden, Newark and New Brunswick, Rutgers offers more than 280 bachelor's, master's, doctoral and professional degree programs. The university is home to 27 degree-granting schools and colleges, and more than 150 specialized centers and institutes.

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