

U.S. technology award winner at WVU makes breast cancer diagnosis more accurate

Radiology professor's team wins national technology transfer award

MORGANTOWN, W.Va. – Women who in the past might have undergone unnecessary biopsies are breathing sighs of relief thanks to technology developed by a West Virginia University researcher. The technology – called breast-specific gamma imaging (BSGI) – is more accurate than MRI scans at ruling out breast cancer, recent studies show.

For his role in developing breast-specific gamma imaging, Stan Majewski, Ph.D., professor of radiology in the WVU School of Medicine, has received an award for Excellence in Technology Transfer from the U.S. government's Federal Laboratory Consortium.

The award is for work Majewski and his team did while at the U.S. Department of Energy's Jefferson Lab, where his team's research led to the manufacture of the Dilon 6800 Gamma Camera by Newport News-based Dilon Technologies. Majewski, who holds a Ph.D. degree in high-energy physics, came to WVU in January. Majewski and his team will receive the award May 7 at the Federal Laboratory Consortium national meeting in Charlotte.

The new molecular-imaging camera creates a picture that is less expensive than an MRI scan and also does a better job at detecting even small malignancies. "It seems that it provides more accurate information to women with inconclusive mammograms than MRI does," Majewski explained.

The company says it has already sold 100 of the cameras.

Women whose mammograms signal potential problems are often sent for MRI scans followed by biopsies. Women scanned by the Dilon camera are more likely to receive a "cancer free" bill of health without having to undergo biopsy. And if biopsy is required, the latest model of the machine also can guide accurate needle placement.

Majewski, who holds several patents for his work, chose to come to WVU because of the research taking place here aimed at developing next-generation devices to "see" breast cancer early through molecular imaging.

"WVU could be on the map as the leading place for early detection of breast cancer," he said.

Majewski is working with Raymond R. Raylman, Ph.D., professor and vice chair of research in the WVU Department of Radiology, to develop a new medical imaging device that can detect very small breast tumors, even in dense breasts. The new device, which uses positron emission mammography (PEM) and positron emission tomography (PET) to accurately scan the unique contours and tissues of breasts and to guide biopsy of suspicious lesions, just underwent pilot clinical trials at WVU with excellent results