

[search](#)[engineering home](#) [news home](#) [press releases](#) [subscribe to e-news](#) [engineering](#)

Dr. J.C. Chiao

Testing Device Reveals Risk Potential for Spread of Prostate Cancer

Jan 23, 2009

[Eng](#)

Prostate cancer is the second leading cause of malignancy-related mortality in males. Prostate cancer cells spread to bone via the blood stream and form secondary tumors. A new screening test being developed by researchers at The University of Texas at Arlington and The University of Texas Southwestern Medical Center at Dallas will provide physicians with a new method to predict if the cancer will migrate to bones.

One out of six men will possibly develop prostate cancer in their lifetime, so an effective way to screen the risk of cancer migration is very urgent and important. That's why clinicians are excited about the initial work by UT Arlington Electrical Engineering Professor J.C. Chiao and Bioengineering Assistant Professor Kytai Nguyen. For several years, the two have led a team to create an innovative device to identify and quantify the important chemical factors promoting prostate cancer cell migration from the primary tumor to a secondary site.

Now they have received a three-year, \$205,000 grant from the National Institutes of Health to further their developments and, with the assistance of collaborators in UT Southwestern's Urology Department and Urologic Oncology Center, conduct clinical studies using the device. In a demonstration test by Drs. Ganesh Raj (clinician), Victor Lin (cell biologist) and Jer-Tsong Hsieh (prostate cancer expert), the devices using prostate cancer patients' serum showed real-time cancer cell migration that conventional devices cannot find. These findings can be used to predict the metastasis risks for individual prostate cancer patients during treatment and to track therapy progress to prevent metastasis in the future.

Further studies are essential to understand the mechanism and molecules involved in prostate cancer metastasis, and the results will be used to find potential targets for cancer therapy. Drs. Chiao and Nguyen believe their device will speed these discoveries.