

UTA professors bring in more than \$1 million worth of grants for prostate research



Written by Bryan Bastible, The Shorthorn staff
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Three university professors and their associates are on their way to helping patients with the No. 2 leading cause of malignancy-related mortality in men — prostate cancer.

With more than \$1 million combined in grants, some of the research the professors have been working on includes designing a testing device, developing prostate cancer treatments and improving diagnosis.



TESTING DEVICE

Electrical engineering professor J.C. Chiao and bioengineering assistant professor Kytai Nguyen headed a team that created a microdevice that tracks how cancerous cells spread from the tumor to other places in the body.

"The goal for our research is to use a patent-pending device ... to identify and quantify the important factors in prostate cancer metastasis," Chiao said. "The results will be used to find potential targets in cancer therapy."

Chiao and Nguyen's team received a three-year \$205,000 grant from the National Institutes of Health to further their research developments, and with the help from collaborators in UT Southwestern Medical Center's Urology department and Urologic Oncology Clinic, conduct studies using

Assistant biomedical engineer professor Kytai Nguyen received a \$484,000 grant to develop polymer magnetic nanoparticles to release drugs to only prostate tumor and prostate cancer cells. (The Shorthorn: Jacob Adkisson)

the device that has the ability to predict metastasis risk for prostate cancer patients.

"It is estimated one out of six men will develop prostate cancer in their lifetime," Chiao said. "So, an efficient way for metastasis prediction will save many people's lives."

PROSTATE CANCER TREATMENT

Nguyen and collaborators at UT Southwestern Medical Center are working on a treatment method that can effectively improve drug therapies that will only kill cancerous cells.

The team will receive a three-year \$484,000 grant from the Department of Defense to help with the treatment method's development. The original idea came from alumnus Maham Rahimi, who is now a medical student at Texas Tech University, she said.

IMPROVING PROSTATE CANCER DIAGNOSIS

Bioengineering professor Hanli Liu has been working on ways to help prostate cancer patients' diagnosis. In the last two years, she discovered that prostate cancer diagnosis is pretty much "blind."

"Because of the poor diagnosis of prostate cancer, the current prostate cancer patients are either under or over treated. Undertreatments cause patients' lives. Over-treatments cause patients' unnecessary impotence or incontinence or both," she said in an e-mail. "It is ... imperative to develop a diagnostic technique that would be used with the regular needle biopsy tool and guide the clinicians to select the biopsy sites where the prostate tissue is suspicious for cancer."

Liu and her team will receive a three-year \$508,000 grant from the Department of Defense Prostate Cancer Research Program this semester. The program funds innovative ideas and encourages new technology development.

"Overall, the proposed work will greatly improve the accuracy of prostate cancer diagnosis," she said. "So, the rate for under or over treatments of prostate cancer can be reduced significantly, improving the patients' quality of life."

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