

From the University of Mississippi Medical Center Division of Public Affairs

CURE FOR PROSTATE CANCER FOCUS OF HBCU STUDENTS' RESEARCH

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JACKSON, Miss. – A collaborative effort between University of Mississippi Medical Center cancer researchers, Tougaloo College and Jackson State University this summer is giving six undergraduate college students a chance to search for a prostate cancer cure.

The Mississippi Prostate Cancer Historically Black Colleges and Universities Undergraduate Training Program is a first for UMMC's Cancer Institute. Supported by a \$185,000 U.S. Department of Defense Prostate Cancer Research Program grant, it helps fund research opportunities for students from historically black colleges and universities.

"We are very glad to offer this kind of program to students in this area," said Dr. Kounosuke Watabe, Cancer Institute deputy director for basic research and principal investigator with the grant. "We hope that in the future, many of these students will become cancer researchers. It is very important that young people get into this research field."

Three interns from each college are working on a specific project during the 10-week program, attend sessions with their faculty mentor and the Cancer Institute's weekly seminar series, and take part in the Discovery U program, offered to undergraduates by the UMMC School of Graduate Studies in the Health Sciences. Each receives a \$6,000 stipend.

The six, all working on prostate cancer projects, will present results of their work at a Prostate Cancer Research Day July 31, as well as prepare a written report.

"We want them to see how things operate in the real world and make an effort to give them that exposure so they can really apply what they're learning," said internship coordinator Dr. Christian Gomez, associate professor of pathology and radiation oncology and a member of the Cancer Institute's tumor cell biology program.

The fit was a natural one for Diva Whalen of Clinton, a junior studying biology at Tougaloo. "I'm interested in cancer research because it affects just about everyone. If not personally, it affects a grandmother, a mother or friend," she said. "Eventually I'd like to study the genetic side."

She is working with Dr. Anait Levenson, associate professor of pathology and a member of the institute's tumor cell biology program. Levenson's labs are seeking medicinally active natural compounds such as resveratrol in grapes and red wine that seem to help halt prostate cancer.

Whalen "is looking at certain natural agents that may inhibit metastasis-associated protein that plays an important role in prostate cancer development and progression," Levenson said.

"You can't drink enough red wine to inhibit cancer," Whalen said. But if Levenson and others in her lab can find resveratrol analogues, similar compounds that can be produced in greater numbers and that can be more potent in inhibiting cancer, it might provide new ways to prevent or treat prostate cancer.

Teaching basic research methods and the need to replicate the work to verify results is tedious and time-consuming, but Levenson said Whalen's work already is yielding some results.

Tatyana Givens, a sophomore studying biology at JSU, is working with Dr. Chindo Hicks in bioinformatics, a field that combines skills in computer science, statistics, mathematics and biology to analyze and integrate mountains of genomics data to identify molecular markers associated with prostate cancer.

She is analyzing data to identify signatures of microRNA and genes associated with prostate cancer in African American and Caucasian men. "Our goal is to understand the role of microRNAs and their contribution to health disparities in aggressive prostate cancers that disproportionately affect African American men," said Givens, who also would like to study pharmacy.

Hicks, her mentor, said the DOD grant enhances UMMC's program by training students from historically black colleges to increase diversity in biomedical research. And, the program gives the university a way to offer new opportunities to students in research environments, said Dr. Stephen I.N.Ekunwe, JSU faculty advisor.

"This HBCU summer prostate research training will expose JSU students to ongoing prostate cancer research at the UMMC Cancer Institute to the extent that they will have the opportunity to actually engage in hands-on research in a research lab," he said. Long-term, he said he hopes to create a pipeline for JSU students who want to pursue doctorates in cancer research.

Tougaloo faculty advisor Dr. Jinghe Mao said the program offers multiple experiences within a specialized scientific community. "We want to let students know that UMMC-CI is a great place for cancer research, education and medical training and cancer treatment," she said. "It is the only place that blends all aspects in one institute to help defeat cancer in Mississippi."

The ultimate goal, she said, is to "produce highly talented minority scholars and physicians within Mississippi."

Gomez said the program is helping Cancer Institute members establish new partnerships with Tougaloo and JSU. "We hope to see some continued work with researchers there," he said, to attract and keep the best students in cancer research.

Other Tougaloo participants are junior biology major Joshua Agee of Laurel, mentored by Dr. Xinchun Zhou, assistant professor of pathology; and senior biology major Ansley Scott of Clarksdale, mentored by Dr. Yin-Yuan Mo, professor of pharmacology and toxicology and director of the institute's cancer genetics program

Other JSU participants are sophomore chemistry and mathematics major Anthony Keyes of Jackson, mentored by Dr. Drazen Raucher, professor of biochemistry and member of the institute's molecular cancer therapeutics program; and junior biology major Brittany Martin of Madison, mentored by Gomez.

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