



University Communications & Marketing
777 Glades Road, ADM 265
Boca Raton, FL 33431
561.297.3020 phone
561.297.3001 fax

MEDIA CONTACT: Gisele Galoustian
561-297-2010, ggaloust@fau.edu

**Researcher Receives Grant to Investigate Bioactive Marine
Natural Products as Potential Chemo-preventatives for Pancreatic Cancer**
*Award to Harbor Branch Oceanographic Institute at FAU provided by the
Bankhead Coley Florida Biomedical Research Program*

BOCA RATON, FL (July 8, 2009) — Dr. Esther Guzmán, assistant research professor at Harbor Branch Oceanographic Institute at Florida Atlantic University, has received a \$375,000 grant from the Bankhead Coley Florida Biomedical Research Program for a research project to identify bioactive marine natural products that inhibit inflammation as potential novel chemo-preventatives of pancreatic cancer. Pancreatic cancer is the fifth most lethal cancer in the United States due to its strong metastatic potential and its delayed detection, as most patients remain asymptomatic until the cancer metastasizes. Ninety-five percent of patients diagnosed with the disease die within five years of diagnosis.

Guzmán, an expert in immunology and cancer research, and her colleagues are looking to the oceans as a rich source of bioactive natural products. The uniqueness, chemical diversity and complexity of marine natural products represent an unexploited supply of potential new drugs, lead compounds for medicinal chemistry and biological probes to allow for a better understanding of diseases including pancreatic cancer.

“Esther exemplifies excellence as a young scientist at Harbor Branch,” said Dr. Amy Wright, professor and director of the Center for Marine Biomedical and Biotechnology Research at Harbor Branch, where Guzmán works. “Receiving this highly competitive award is further evidence of the value of her cutting-edge research and her many skills and talents.”

The Center for Marine Biomedical and Biotechnology Research at Harbor Branch has developed a unique screening library of secondary metabolites isolated from deep water marine invertebrates that hold promise in preventing both the formation of new pancreatic tumors and the metastasis of existing tumors which are facilitated by chronic inflammation. Guzmán will utilize this library to identify novel inhibitors of inflammation expected to be found among secondary metabolites from marine organisms. Three important signaling molecules in inflammation have been validated as chemo-preventative drug targets in pancreatic cancer: the nuclear factor κ B (NF κ B), interleukin 8 (IL-8/CXCL8) and the signal transducer and activator of transcription 3 (STAT3). These researchers will focus on these molecules,

which are important inflammatory regulators and have been implicated with the aggressiveness of pancreatic cancer. Once they have confirmed the activity in pancreatic cancer cells, the most active samples will be further validated by determining if they help stop the proliferation of pancreatic cancer cells or promote their death. The data obtained from this project will be used to secure funding to perform the steps necessary to bring compounds discovered through this research closer to the patient.

According to an article titled “Inflammation and the Development of Pancreatic Cancer” which was published in the *Journal of Surgical Oncology* (Farrow, B. and B.M. Evers – 2002), chronic pancreatitis is a progressive, destructive inflammatory process that ends in total destruction of the pancreas. Patients who suffer from hereditary pancreatitis have a 53 times higher risk of developing pancreatic cancer than unaffected individuals; patients with sporadic chronic pancreatitis have a 17 times higher risk.

“While the exact reason why pancreatitis patients have an increased risk of developing pancreatic cancer is not understood, inflammation is thought to create a microenvironment that facilitates the initiation and/or growth of pancreatic cancer cells,” said Guzmán.

Every seventeen minutes someone is diagnosed with pancreatic cancer. According to the American Cancer Society, the risk of developing pancreatic cancer increases with age. Almost 90% of patients are older than 55 and the average age at the time the cancer is found is 72.

“Current treatments for pancreatic cancer remain only moderately effective, as attested by the low survival rate,” said Guzmán. “Furthermore, this type of cancer is highly resistant to all current chemotherapies, and novel drugs and new therapies are urgently needed to treat this disease.”

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*Harbor Branch Oceanographic Institute at Florida Atlantic University is a research institute dedicated to exploration, innovation, conservation, and education related to the oceans. Harbor Branch was founded in 1971 as a private non-profit organization. In December 2007, Harbor Branch joined Florida Atlantic University. **The institute specializes in ocean engineering, at-sea operations, drug discovery and biotechnology from the oceans, coastal ecology and conservation, marine mammal research and conservation, aquaculture, and marine education. For more information, visit www.hboi.fau.edu.***

Florida Atlantic University opened its doors in 1964 as the fifth public university in Florida. Today, the University serves more than 26,000 undergraduate and graduate students on seven campuses strategically located along 150 miles of Florida's southeastern coastline. Building on its rich tradition as a teaching university, with a world-class faculty, FAU hosts ten colleges: College of Architecture, Urban & Public Affairs, Dorothy F. Schmidt College of Arts & Letters, the Charles E. Schmidt College of Biomedical Science, the Barry Kaye College of Business, the College of Education, the College of Engineering & Computer Science, the Harriet L. Wilkes Honors College, the Graduate College, the Christine E. Lynn College of Nursing and the Charles E. Schmidt College of Science.