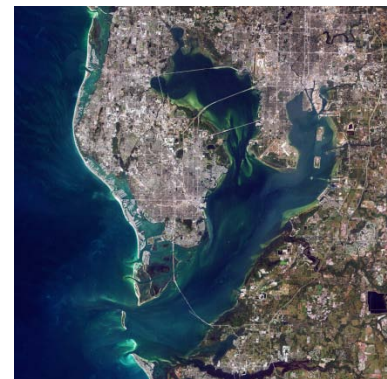


U.S. EPA image

The NSF Funds Graduate Scholarships to Achieve Sustainable Infrastructure at the Water-Energy-Global Nexus

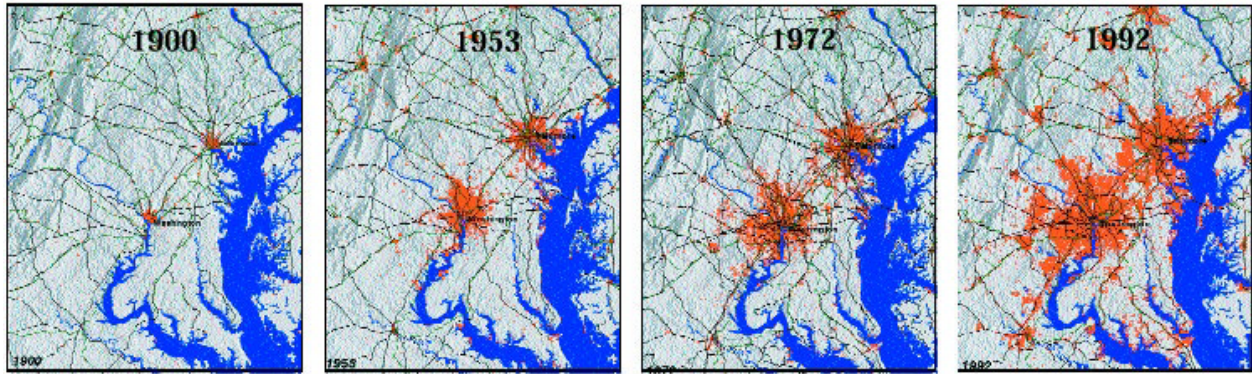
Tampa, Fla. (September 8, 2010) – The National Science Foundation has awarded USF scholarship funds for graduate students in civil and environmental engineering. The program will provide \$150,000 in scholarship funding annually over a four-year period for a total of \$600,000, providing up to 18 need-based scholarships every year to an integrated community of MS and PhD students who are educated in the water-energy-global nexus as related to sustainable water and transportation infrastructure. It will also leverage a professional relationship between the graduate program and the existing Master's International program with the Peace Corps to create a non-traditional flow of knowledge between developing and developed world techniques and solutions.

Physical infrastructures, such as a drinking water supply, wastewater treatment systems and transportation systems are critical to the welfare of humans and a nation's economy. The system interconnection of water and energy in a global context is referred to as the water-energy-global nexus. The 2009 Report Card for America's Infrastructure released by the American Society of Civil Engineers (ASCE) provides grades of C- to D- for our water and transportation infrastructure. The estimated 5-year investment need is \$2.2 trillion. The Tampa-Clearwater-St. Petersburg Metro area, where USF is located, has undergone some of the most rapid development in the US in the last three decades and provides an innovative environment to immerse students in complex water-transportation infrastructure problems.



NASA Image

"I am especially excited for NSF to recognize our unique education and research expertise in engineering solutions to the world's many water and energy challenges," says Jim Mihelcic, PI and civil and environmental engineering professor. Other faculty involved in the project are Professors Sarina Ergas, Qiong Zhang, Yu Zhang (Civil & Environmental Engineering), Amy Stuart (Environmental & Occupational Health and Civil & Environmental Engineering), and Allan Feldman (Science Education).



Growth of built environment in Baltimore-Washington D.C. since 1900

A key component of the S-STEM program at USF is the development of students as mentors. Graduate students in the program will have the opportunity to mentor novice researchers in their group, and will be given training and support in their role as mentors.

“The S-STEM program is allowing my students to extend the research they are doing on low impact development technologies in Southwest Florida to look at applications of green infrastructure in the developing world,” says Sarina Ergas, associate professor in civil and environmental engineering.

According to Mihelcic, 15 graduate students who will receive the scholarship have been identified so far this academic year, with more potentially added in the spring.

The program will recruit and retain a diverse cohort of graduate students (with and without first degrees in engineering) into advanced engineering programs in areas of declining enrollment and national importance. The engineering profession has the potential to benefit in terms of addressing current pipeline issues and lack of diversity challenges as supported by preliminary data which suggests that integrating sustainability into the curriculum facilitates the recruitment and retention of a diverse population. These new engineering professionals will introduce perspectives that may be crucial and are not well represented in current approaches, strategies, designs, and actions.

The program will prepare students to be globally competitive by promoting knowledge transfer between students and faculty that have different global perspectives while integrating the best and most appropriate knowledge, methodologies, techniques, and practices from both the developed and developing worlds.

The University of South Florida is one of the nation's top 63 public research universities and one of only 25 public research universities nationwide with very high research activity that is designated as community engaged by the Carnegie Foundation for the Advancement of Teaching. USF was awarded \$380.4 million in research contracts and grants in FY 2008/2009. The university offers 232 degree programs at the undergraduate, graduate, specialist and doctoral levels, including the doctor of medicine. The USF System has a \$1.8 billion annual budget, an annual economic impact of \$3.2 billion, and serves more than 47,000 students on institutions/campuses in Tampa, St. Petersburg, Sarasota-Manatee and Lakeland. USF is a member of the Big East Athletic Conference.

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