



Craig Lusk

Lusk Receives NSF CAREER Award

The mechanical engineering professor receives support to further his research on shape-shifting surfaces.

Tampa, Fla. (February 23, 2011) – Craig Lusk, assistant professor of mechanical engineering received a five-year award totaling \$400,000 CAREER award from the National Science Foundation to further his research in design for integrity in Shape-shifting Surfaces (SSSs).

Shape-shifting Surfaces are surfaces that retain their effectiveness as a physical barrier while undergoing changes in shape. These shape changes could be motions like expanding, shrinking, twisting, encircling, wiggling, swallowing or constricting that make the surface more effective at performing its function. The SSSs are a novel concept, and are composed of tiled arrays of polygonal cells, each cell consisting of specifically-designed compliant flexures attached to specifically-shaped overlapping thin plates or shells.

Applications for such surfaces are anticipated at the micro-scale in cellular engineering and at the macro-scale for biomedical applications, recreational uses, national security, and environmental protection.

The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations. Such activities should build a firm foundation for a lifetime of leadership in integrating education and research.

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 \$394.1 million in research contracts and grants in FY 2009/2010. 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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