Computer Science & Engineering Professor Iamnitchi
Receives NSF CAREER Award

TAMPA, Fla. (February 4, 2010) – Dr. Adriana (Anda) Iamnitchi, assistant professor of Computer Science and Engineering in the College of Engineering, received a five-year award totaling $485,000 from the National Science Foundation, CAREER: Socially-Aware Distributed Systems.

The socially-emergent movement commonly referred to as Web 2.0 exposes an unprecedented amount of social information. Particularly, two classes of Internet applications reveal voluminous social information: popular online social networks (e.g., Facebook or LinkedIn); and the widely-adopted collaborative tools (e.g., CiteULike or Delicious) that provide rich information fabric through tags, annotations, and text organization.

“The main question we’re asking is: Can we use information about the social ties between users to better manage their computers in a large-scale distributed computing system? I think we can, and this approach will allow us to build better self-configuring infrastructures and to create truly social computing applications that go beyond online socializing,” said Iamnitchi. "Examples include recruiting computing power for a local cause, such as hurricane path prediction or image processing-based search and rescue efforts; share storage resources with trusted friends and share data with like-minded people; personalize an evacuation route such that family and close friends are likely to meet on the way out."

This project investigates the potential of including social knowledge in the design of community-enabled peer-to-peer distributed infrastructures. It will design, prototype, and evaluate a community-oriented peer-to-peer infrastructure that exploits social knowledge for services such as data and computing management, while protecting social data privacy seen as contextual integrity. Using social knowledge in the design of services will likely improve performance, based on the assumptions that social incentives reduce churn; socially-inferred trust may reduce security breaches and expand the set of available resources; and shared interest improves data placement decisions or co-location of data and computations. This will create the potential to enable new classes of applications and infrastructures.

Part of this project is also a teaching collaboration with Professor John Skvoretz from the Department of Sociology. This collaboration will introduce elements of programming and computation to non CS-major undergraduate students through problems in sociology and social network analysis and will facilitate collaboration between graduate students in Computer Science and Engineering and Social Sciences on problems related to the very popular online social networks.

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 39 community-engaged, four-year public universities as designated by the Carnegie Foundation for the Advancement of Teaching. USF was awarded more than $360 million in research contracts and grants in FY 2007/2008. The university offers 224 degree programs at the undergraduate, graduate, specialist and doctoral levels, including the doctor of medicine. The university has a $1.8 billion annual budget, an annual economic impact of $3.2 billion, and serves more than 46,000 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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