Awards

Search Awards
Recent Awards
Presidential and Honorary Awards
About Awards

How to Manage Your Award

Grant Policy Manual
Grant General Conditions
Cooperative Agreement Conditions
Special Conditions
Federal Demonstration Partnership
Policy Office Website

Award Abstract #1138949

A Meso-Scale GENI WiMAX Project

NSF Org:	CNS Division of Computer and Network Systems
Initial Amendment Date:	August 29, 2011
Latest Amendment Date:	August 29, 2011
Award Number:	1138949
Award Instrument:	Standard Grant
Program Manager:	Joseph Lyles CNS Division of Computer and Network Systems CSE Directorate for Computer & Information Science & Engineering
Start Date:	September 1, 2011
Expires:	August 31, 2012 (Estimated)
Awarded Amount to Date:	$100000
Investigator(s):	Kapil Dandekar dandekar@ece.drexel.edu (Principal Investigator) Moshe Kam (Co-Principal Investigator)
Sponsor:	Drexel University 3201 Arch Street Philadelphia, PA 19104 215/895-5849
NSF Program(s):	SPECIAL PROJECTS - CISE
Field Application(s):	
Program Reference Code(s):	7916, 023F
Program Element Code(s):	1714

ABSTRACT

This EAGER project will deploy an experimental wireless testbed in the downtown area of Philadelphia. The proposed testbed will be based on WiMAX technologies and will be jointly administered by Temple and Drexel University faculty with a wide range of expertise, including wireless networks, sensor applications and wireless security. The proposed platform is unique and has the following characteristics: (a) Open Access. The testbed will be integrated into GENI, which has a national footprint and is available at many campuses across the country. (b) Urban location. The projected coverage area includes a metropolitan downtown area with many tall buildings and competing wireless services. (c) Potential for expansion. At this initial stage, two base stations are planned, one on each campus. But both Temple and Drexel have other buildings across the city where more base stations can be located in the future. (d) Alignment with Digital Philadelphia. This project is a good match with the current vision for Philadelphia, which seeks to provide gigabit connectivity throughout the City.

throughout the City.

Specifically, the PIs will 1) complete the installation and testing of the testbed and the corresponding hardware (smartphones, laptops, sensors and vehicular devices), 2) integrate the testbed with GENI, and 3) carry out experiments that make extensive use of the testbed. The current portfolio of experiments include air quality sensor networks for urban environmental monitoring, WiMAX-based data network for law enforcement, mobile content delivery networks, sensor-based telemedicine, and location-based services for tourists.

In terms of broader impacts, the proposed testbed will serve the research community, allowing a realistic platform on which to conduct experiments not possible elsewhere. In addition, the testbed will be integrated into classes at Drexel and Temple, facilitating the education and training of undergraduate and graduate students in next generation wireless networking, large-systems research. The testbed will also be used in outreach to local middle and high school students.

Please report errors in award information by writing to: awardsearch@nsf.gov.