**NATIONAL SCIENCE FOUNDATION**
**4201 WILSON BOULEVARD**
**ARLINGTON, VIRGINIA 22230**

NSF 15-015

# Dear Colleague Letter: CPS EAGERs Supporting Participation in the Global City Teams Challenge

Dear Colleague:

The National Institute of Standards and Technology (NIST) launched the Global City Teams Challenge (GCTC; see http://www.nist.gov/cps) with a kickoff meeting on September 29-30, 2014, in Gaithersburg, MD. This meeting brought together city planners and representatives from technology companies, academic institutions and non-profits with the aim of fostering teams that will contribute to a vision for "smart cities" that takes advantage of networked technologies to better manage resources and improve quality of life.

NIST's GCTC builds upon the National Science Foundation's (NSF) longstanding investments in cyber-physical systems (CPS). NSF established the CPS program in 2008 to develop the principles, methodologies, and tools needed to deeply embed computational intelligence, communications, and control, along with new mechanisms for sensing, actuation, and adaption, into physical systems. The NSF CPS program, which today includes the participation of the US Department of Homeland Security and US Department of Transportation, has funded a strong portfolio of projects that together have advanced fundamental knowledge and systems engineering of the kinds of systems that comprise the emerging smart city infrastructure and associated services. Furthermore, these advances have often been in the context of areas such as the smart grid and renewable energy sources, intelligent transportation systems including autonomous cars and traffic optimization, medical devices and networked medical systems, intelligent building control, and air transportation including air traffic management and Unmanned Air Vehicles that can be immediately applied to smart city efforts. Along the way, the CPS program has also nurtured a vibrant CPS research community.

With this Dear Colleague letter (DCL), the NSF is announcing its intention to accept EArly-Concept Grants for Exploratory Research (EAGER) proposals to support NSF researchers in participating in the NIST GCTC teams, with the goal of pursuing novel research on effective integration of networked computer systems and physical devices that will have significant impact in meeting the challenges of the smart city. Priority will be given to researchers who have previously received funding from CPS, or who have related projects from other NSF programs (e.g., Computer Systems Research (CSR), Energy, Power, Control and Networks (EPCN), Secure and Trustworthy Cyberspace (SaTC), including CAREER awardees), and who are members of, or are seeking to, establish GCTC teams building upon the results of NSF-funded projects.

The deadline for submission of EAGERs is January 15, 2015, but earlier submissions are encouraged, and decisions will be made on a first-come, first-serve basis.

Submission of EAGER proposals will be via Fastlane or Grants.gov. EAGER submissions should follow the NSF's Grant Proposal Guide (GPG) II.D.2 (see http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg). (As noted in the GPG, EAGER is a funding mechanism for supporting exploratory work in

its early stages on untested, but potentially transformative, research ideas or approaches. This work may be considered especially "high risk high payoff," for example, in the sense that it involves radically different approaches, applies new expertise, or engages novel disciplinary or interdisciplinary perspectives.)

An investigator may be included in only one submission in response to this DCL; if more than one is submitted, only the first one will be considered.

For further information, please contact the cognizant CPS program directors:

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Sincerely,

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