



**National Science Foundation**  
4201 Wilson Boulevard  
Arlington, Virginia 22230

**NSF 14-056**

**Dear Colleague Letter - New Science and Engineering Indicators for K-12 Stem Education**

April 1, 2014

National Science Foundation  
Directorate for Education and Human Resources

This Dear Colleague Letter is to announce that the National Science Foundation's Directorate for Education and Human Resources is interested in research and development activities around K-12 Indicators that address issues of monitoring "schooling" rather than "schools." In 2013 the National Research Council released the report *Monitoring Progress Toward Successful K-12 Education: A Nation Advancing?* calling for a national indicator system that could be used by both policymakers and practitioners to improve STEM education. The report lists 14 Indicators that, if measured regularly, could catalyze such improvement. The indicators can be found at: [http://www.nap.edu/catalog.php?record\\_id=13509](http://www.nap.edu/catalog.php?record_id=13509). While there are measures of some of these 14 indicators, others are far more complex and difficult and there are not valid and reliable measures for them.

The purpose of this DCL is to invite EAGER proposals to conduct exploratory work in its early stages on untested but potentially transformative research ideas of approaches necessary to move forward to design and develop measures of one or more of these indicators for use in monitoring and improving the STEM education system. Proposers should consult the *NSF Proposal and Award Policies and Procedures Guide* for guidance on how to submit an EAGER proposal [http://www.nsf.gov/pubs/policydocs/pappguide/nsf14001/gpg\\_2.jsp#IID2](http://www.nsf.gov/pubs/policydocs/pappguide/nsf14001/gpg_2.jsp#IID2).

Since measures and the associated data for many of these indicators are not yet available, it is anticipated that many of the submitted EAGER projects may consist of:

1. Research that would lead to the development of consensus among STEM educators about the nature and operational definitions of some of these indicators;
2. A review and synthesis of the current state of the evidence base as they might map the development of measures of these indicators; and/or
3. Recommendations for how to best move forward to create measures of the indicator of interest.

Before submitting an EAGER project, proposers should contact one of the program officers listed below. EAGER proposals should be submitted by May 15, 2014 by 5:00 p.m. proposer's local time.

Questions should be directed to one of the following program officers:

Janice Earle ([jearle@nsf.gov](mailto:jearle@nsf.gov)), Division of Research on Learning (currently on detail to the Division of Undergraduate Education)

Edith Gummer ([egummer@nsf.gov](mailto:egummer@nsf.gov)), Division of Research on Learning

Karen King ([kking@nsf.gov](mailto:kking@nsf.gov)), Division of Research on Learning

Joan Ferrini-Mundy  
Director, Education and Human Resources