

Math and Science Partnership (MSP) Program

Solicitation NSF 09-507

Under Revision: expected release in January



Overview of the Math and Science Partnership (MSP) Program

NSF 09-507

- Partnerships:
 - *Targeted: five years, up to \$12.5 M***
 - *Institute up to \$5 M*
 - *MSP-Start up to 300,000*
 - *Phase II*
- *Research, Evaluation and Technical Assistance (RETA) up to \$1.8 M*

Math and Science Partnership

- Supports innovative partnerships between higher education institutions and K-12 schools/districts
- Seeks to improve mathematics and science achievement for all students
- Is a research and development effort
- Contributes to the knowledge of mathematics and science teaching and learning

Goals of NSF MSP

- Ensure that all students have access to, are prepared for, and are encouraged to participate and succeed in challenging and advanced mathematics and science courses
- Enhance the quality, quantity and diversity of the K-12 mathematics and science teacher workforce
- Develop evidence-based outcomes that contribute to our understanding of how students effectively learn mathematics and science

MSP – Key Features

1. Partnership-driven, with significant engagement of mathematics, science and engineering faculty
2. Teacher quality, quantity and diversity
3. Challenging courses and curricula
4. Evidence-based design and outcomes
5. Institutional change and sustainability

Partnership Driven

- Evidence of a strong partnership between higher education and K-12
- Significant involvement of math or science faculty
- Evidence of a true partnership
- Strong evidence of support from the institutions of higher education and K-12, including evidence of mutual respect (often found in letters, but also in management team, subawards, description of how the project came about etc.)

Teacher Quality, Quantity and Diversity

- Involve teachers in multi-year, content and pedagogical content learning experiences
- Often develop teacher leaders (although not required)
- Discuss ways of assessing teacher knowledge
- Show how they will work to build a more diverse workforce

Challenging Courses and Curriculum

- Focus on a grade range, a critical juncture, or a specific discipline where analysis indicates effort would result in great improvement
- Focus on improving student achievement with clear goals and benchmarks for all students

Evidence-Based Design and Outcomes

- Build on STEM education literature and contribute to that literature
- Have clear research questions
- Have appropriate methodological design to answer the questions
- Include a comprehensive evaluation plan, conducted by an independent external evaluator

Institutional Change and Sustainability

Core partners

- Share responsibility and accountability for the MSP project
- Are required to provide evidence of commitment to institutional change necessary for partnership sustainability

Supporting partners

- Important contributors
- Not required to commit to institutional change

Partnership Requirements

- Lead Partner must be an institution of higher education or eligible non-profit organization, or consortia of such institutions or organizations
- The PI must be a mathematician, scientist or engineer and a regular faculty member in a mathematics, science or engineering department in a higher education core partner
- One or more co-PIs must be representative(s) from K-12 core partner organization(s)
 - Other partners may be involved
 - All are encouraged to include Community Colleges and minority serving institutions

What Makes a Proposal Competitive?

- Original ideas that go beyond the commonplace
- Potential power of the proposed model for bringing about change
- Realistic amount of work
- Sufficient detail
- Cost effective but high impact
- Strength of the Partnership team
- Rationale and evidence of potential effectiveness
- Likelihood of sustainability
- Solid evaluation plan

Intent

- Teacher and Faculty development as well as curriculum reform are the mediators of change
 - Direct support for students is allowed, but within that context
- Technology is encouraged, but must fit within the content and scope of the project

Additional Review Criteria

1. How well does the proposal address the MSP Key Features?
2. Is the proposed work strategic and innovative, and informed by the current research literature on teaching and learning?
3. Is the evaluation plan comprehensive, including formative and summative components, conducted by objective experts external to the project?

Additional Review Criteria

4. Does the proposal present the research questions to be studied and show how the design of the project will allow claims that the activities conducted by the Partnership contribute to the measured outcomes?

Information sources

- MSPnet.org
- nsf.gov/ehr/msp/
- nsf.gov/funding/pgm_summ.jsp?pims_id=5756&org=DUE&from=home
- horizon-research.com/
 - Knowledge Management and Dissemination