



# Illinois State Board of Education

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**Jesse H. Ruiz**  
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**Christopher A. Koch, Ed.D.**  
State Superintendent of Education

April 2009

**TO:** Eligible Applicants

**FROM:** Christopher A. Koch, Ed.D.  
State Superintendent of Education

Handwritten signature of Christopher A. Koch in black ink.

**SUBJECT: REQUEST FOR PROPOSALS (RFP):** Illinois Mathematics and Science Partnerships:  
Summer Workshops/Institute

**Eligible Applicants:** Partnerships comprised of an engineering, mathematics or science department of a public or private institution of higher education (IHE) and a high-need Illinois local education agency (LEA) (i.e., public school district or private school) are eligible to apply. Partnerships may also include teacher-preparation departments as well as other engineering, mathematics or science departments, additional LEAs (including Regional Offices of Education (ROEs) and Intermediate Service Centers (ISCs)), businesses, and nonprofit or for-profit organizations as applicable.

For purposes of this RFP, an eligible high-need LEA must meet all three of the following criteria in order to participate in a partnership.

- Annual or trend data from the Illinois Standards Achievement Test (ISAT), Prairie State Achievement Examination (PSAE), norm-referenced tests, and/or criterion-referenced tests that show achievement in mathematics and/or science is falling below 50 percent of students meeting or exceeding the Illinois Learning Standards, as disaggregated by factors such as socio-economic, gender, ethnicity, etc.
- Fifteen percent of the children served by the LEA are from low-income families or 6,500 children served by the LEA are from low-income families.
- The LEA has teacher quality issues, such that not all teachers of mathematics and science hold full or appropriate endorsement, or they are placed in teaching assignments that are beyond their expertise and experience levels.

**Grant Award:** Funding for the summer workshops/institute will not exceed \$250,000 per grant period.

**Grant Period:** The grant period will begin no sooner than June 1, 2009, and will extend from the execution date of the grant until September 30, 2009. Funding will be available for two additional fiscal years, contingent upon a sufficient appropriation for the program and satisfactory progress in the preceding grant period.

**Letter of Intent:** Eligible applicants are encouraged to submit a non-binding letter of intent to participate electronically to [gdowney@isbe.net](mailto:gdowney@isbe.net). This letter includes the proposed program to be implemented and the primary partnership contact along with a description of proposed partnership. A

template for the letter of intent is provided as Attachment 11. Modifications to the proposed partnership participants or individual partners may be made after submission of this letter. Letters of intent should be submitted by May 14, 2009.

**Application Deadline:** Mail the original and five copies to the *Illinois State Board of Education, 100 North First Street, C-215, Springfield, Illinois 62777-0001, Attn: Gil Downey, Illinois Math Science Partnership*, to ensure receipt no later than May 29, 2009. No electronic or facsimile copies will be accepted. Incomplete or late proposals will not be eligible for consideration.

Proposals also may be hand-delivered to the following locations:

Springfield Office  
Information Center  
1st Floor  
100 North First Street

Chicago Office  
Reception Area  
Suite 14-300  
100 West Randolph Street

**Online Bidders' Forum:** There will be an online forum about the RFP. This forum can be found at <http://www.isbe.net/curriculum/html/math.htm>. All questions and answers will remain on the website until May 29, 2009. Applicants should carefully review these responses before submitting their proposals.

Should the conditions of this RFP change, the State Board of Education will post the changes at <http://www.isbe.net/curriculum/Default.htm>.

**Contact Person:** For more information on this RFP, contact Gil Downey by email at [gdowney@isbe.net](mailto:gdowney@isbe.net).

## **Background and Program Specifications**

Title II, Part B, Sections 2201-2203, of the No Child Left Behind Act of 2001 (NCLB) authorizes the Mathematics and Science Partnerships (MSP) program as a means to improve teacher quality in these curricular areas. The intent of the program is to increase the academic achievement of students in mathematics and science by enhancing the content knowledge and teaching skills of classroom teachers. The U.S. Department of Education (USDE) provides relevant information about this program at <http://www.ed.gov/programs/mathsci/index.html>.

The three goals for the Illinois Math Science Partnership are:

1. Improve teacher's subject matter knowledge, strengthen the quality of mathematics and science instruction and promote student academic achievement in math and science; and
2. Promote strong teaching skills through access to the expertise of mathematicians, scientists and engineers and their technologies and resources, including integrating reliable scientifically-based research teaching methods and technologically-based teaching methods into curriculum; and
3. Increase the understanding and application of scientifically-based educational research appropriate to mathematics and science teaching and learning.

Partnerships between high-need school districts and the education, science, technology, engineering, and mathematics (STEM) faculty in institutions of higher education can be at the core of these improvement efforts. Such partnerships assume responsibility for designing, implementing, and evaluating

professional learning programs that effect deep, lasting improvement in mathematics and science education by establishing and operating intensive mathematics and science institutes for teachers with follow-up training and support.

These activities must result in a demonstrable and measurable improvement in student academic achievement in mathematics and science.

This legislation directs partnerships to improve and upgrade the status and stature of mathematics and science teaching by encouraging institutions of higher education to assume greater responsibility for improving mathematics and science teacher education through the establishment of a comprehensive, integrated system of recruiting and training. The MSP program will bring mathematics and science teachers in high-need elementary and secondary schools together with scientists, mathematicians, and engineers. Through the use of sophisticated laboratory equipment and work space, computing facilities, libraries, and other resources that institutions of higher education, business and industry are better able to provide than the elementary and secondary schools, teachers will be able to increase their subject matter knowledge of mathematics and science and improve their teaching skills.

In order to increase and support a talent pool in kindergarten through grade 12 (K-12) of high-quality teachers of mathematics and science, the Illinois State Board of Education (ISBE) will use federal Mathematics and Science Partnership funds to establish focused partnerships between institutions of higher education and high-need local education agencies. The Illinois Mathematics and Science Partnership (IMSP) program will authorize specialized, research-based, standards-led summer workshop or institute programs. The innovative design of these programs must be based upon the findings of a needs assessment conducted with the teachers and administration of the high-need LEA.

### **Summer Workshop or Institute**

The term summer workshop or institute means a workshop or institute conducted during the summer that:

- is conducted for a period of not less than two weeks, consisting of a **minimum** of 80 hours;
- includes, as a component, a program that provides direct interaction between students and faculty; and
- provides for follow-up training during the academic year that is conducted in the classroom for a period of not less than four consecutive or nonconsecutive days, except that if the follow-up training is for teachers in rural school districts, the follow-up training may be conducted through distance learning.

**Year 1 Activities** include the required summer workshop or institute, follow-up days completed prior to September 30, 2009, and relevant evaluation activities.

**Year 2 Activities** include completing the required follow-up days for Summer Workshop I, conducting Summer Workshop II and relevant evaluation activities.

**Year 3 Activities** include completing the required follow-up days for Summer Workshop II and relevant evaluation activities. **No summer workshop will be completed in year 3.**

### **Partnership Composition**

Each proposal should be collaboratively developed by a team composed of administration, faculty, and staff from each of the IHE mathematics, science, and/or engineering divisions, Regional Offices of Education (ROEs) and Intermediate Service Centers (ISCs), and the high-need LEA. Priority consideration in the proposal review process will be given to innovative proposals that utilize broad-

based, interdisciplinary collaboration to develop and implement the proposed project. The IHE, LEA or ROE may serve as the fiscal agent. The partnership will also appoint a Primary Investigator (PI) that will serve as the primary contact person for the project.

In the course of developing the proposal, the team will:

- conduct a comprehensive assessment and analysis of the needs of the participating teachers in participating LEAs;
- propose an innovative, high-quality, effective professional development program that will meet the needs identified and produce highly effective teachers;
- develop a plan to evaluate the acquisition of content knowledge and levels of integration of new instructional strategies by the teachers in the cohort as demonstrated by at least three data sources, as well as the impact on student achievement as demonstrated by results of Illinois Standards Achievement Test (ISAT) and/or the Prairie State Achievement Examination (PSAE) as well as other local assessment instruments.

### **Postsecondary Participants**

The partnership should encourage networking and expansion of its membership among and between the applicant IHE's divisions of mathematics, sciences, engineering, and education to ensure educational leadership and educational evaluation expertise.

### **LEA Participants**

The LEA participants could include teachers and their administrators. Each of these members must commit to building and sustaining the program for the full term of the grant. The applicant LEA(s) should participate as a full partner(s) as the proposal is developed and assist in development of and conducting the initial needs assessments for teachers, as required by the MSP legislation.

The applicant LEA should encourage its administrators to recruit elementary and high school math and science teachers and/or require the participation of teachers with leadership potential, less than ten years of experience, and fewer than five graduate courses in mathematics or science content or educational methods.

### **Other Partners**

Partners also may include ROEs and ISCs. These entities may provide connections to an established network of teachers (for component pilot testing, possible comparison group participation, etc.) and administrators; local grants management expertise; and experience in curricular, instructional, and assessment resource implementation. Partnerships may include scientists, mathematicians, engineers, and other professionals from businesses, industries, or nonprofit or for-profit organizations with demonstrated effectiveness in improving the quality of mathematics and science teachers. These partners may be able to provide content mentoring by professionals from their organizational settings.

## **Project Requirements and Options**

Proposed programs should align directly with the Illinois Learning Standards (ILS) for K-12 science and/or mathematics content as well as addressing alignment to the Illinois Professional Teaching Standards (IPTS).

(See <http://www.isbe.net/ils/Default.htm> and <http://www.isbe.net/rules/archive/pdfs/24ark.pdf>, respectively.)

The processes, principles and concepts of mathematical inquiry and problem-solving, scientific inquiry, and engineering design must be essential elements of the proposed project. The learning settings must enable teachers to focus on understanding and applying scientifically-based educational research on the teaching and learning of mathematics and science.

### **Comprehensive Needs Assessment**

The MSP legislation requires a comprehensive needs assessment be conducted to determine teacher quality and the professional development needs of the participating LEAs. As part of the development of its proposal the applicant must identify baseline data that will be required for evaluation of the progress of the IMSP and will contribute to informed decision-making for mathematics and science education issues as the project is implemented. The collection of data used for the needs assessment should continue to be gathered periodically throughout the grant cycle to track progress. Grantees must incorporate all costs associated with assessing needs into the budget for each fiscal year.

### **Use of Technology**

The proposed project should incorporate state-of-the-art technologies used by scientists, mathematicians, and engineers as well as advanced educational technologies. The federal legislation specifically emphasizes incorporating the use of technologies in the classroom. The use of the technologies of scientists, mathematicians, and engineers are of primary importance; the use of educational or instructional technologies can be of importance pedagogically. The strategy of incorporating distance-learning options to maximize cost-effectiveness and expand the professional development opportunities for teachers is also emphasized in the legislation. The distance-learning options may include using curricula that are innovative, content-based, and based on current scientifically-based research.

### **Use of Data and Assessments, and Action Research**

Federal legislation specifically permits the program to include instruction in the use of data and assessments to inform classroom practice and curriculum alignment. In order to accomplish the third IMSP goal and provide a common methodology for the demonstration of mastery of IMSP goals, ISBE has required use of action research for all IMSP teacher participants. Each partnership must incorporate requirements for action research by its participants so that teachers can design, implement and complete action research projects to determine the effectiveness of their IMSP learning in their own classrooms. Proposed projects must include instruction and guidance in the components associated with action research.

### **Leadership Skills and Talents**

The federal legislation emphasizes preparing project participants to provide professional development through mentoring or coaching to other mathematics or science teachers if participants can effectively integrate their experiences from MSP activities and their own classrooms. The development of applicable leadership skills and talents should be included throughout the proposed educational experiences for teachers. The ability of the teachers to take math and/or science content, pedagogy and the practice and results of action research projects back to their schools will positively affect their professional community.

## Grant Activities

An eligible partnership must use funds for one or more of the activities described in Section 2202(c) of the MSP legislation (see <http://www.ed.gov/policy/elsec/leg/esea02/pg26.html>).

## Evaluation

Each grantee must conduct an evaluation of the program implemented. The evaluation proposed must center on the IMSP project outcomes, which are framed around the Council of Chief State School Officers' matrix of professional development outcomes (see [http://www.ccsso.org/projects/improving\\_evaluation\\_of\\_professional\\_development/Cross\\_State\\_Study/](http://www.ccsso.org/projects/improving_evaluation_of_professional_development/Cross_State_Study/)).

There are five categories of outcomes:

- Quality of professional development activities;
- Change in teacher content knowledge;
- Change in instructional practice (including strategies, resources, and content knowledge);
- Change in student achievement; and
- Organizational support and change.

Each applicant must designate an individual who has expertise in evaluation processes who will be responsible for designing, collecting, compiling, and analyzing the formative and summative elements of the evaluation (see Appendix A an overview of the evaluation plan). The applicant must determine the responsibilities of the evaluator to serve in this capacity, who may be internal or external to the proposed partnership. The evaluator must be qualified in statistical analysis and quantitative research.

Each partnership must also participate in a statewide evaluation of the IMSP program, providing required data to the ISBE external evaluator as requested. A thorough explanation of the evaluation framework for the statewide evaluation can be found at <http://www.evalsolutions.net/Portal/Default.aspx?alias=www.evalsolutions.net/portal/imsp>; click on *current evaluation goals and framework*.

## Fiscal Information

Approximately \$2 million will be available for FY 2009 (June 1, 2009, through September 30, 2009) to design and implement Illinois Mathematics and Science Partnership (IMSP) summer workshop/institute model programs.

Funding may be used for personnel expenses associated with project activities. Allowable expenditures include the following:

- Stipends for teacher-participants.
- Textbook, supplies, and materials for teacher-participants.
- General administration activities for project administrative responsibilities. When the same individual has multiple responsibilities or roles, the services of that individual should be prorated among the proper areas. This line is capped at 5 percent of the total award.
- Research, Development, and Evaluation Services.
  - Reasonable and customary development and implementation costs for salary increments, benefits, and/or stipends for appropriate dedicated coordination time by partnership team members.

- Intra- and inter-partnership meeting expenses, including travel reimbursement; necessary materials and supplies; and team registration at each collaborative meeting.
- Expenses to cover a representative team (one or two members) to attend one out-of-state coordination meeting organized annually by the USDE.
- Transfers to other governmental agencies.
  - LEA team costs, including stipends, substitute reimbursements, benefits.

No indirect costs are allowed; direct costs may be approved to cover actual fiscal administration, space rental costs, communications, and copying.

Funds received must be used to supplement, not supplant, funds that would otherwise be used for proposed activities.

For purposes of compliance with Section 511 of P.L. 101-166 (the “Stevens Amendment”), applicants are advised that 100 percent of the funds for this program are derived from federal sources. The total amount of federal funding involved for FY 2009 is approximately \$2 million.

## **Proposal Format**

- \_\_\_ **1. Cover Page** (Attachment 1): To be completed by fiscal agent and signed by the official authorized to submit the proposal as fiscal/administrative agent. Each partnership must designate a member of the partnership to serve as the fiscal/administrative agent for the grant. The signature of the authorized official of each entity participating in a partnership attests to its agreement that the entity designated as the fiscal/administrative agent will act on behalf of individual partners in the conduct of the grant. It further assures that each partner will meet the terms and conditions of the grant, as outlined in the approved proposal.
- \_\_\_ **2. Partnership Commitments** (Attachments 2A and 2B): Complete the attached forms to indicate the commitment of the Primary Fiscal Agent, IHE and/or LEA to designing, implementing, and sustaining a summer workshop/institute program as a mathematics and science partnership.

- \_\_\_ **3. Proposal Abstract Worksheet** (Attachment 3): Provide required information.

On a separate page, also provide a one-page summary briefly describing the project vision, goals, activities and key features that will be addressed, and the expected benefits of the work.

- \_\_\_ **4. Partnership Narrative** (maximum 20 pages): The partnership narrative must contain the following elements.
  - a. **Needs Assessment:** Describe the process used to determine the LEA’s need for a grant and provide the results of that needs assessment. Indicate how the goals and activities of the partnership’s proposed programs are directly related to the needs identified. Priority will be given to those proposals that clearly show collaboration in this process among LEA(s), institution(s) of higher education, and any other committed partner.
  - b. **Research Base:** Discuss and cite the current state of knowledge relevant to the partnership program. This brief literature review should clearly indicate why the proposed activities were selected or designed. If the proposal builds on prior work, the narrative should

indicate what was learned from this work and how these lessons learned are incorporated in the partnership's proposed program.

- c. **Management Capability:** Clearly demonstrate the capability of the partnership to manage the program, organize the work, and meet deadlines. If clear evidence of management capability is not demonstrated in the first year, then the grant will not be extended for the second year. Management capability refers to the ability of the PI to properly manage the project. (e.g., operation of project as described in proposal, timely submission of thoroughly completed reports, ability to work with institutional requirements to operate IMSP project.)
- d. **Plan of Work:** Clearly describe the goals and objectives for the program as they relate to the MSP goals, the responsibility of each partner, and the plan to achieve collaboration. This description should include timeframes, resources and responsible persons. In addition, describe the number, type, duration, and intensity of professional development work, including the number of teachers to be included.
- e. **Alignment with Illinois Learning Standards (ILS):** Clearly explain the tie between the professional development work, and the ILS. The proposal must link the professional development proposed to state academic standards and data from the ISAT and/or PSAE, or other criterion-referenced tests, as applicable.

\_\_\_ **5. Evaluation Plan** (maximum 5 pages): The proposed plan must include:

- a. **Objectives:** Specify how project outcomes will be measured and the degree of improvement expected on each outcome. Assessment data from the ISAT and/or PSAE, or other local criterion-referenced test data, as applicable, is a required source for measuring student outcomes, although it is expected that multiple measures will be used.
- b. **Evaluation Design:** Describe the data to be collected and the methods to be used to analyze that data in order to determine whether program activities result in higher student achievement and improvement in teacher knowledge of content and pedagogy.
- c. **Sustainability:** Clearly outline evidence that the partnership program can be sustained beyond the life of the grant award in terms of impact on content knowledge, pedagogy and leadership of the teacher and impact on student achievement.
- d. **Project Evaluator:** Indicate whether the project evaluator is a member of the partnership or external to the project. List the qualifications of person who will serve as the project evaluator.

\_\_\_ **6. Budget Summary and Payment Schedule** (Attachment 4): Must be submitted on the form provided and signed by the district superintendent or official authorized to submit the proposal. The payment schedule should be based on the projected date of expenditures. Salaries and fringe benefits should be requested in equal intervals on the schedule. Supplies, equipment, contracted services and professional development should be requested in the month for which the expenditure is anticipated.

\_\_\_ **7 Budget Narrative** (Attachment 5): Must include descriptions of the anticipated expenditures, correlated to the line items set forth on the Budget Summary. Must include subcontract information, if applicable (see item 7 of the document titled "Certification and Assurances, and Standard Terms of the Grant," Attachment 6).

\_\_\_ **8. Certifications and Assurances:** Each applicant, *including each entity that is participating in the partnership*, is required to submit the certification forms listed below and attached to this

RFP. These must be signed by school district superintendent [in the case of the LEA partner(s)] and for nonschool district partners, the official legally authorized to submit the proposal and to bind the applicant to its contents.

- Certification and Assurances, and Standard Terms of the Grant (Attachment 6)
- Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion (Attachment 7)
- Certification Regarding Lobbying (Attachment 8)
- General Education Provisions Act (Attachment 9): Include a statement of how the Mathematics and Science Partnerships program will promote equity, including a description of the steps the applicant proposes to take to overcome barriers to equitable program participation for students, teachers, and other beneficiaries with special needs, as required under Section 427 of the General Education Provisions Act.
- Program-Specific Terms of the Grant (Attachment 10)

\_\_\_ **9. Appendices:** Include with the proposal the following appendices.

- a. **Agreements** (maximum 5 pages): Address the roles of the partners, their duties and responsibilities related to the goals and objectives of the program. Also describe the partnership's governance structure specific to decision-making, communication, and fiscal responsibilities.
- b. **Partner Résumés/Vitae:** Include brief résumés/vitae of each member of the partnership team.

## Criteria for Review and Approval of Proposals

Proposals will be selected based on rank, using the criteria listed below. Total possible points is 100. Proposals will be considered ineligible if not submitted in the format set forth above.

1. **Assessment of Need** (20 points). The proposal adequately addresses specialized, research-based, standards-led activities designed to enable elementary and secondary mathematics and/or science teachers in high-need LEAs to improve math and/or science content knowledge (primarily) and pedagogy (secondarily) which will lead to improved student achievement. The design of the program is based on the findings of an assessment of the needs of the LEA's teachers and administrators.
2. **Quality of the Proposed Partnership** (20 points). The proposed partnerships among educational institutions such as IHE's, ROEs, ISC's, high-need local education agencies and business, as applicable, bring mathematics and science teachers in high-need elementary, middle and secondary schools together with scientists, mathematicians, engineers, LEAs, and business professionals, leading to improvements in teaching and learning. Proposed partners have sufficient expertise, experience, and commitments to the partnership to meet the goals of the Illinois MSP.
3. **Quality of Proposed Program** (30 points). The proposed design of the IMSP program has a high likelihood of being successfully implemented. The goals of the IMSP are clearly developed within the activities described in the proposal. The diversity and innovation of the design elements encompass and build upon existing mathematics, science and engineering (STEM) research and expertise. The program provides high-quality, effective professional development. Relevant topics are provided in order to introduce students to emerging technologies in their classrooms.
4. **Evaluation** (20 points). The evaluation design will provide evidence of the impact of the IMSP program on the participating teachers' instructional strategies and the mathematics and science achievement (with particular emphasis upon ISAT and/or PSAE testing results, or other local criterion-referenced test data, as applicable) of students in their classroom. The proposed evaluation is aligned to and will provide required data for the state IMSP evaluation as indicated in Appendix A.
5. **Cost-Effectiveness** (10 points). The proposed budget and rationale are consistent with the proposed activities and appear to be a cost-effective investment for the implementation of the proposed program.

## Evaluation Plan Overview

The federal legislation requires an evaluation plan that measures the impact of the activities on the population served. The proposed plan must include:

- Measurable objectives to increase the number of math and science teachers who participate in content-related professional development activities; and
- Measurable objectives for improved student academic achievement on the state's math and science assessments.

The legislation also allows the inclusion of objectives and measures that address whether there has been increased participation by students in advanced courses in mathematics and science; increased percentages of elementary school teachers with academic majors or minors, or group majors or minors, in mathematics, science, or engineering; and increased percentages of secondary school classes in mathematics and science taught by teachers with academic majors in mathematics, science, or engineering.

The state evaluation plan will also include measures of the impact of the project on the teacher's ability to integrate scientifically-based instructional strategies into his or her classroom. The evaluation plan must include baseline and trend data from the schools and districts participating in the IMSP of students' mathematics and science achievement from the past two to three years (e.g., ISAT, PSAE, local criterion-referenced test data). The evaluation plan must collect and use the participating teachers' student mathematics and science achievement data for each year of the project as a measure of the program's effectiveness.

The research hypothesis for all projects in the IMSP program is that improved mathematics and science content expertise and improved pedagogical skills leads to higher teacher quality and greater student achievement. The impact at the partnership level should be expressed in terms of the improvement of teacher content expertise and connected to the stimulated or accelerated improvement of student content achievement on state and local assessment measures. The former should be derived, in part, from valid pre- and post-assessments of content knowledge of the participating teachers.

The ISBE-contracted Evaluation Coordinator will work with each grantee and/or its corresponding internal evaluator, or the evaluator hired under a subcontract, in the conduct of the evaluation and will provide technical assistance for common evaluation elements and methodologies, control group decisions, and other evaluation design elements. Additionally, the statewide Evaluation Coordinator has responsibility to conduct site visits and gather data to determine the overall effectiveness of the IMSP.

All successful applicants must provide data sets, reports, and other artifacts and materials to the Evaluation Coordinator. Site visits by the Evaluation Coordinator and ISBE staff will be scheduled. Summary reports about all Illinois projects will be compiled by the Evaluation Coordinator each fiscal year of the project.

Each of the Illinois Mathematics and Science Partnerships is required by federal legislation to submit annual performance reports through the USDE's electronic reporting website. ISBE has a formal review process that requires completed Annual Performance Reports (APRs) 60 days prior to the federal deadline. As a part of its national evaluation, the USDE will provide instructions to each Illinois partnership for the electronic submission of this report.

Training and necessary updates for completing the APR will be provided as needed.