U.S. Department of Education

Washington, D.C. 20202-5335

APPLICATION FOR GRANTS UNDER THE

WOMEN'S EDUCATIONAL EQUITY ACT PROGRAM
CFDA # 84.083A
U083A090088

Closing Date: FEB 23, 2009

U83A 090088

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424

Version 02

* 1. Type of Submission:	* 2. Type of Application:	* If Revision, select appropriate letter(s):
☐ Preapplication	☒ New	
☒ Application	☐ Continuation	* Other (Specify)
☐ Changed/Corrected Application	☐ Revision	

* 3. Date Received:	4. Applicant Identifier:
Completed by Grants.gov upon submission.	

5a. Federal Entity Identifier:	* 5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:	7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:	Chicago Public Schools, District # 299

* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
36-6005821	067464487

d. Address:

* Street1:	1326 West 14th Place
Street2:	
* City:	Chicago
County:	Cook
* State:	IL: Illinois
Province:	
* Country:	USA: UNITED STATES
* Zip / Postal Code:	60608

e. Organizational Unit:

Department Name:	Division Name:
Office of High School Programs	HS Teaching & Learning

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:	Dr.	* First Name:	John
Middle Name:	F		
* Last Name:	Loehr		
Suffix:			

Title:	Science Manager

Organizational Affiliation:

* Telephone Number:	(773) 553-6384	Fax Number:	(773) 553-6394

* Email:	jfloehr@cps.k12.il.us

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424

Version 02

9. Type of Applicant 1: Select Applicant Type:

G: Independent School District

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.083

CFDA Title:

Women's Educational Equity Act Program

*** 12. Funding Opportunity Number:**

ED-GRANTS-010209-001

* Title:

Women's Educational Equity Act Program (WEA) CFDA Number: 84.083A

13. Competition Identification Number:

84-083A2009-1

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Chicago, Cook, Illinois

*** 15. Descriptive Title of Applicant's Project:**

Science and Mathematics Engagement and Instruction project (SaMEI)

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Version 02

16. Congressional Districts Of:

* a. Applicant: 1-9,11

* b. Program/Project: 1-9,11

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

* a. Start Date: 09/01/2009

* b. End Date: 08/31/2013

18. Estimated Funding ($):

* a. Federal	
* b. Applicant	886,074.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	886,074.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)**

☐ Yes ☒ No

21. "By signing this application, I certify (1) to the statements contained in the list of certifications"* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Mr.

Middle Name:

* First Name: Albert

Last Name: Sanchez

Suffix:

Title: Director, External Resources

Telephone Number: (773) 553-1543

Email: asanchez@cps.k12.il.us

Fax Number: (773) 553-2601

Signature of Authorized Representative: [signature]

* Date Signed: 2/23/09

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Standard Form 424 (Revised 10/2005)
Prescribed by OMB Circular A-102

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424 Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

SUPPLEMENTAL INFORMATION
REQUIRED FOR
DEPARTMENT OF EDUCATION GRANTS

1. Project Director:

Prefix:	* First Name:	Middle Name:	* Last Name:	Suffix:
Dr.	John	F	Loehr	

Address:

* Street1: 1326 West 14th Place
Street2:
* City: Chicago
County: Cook
* State: IL: Illinois
* Zip Code: 60608
* Country: USA: UNITED STATES

* Phone Number (give area code)	Fax Number (give area code)
773-553-6384	773-553-6394

Email Address:
jfloehr@cps.k12.il.us

2. Applicant Experience:

Novice Applicant ☐ Yes ☒ No ☐ Not applicable to this program

3. Human Subjects Research

Are any research activities involving human subjects planned at any time during the proposed project Period?

☐ Yes ☒ No

Are ALL the research activities proposed designated to be exempt from the regulations?

☐ Yes Provide Exemption(s) #:

☐ No Provide Assurance #, if available:

Please attach an explanation Narrative:

Add Attachment | Delete Attachment | View Attachment

U.S. DEPARTMENT OF EDUCATION
BUDGET INFORMATION
NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1890-0018

Expiration Date: 02/28/2011

* Name of Institution/Organization

Chicago Public Schools, District # 299

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION A - BUDGET SUMMARY
U.S. DEPARTMENT OF EDUCATION FUNDS

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	70,200.00	75,330.00	77,375.00	79,488.00		302,393.00
2. Fringe Benefits	18,240.00	18,794.00	19,367.00	19,959.00		76,360.00
3. Travel	900.00	900.00	900.00	900.00		3,600.00
4. Equipment	1,200.00	0.00	0.00	0.00		1,200.00
5. Supplies	46,080.00	72,080.00	72,080.00	72,080.00		262,320.00
6. Contractual	63,076.00	43,429.00	41,016.00	35,013.00		182,534.00
7. Construction	0.00	0.00	0.00	0.00		0.00
8. Other	5,000.00	4,750.00	4,500.00	8,250.00		22,500.00
9. Total Direct Costs (lines 1-8)	204,696.00	215,283.00	215,238.00	215,690.00		850,907.00
10. Indirect Costs*	8,437.00	8,951.00	8,960.00	8,819.00		35,167.00
11. Training Stipends	0.00	0.00	0.00	0.00		0.00
12. Total Costs (lines 9-11)	213,133.00	224,234.00	224,198.00	224,509.00		886,074.00

Indirect Cost Information** ***(To Be Completed by Your Business Office):
If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government? [X] Yes [ ] No

(2) If yes, please provide the following information:

* Period Covered by the Indirect Cost Rate Agreement: From: 07/01/2008 To: 06/30/2009 (mm/dd/yyyy)

* Approving Federal agency: [X] ED [ ] Other (please specify):

(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

[X] Is included in your approved Indirect Cost Rate Agreement? or, [ ] Complies with 34 CFR 76.564(c)(2)?

* Name of Institution/Organization	Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.	
Chicago Public Schools, District # 299		

SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel						
2. Fringe Benefits						
3. Travel						
4. Equipment						
5. Supplies						
6. Contractual						
7. Construction						
8. Other						
9. Total Direct Costs (lines 1-8)						
10. Indirect Costs						
11. Training Stipends						
12. Total Costs (lines 9-11)						

SECTION C - BUDGET NARRATIVE (see instructions)

Abstract

The abstract narrative must not exceed one page and should use language that will be understood by a range of audiences. For all projects, include the project title (if applicable), goals, expected outcomes and contributions for research, policy, practice, etc. Include population to be served, as appropriate. For research applications, also include the following:

- Theoretical and conceptual background of the study (i.e., prior research that this investigation builds upon and that provides a compelling rationale for this study)
- Research issues, hypotheses and questions being addressed
- Study design including a brief description of the sample including sample size, methods, principals dependent, independent, and control variables, and the approach to data analysis.

[Note: For a non-electronic submission, include the name and address of your organization and the name, phone number and e-mail address of the contact person for this project.]

You may now Close the Form

You have attached 1 file to this page, no more files may be added. To add a different file, you must first delete the existing file.

* Attachment: Abstract_Final.pdf | Add Attachment | Delete Attachment | View Attachment

ABSTRACT

The Chicago Public Schools (CPS) proposes the Science and Mathematics Engagement and Instruction (SaMEI) project to transform girls' relationships with and performance in these subjects **(Absolute Priorities 1 and 2)**. The focus is on entry into and progression through high school **(Competitive Preference Priority)**. SaMEI is an integrated part of the district's larger High School Transformation initiative.

The problems addressed by the project include girls' lack of confidence in their science and mathematics abilities; lack of interest and disengagement in these subjects; weaknesses in spatial skills, failure to remain academically on-track in 9th grade with a high Algebra failure rate (boys, also), and an achievement decline in comparison to boys on 11th grade State assessments. A linked problem is the lack of explicit gender equity strategies in curriculum and instruction. Evaluation of corresponding goals and objectives will show affective and achievement gains on the part of girls in comparison to boys and in comparison to control groups using pre and post testing **(Absolute Priority 3)** as well as improved gender-related instruction on the part of teachers.

To carry out goals and objectives, SaMEI will develop and implement an integrated science/ mathematics curriculum module and linked teacher professional development with specific girl-empowering strategies for the summer Freshman Connection. Included will be afternoon enrichment activities, the involvement of parents, and an alliance of community providers of out-of-school science and mathematics programs. Freshman Connection will better prepare students, especially girls, for the more rigorous curriculum that is part of High School Transformation. CPS, as an in-kind contribution, will expand successful strategies to school-year curriculum, instruction, and supplemental activities, eventually impacting all 43 High School Transformation schools.

Contact: John Loehr, Science Manager, CPS, 773-553-6384, jfloehr@cps.k12.il.us

Project Narrative File(s)

*** Mandatory Project Narrative File Filename:** SaMEI Project Narrative.pdf

Add Mandatory Project Narrative File | Delete Mandatory Project Narrative File | View Mandatory Project Narrative File

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File | Delete Optional Project Narrative File | View Optional Project Narrative File

CHICAGO PUBLIC SCHOOLS
SCIENCE AND MATHEMATICS ENGAGEMENT AND INSTRUCTION PROJECT
(SaMEI)
TABLE OF CONTENTS - PROJECT NARRATIVE

PROJECT NARRATIVE

1. PROJECT AS A COMPONENT OF A COMPREHENSIVE DESIGN

The proposed Science and Mathematics Engagement and Instruction (SaMEI) project promotes girls' positive relationships with and performance in these subjects **(Absolute Priorities 1 and 2)**. This high school focused project takes place within the context of ongoing reform in the Chicago Public Schools (CPS) and planning that incorporates Title IX gender equity **(Competitive Preference Priority)**.

CONTEXT

CPS District 299 serves the City of Chicago in Cook County, Illinois and is one of the oldest established districts, having been founded in 1871. It is the third largest school system in the nation with 655 facilities (483 elementary schools, 116 high schools, and 56 charter schools). CPS has 408,600 students (46% African American, 39% Latino, 8% White, and 3% Asian/Pacific Islander) and approximately 25,000 teachers (44% African American, 36% White, and 17% Latino. Approximately 85% of the students come from low income families.

Since 1995, CPS has advanced one of the most aggressive reform efforts in the country. This effort features accountability measures; math, science, and reading initiatives; after school and summer programs; innovative school models; and a high school transformation focus. As a strong advocate of equitable parent and student choice, CPS sponsors magnet schools with specific academic foci, charter and independent contract schools, small schools, and career/vocational academies. While principals and local school councils have some control over curriculum and instruction, CPS is pushing reforms that increase system-wide coherence and continuity.

Currently, the district is in the third year of implementing and expanding the High School Transformation initiative. Now in 43 schools, High School Transformation changes schools

through accountability, school leadership, inquiry based curriculum and instruction, and professional development. Student on-track indicators provide accountability at each grade level. As an extension of High School Transformation, a transition-to-high school program ensures that rising freshmen are ready to meet the demands of a more rigorous curriculum.

COMPLIANCE WITH TITLE IX

Board Report 08-0123-PO4, approved on January 28, 2008 rescinded several separate policies and combined them into one comprehensive policy that addresses the goal of eliminating all forms of unlawful discrimination, including gender based discrimination pursuant to Title IX of the Education Amendments of 1972. This policy and its procedures comply with the basic requirements of the various non-discrimination legislative acts by (1) establishing specific processes for reporting, investigating, and resolving complaints of discrimination, sexual harassment, and retaliation occurring in schools and administrative offices; (2) employing a full-time Equal Opportunity Compliance Office Manager (EOCO) to coordinate compliance efforts, investigate allegations, disseminate information, and ensure that established procedures are followed; and (3) providing training through the EOCO Manager for principals, Area Instruction Officers, Chief Officers, and Department Heads on the policy and related legal developments.

The policy addresses Title IX educational equity issues by requiring compliance in "academic decisions," "academic opportunities," and "all education programs and activities." This means that all learners (boys and girls) must have equitable access and opportunities to high levels of challenging and meaningful educational experiences supported by equitable resources.

COMPREHENSIVE PLAN FOR EDUCATION EQUITY

Every Child, Every School: An Education Plan for the Chicago Public Schools (2002) states on page one that "all of our students must have equal access to effective schools that provide

strong instructional programs, high quality teaching, and student-centered learning environments." The plan lays out goals, initiatives, and strategies for each of these principles in a framework that also includes strong high school programs and schools as centers of communities in partnership with families. Schools must further work to "engage students in developing aspirations and identifying talents and motivate them to do well." Through the Education Plan, CPS embraces educational equity as the foundation for its efforts to achieve its ultimate goal of ensuring that every child in every school should be on track at every stage in his or her CPS career to graduate prepared for success in postsecondary education and employment.

The Education Plan continues to drive the development and implementation of system wide initiatives, including the proposed SaMEI project which will incorporate gender equity within High School Transformation. Components germane to this project follow:

Transition to High School Programs	Feature an **orientation** for students and their parents and a summer **Freshman Connection** four-week academic and extra-curricular program for all incoming 9th graders to prepare them for the rigors of high school. The current focus is on literacy and mathematics.
Instructional Development Systems	Align 9th through 11th grade science, mathematics, and English curricula with focused teacher professional development and stronger assessments. Curriculum and instruction are primarily inquiry-based to develop problem-solving skills rather than a narrow content knowledge focus.
Supplementary Programs	Include competitive and noncompetitive enrichment events and activities designed to increase male and female interest in science and mathematics.

Significance of Project as a Coordinated Component of a Comprehensive Plan

CPS has made great progress in promoting educational equity for sub-groups of historically underserved students. However, there still remain equity concerns, particularly in science and mathematics, which need examined. While major initiatives focus on equal access and opportunities for all students, including strategies that are beneficial to girls, CPS has not examined its policies, procedures, programs, and practices to address in an explicit way the more subtle issues of gender bias. These issues relate to activities inside and outside of the classroom and include ways to

improve the beliefs and interests of girls as well as their skills. While the primary focus is on teachers and female students, SaMEI also involves parents and community groups in support of the effort. The attitudes and expectations of all of these players can have a reciprocal effect on girls' achievement outcomes and future goals

SaMEI centers on Freshman Connection—strengthening and expanding this component, then using it as a model to integrate gender equity into school-year Instructional Development Systems and after-school programs. It will serve as a prototype for the district in transforming the culture of science and mathematics instruction, how these subjects are taught in the classroom, and how parents and city resources can motivate and support achievement, particularly for girls.

2. Institutional Change Strategies with Long-Term Impact

SaMEI will galvanize internal and external CPS resources around the gaps between females and males in the ways they think and feel about science and mathematics and in actual performance. Resulting institutional changes will include heightened awareness of the problems and their importance coupled with the knowledge and tools for solutions.

Of particular concern is the fact that none of the CPS High School Transformation programs include in their planning an explicit analysis of gender issues and research as they continue to develop curriculum, extra-curricular activities, and professional development. SaMEI will provide an opportunity to include this important exploration in the Year 1 planning phase. The intent is to weave gender equity threads through key Transformation programs and practices.

Strategies that will produce institutional change and lasting impact follow.

Embedding the Project within a High Priority, System Wide Initiative

The district's commitment to programs that drive High School Transformation is evident through the extraordinary monetary and human resources that support this initiative. Begun in

2005, the Bill and Melinda Gates Foundation has invested $28,645,588 thus far and continues to be involved. Key players from universities and educational organizations are shaping the initiative. The ultimate goal is for all CPS high schools to be part of High School Transformation.

By becoming an embedded part of this initiative, institutional change around the issue of girls' science and mathematics engagement and performance will occur on a large scale and in a long-lasting way. This effort is important for girls as part of the district's core strategy to ensure that students are academically on track from entry into 9th grade through graduation.

Focusing on a Crucial Transition Period

Data from the Chicago Consortium on School Research (Allensworth & Easton, 2007) backs the decision of project planners to start by instituting gender equity strategies into the summer Freshman Connection program. This 8th to 9th grade transition period is a make- it or break-it time for students with disengagement, declining motivation, and inadequate preparation leading to declining performance in high school, especially for girls in science and mathematics. A growing body of research recommends addressing the motivation and skills issues in the summer before and immediately upon entering 9th grade (Roderick, 2006). The engagement and instructional aspects of SaMEI will change the institutional approach to gender equity in a specific summer program (Freshman Connection) in targeted schools at a crucial cross-road in girls' passage from 8th grade to high school.

Strategically Adding Grade Levels—Expanding to a Critical Mass

In the summer of 2010, SaMEI will follow the progress of the first cohort of female students in four participating schools, beginning in Freshman Connection and following them as they proceed through high school. SaMEI will initiate gender equity into each school's school-year programs one grade at a time to purposefully create school-level institutional change.

SaMEI will follow the same pattern as it adds new cohorts of girls in the spring of 2011, 2012, and 2013. In each of these years, the number of schools will expand by 7 for a total of 25 schools, more than half of the 43 Transformation high schools in the district. Next steps for the district will be expanding SaMEI strategies to the remaining 18 Transformation high schools as well as to the schools the district will be adding to the Transformation initiative in coming years.

Because SaMEI is a catalyst for integrating girl-empowering strategies within the High School Transformation initiative, staff of the High School Science and Mathematics departments will continue to follow and support participating cohorts and schools beyond the funding period. This expansion into High School Transformation supports coherent institutional change across the district. Project evaluation will inform and shape the project as SaMEI expands.

Building Institutional Capacity

Institutional change requires both material and human support. To institute this support, SaMEI will employ capacity building strategies that begin with curriculum and instruction and extend to the wider school and city communities. The strong research foundation for these strategies helps ensure impact and sustainability.

At the core is a new, integrated science/mathematics curriculum module for the Freshman Connection that will serve as a model for modifications in school year courses. This module will connect science and mathematics in ways that encourage students to explore, model, and describe patterns, functions, phenomena, and hypotheses in real world and problem solving situations—an approach that should be especially effective for girls (Carpenter, 2009).

Good curriculum is not effective without good instruction. Unfortunately, females receive poorer science and mathematics instruction than males even though they are in the same classroom. While not the only factor, teacher behaviors are a major cause (Baker, 2009). Teachers "play a

crucial role—not only in terms of the content they communicate but also in [their] explicit and implicit messages about effort and ability" (Anderson, 2007). Thus, the primary change agents in SaMEI are teachers and other staff who interact directly with and develop programs for students (Halpern, Aronson, et al., 2007; Anderson, 2007). SaMEI will offer teachers an opportunity to examine, explore, and adopt pedagogy that better empowers and engenders interest in these subjects.

Although parents and outside organizations and institutions are secondary change agents in this project, they are vital. (National Mathematics Advisory Panel, 2008; Grens, 2006). As an alliance, educators, parents, and organization leaders can form a village of support for participating girls. SaMEI will connect CPS with key community groups to create a collaborative climate around gender issues in science and mathematics education which will be sustained beyond this grant. A panel of these providers, called the Chicago Alliance for Girls, will explore and identify the many available resources and services that exist in the city for dissemination to schools.

Increasing Awareness of and Commitment to Title IX Academic Mandates

Increased awareness of and commitment to Title IX of the Educational Amendments of 1972 will be a major catalyst of institutional change. There is a general misunderstanding across the country that Title IX applies only to athletic programs. The gains in athletics suggest that better understanding and use of Title IX could result in similar gains by women in STEM programs. (Society of Women's Engineers, 2006) SaMEI will increase local understanding and application by making it clear through professional development, training, and educational materials that Title IX applies to 10 key areas, including science and mathematics, learning environment, career education, standardized testing, and technology. At no cost to the project, a cross-department panel—including the Board and Equal Opportunity Compliance offices—will develop an official, system wide statement to accompany the CPS Comprehensive Non-Discrimination,

Title IX and Sexual Harassment Policy. This statement will also include gender equity position statements of the National Science Teachers Association and the National Council of Teachers of Mathematics.

3. Quality of Project Services

SaMEI project planners, drawing guidance from research and building on High School Transformation strengths, will ensure equal access and treatment for participating girls in summer and school year programs. The quality of proposed strategies makes success likely in improving girls' beliefs, interests, and achievement.

Establishing a foundation for SaMEI are five research-based recommendations from the National Center for Education Research practice guide, *Encouraging Girls in Math and Science* (Halpern, Aronson, et al., 2007). While these recommendations are teacher focused, all could apply to community providers of student and teacher programs. In addition, several could apply to parents if they receive training. The following recommendations target identified differences between girls and boys: 1) Teach students that they can expand and improve abilities. 2) Give prescriptive, informational feedback. 3) Provide exposure to female role models and career opportunities. 4) Spark initial curiosity and foster long-term interest. 5) Provide spatial skills training.

Ensuring Equal Access and Treatment for Participants

SaMEI weaves these recommendations throughout the core strategies that follow. In aligning these strategies with four of the governing principles in the CPS Education Plan and institutionalizing them within the comprehensive High School Transformation initiative, SaMEI furthers one of the district's major reform agendas: increased system wide coherence and continuity.

Strategy 1: A Strong Instructional Program

At the center of a strong instructional program is the curriculum. The summer Freshman Connection curriculum modules provide a foundation for school year Instructional Development

Systems courses offered through the Transformation initiative. In the Instructional Development Systems, schools choose an approved provider that represents an academic institution or educational organization with expertise in curriculum and instruction. Each option provides a course-by-course pathway and requisite supports linked to quantifiable student outcome measures.

Understanding that students often fail to make connections between science and mathematics, SaMEI will develop an innovative new curriculum module that integrates the two subjects. Underlying this innovation are two concepts: 1) science provides rich contexts and concrete phenomena demonstrating mathematical patterns and relationships and 2) mathematics provides the language and tools necessary to deepen analysis of science and applications. Integrating science and mathematics will better address the needs of at-risk 9th graders, particularly girls, by allowing them to make connections between the two subjects, discover how both areas relate to the real world, and practice visuospatial skills. This new curriculum will engage students in solving more complex scientific problems by applying concepts/techniques across two disciplines, using mathematics in context, integrating critical thinking and problem solving abilities, requiring high levels of communication skills, and participating in a learning community of peers.

Development of the curriculum module will follow the model used with the Instructional Development Systems. SaMEI staff will carry out the work by contracting with a team of university providers and gender equity experts. This alignment with school-year curriculum will ease participants' transfer into high school and emphasize girl-empowering strategies.

Strategy 2: Well-Prepared Teachers

Improving girls' confidence and motivation to pursue advanced STEM coursework and careers requires providing more than access to research-based science and mathematics content. Programs need strong professional development that removes female gender bias from traditional classroom

practices. These practices result in girls "disidentification" with "male dominated" fields in spite of their successful achievement (Kahle & Damnjanovic, 1994). The research solution is a paradigm shift in professional development that integrates inquiry-based practices into content. "Inquiry-based practice" means engagement with authentic problems of science and mathematics, raising questions, reasoning with evidence, and using representations central to the area of study (Battey, et al., 2007).

To ensure this paradigm shift, SaMEI provides a coherent and continuous approach to sustain and institutionalize appropriate teaching practices through a two-pronged approach.

(1) School Year: All science and mathematics teachers and instructional coaches in High School Transformation will participate in district funded professional development that emphasizes inquiry as the strategy to create the greatest impact on changing teachers' beliefs and classroom practices. Topics will include: (a) gender equity issues (including recognizing and overcoming personal biases), (b) general best practices, (c) content specific practices, (d) methods for training visuospatial skills, and (e) content specific inquiry (Battey, et al., 2007).

(2) SaMEI: Participating teachers and enrichment coordinators will receive 15 hours of professional development prior to or during Freshman Connection to learn how to implement the integrated science/mathematics module and enrichment activities. They will also receive daily site-based, follow-up support from Instructional Development Systems coaches during the Freshman Connection period. Coaches will support teachers as they practice their new knowledge and skills in creating gender equitable teaching and learning environments.

Strategy 3: Student-Centered Learning Environments

Through professional development based on the practice guide, teachers will learn how to create student-centered environments that boost girls' short and long-term interest in mathematics and science. Activities that initiate interest involve applying knowledge and skills within the

context of real-world problems that girls care about, using project-based learning and group work, and incorporating technology, video, and web-based presentations. Teachers will examine tools they can use with girls listed in *New tools for America's workforce: girls in science and engineering* at http://www.nsf.gov/publications/. To foster long-term interest, teachers will learn how to deepen and broaden girls' knowledge and understanding and link what they are learning to future goals. Avoiding gender stereotypes is central as teachers help girls explore careers that are traditionally male dominated and examine their beliefs about appropriate work for women.

Another way that SaMEI will create student-centered environments is through informal pursuits for girls in the Freshman Connection afternoon enrichment program which will easily translate into school year after school programs. Research indicates that mentors, career speakers, field trips, hands-on activities, and clubs can enhance girls' interest in and connection to mathematics and science (Halpern, Aronson, et al., 2007; National Academy of Sciences, 2009).

Strategy 4: Schools as Centers of Communities in Partnership with Parents

SaMEI will energize parents and community groups on behalf of female-focused gender equity. The primary ways that parents impact their daughters' beliefs, interests, and performance are through their own positive attitudes. SaMEI activities that will help parents examine their own beliefs and attitudes and learn ways to positively influence their daughters, include 1) a Freshman Connection parent orientation focused on issues, solutions, and at-home strategies, 2) field trips and guest speakers for parents and students together, and 3) a student showcase where students will display the products of their learning to their parents and community.

The initial community involvement focus is on 22 area groups (youth organizations, museums, and universities) that have innovative STEM programming for students or teachers, many through Motorola Innovation Generation Grants and many with a focus on girls. SaMEI will bring these

groups together to form a Chicago Alliance for Girls (See Appendix for letters). This alliance will identify transferable gender equity ideas, encourage the groups to incorporate these ideas in their programs, and serve as a vehicle for identifying and disseminating out-of-school science and mathematics resources and programs for students and teachers. Supporting research indicates that science and mathematics activities in out-of-school settings have a positive impact on the outcomes of underrepresented groups, including girls (National Academy of Sciences, 2009).

Aligning Needs, Services, and Student Achievement

In developing appropriate SaMEI services, project planners carefully assessed the needs of the two primary categories of recipients—students and teachers. This assessment involved talking with teachers and students, reviewing CPS student data, and analyzing research studies and articles, including the work of the Chicago Consortium on School Research. The discussion of services throughout the proposal embeds the findings. A high level summary follows:

Services Appropriate to the Needs

Needs	Services
►To overcome girls' lack of confidence in their academic abilities	Teacher professional development that emphasizes giving feedback on how girls use strategies and expend effort and the importance of hard work over innate abilities with corresponding training for parents
►To increase girls' short and long-term interest and engagement in science and mathematics	Girl-engaging strategies within new integrated Science/Mathematics curriculum module and linked professional development; afternoon enrichment opportunities (e.g. mentors, guest speakers, field trips, biographical readings, career exploration) with involvement of parents
►To improve girls' math and science skills, especially algebra and spatial skills	Integration of algebraic problem solving application and spatial skills practice in the curriculum; best practice and inquiry based instructional strategies in the classroom; related hands-on-activities in the afternoon enrichment program
►To increase teacher awareness of Title IX	A policy statement related to Title IX gender equity in the classroom for the district; gender awareness embedded in professional development

Needs	Services
▸To improve teachers use of girl-empowering instructional strategies	Teacher professional development and coaching that emphasizes classroom implementation with fidelity and on-site individualized training sustained over time

Improved Student Achievement

An analysis of CPS data highlights achievement issues germane to SaMEI. Performance in 9th grade predicts students' (including girls) later high school success. More than half of freshmen are academically off track by the end of the year. The subject most freshmen fail is algebra. Girls meet or exceed science and mathematics standards on the 7th grade State NCLB assessment at rates equal to or in excess of boys but routinely underperform their male peers by the time they take the 11th grade State NCLB assessment.

The SaMEI logic model for boosting student science and mathematics achievement, based on national and local data, follows. (1) The focus on the summer transition period will provide a positive foundation for high school success and generally improve freshman on-track rates. (2) The integrated science/mathematics curriculum and linked professional development, designed with girls in mind, will improve achievement in those specific subjects in general and algebra in particular. (3) Additional afternoon enrichment activities and the involvement of parents will improve girls' relationships with science and mathematics, provide motivation to work harder, and encourage enrollment in advanced, career-path courses. (4) The expansion of SaMEI strategies into school year High School transition programs will support girls all the way through high school and improve achievement scores on the 11th grade State NCLB assessment.

Standardized, validated tests, given by the district each fall, will provide the evaluator with pre- and post-intervention data to assess student achievement gains relative to a comparison group **(Absolute Priority 3)**.

4. Quality of the Management Plan

SaMEI brings together a unique blend of local and district experts whose direction and support will accomplish something truly remarkable in reframing reform at the high school level. The combination of strong leadership, informed decision making, expert management, and aligned involvement of parents and highly qualified partners will ensure that project goals and objectives are met on time and within budget.

Management Personnel: In-Kind Support

Because SaMEI coordinates with the mission and initiatives of the Office of High Schools and High School Programs, staff time will be leveraged to reallocate responsibilities as in-kind contributions to ensure appropriate and adequate oversight. John F. Loehr, Science Manager, Department of High School Teaching and Learning, will share management responsibilities as project Co-Director. Dr. Loehr brings to the management team a history of successful experiences in the research, publication, and teaching of science at the classroom and university levels. In his current role, he is responsible for assisting and guiding senior district leaders in planning and implementing activities that support district goals for science instruction in all CPS high schools.

Robby Singer, Mathematics Manager, Department of High School Teaching and Learning, will also act as project Co-Director. Mr. Singer has a strong background in mathematics education that includes teaching, developing and conducting professional development in mathematics, coaching, and assessment. He is currently Dr. Loehr's counterpart in guiding the district in building capacity in mathematics instruction at the district, area, and school levels.

Responsibilities for the Co-Directors include: (1) preservation of project integrity throughout implementation and evaluation, (2) oversight and management of all project components, (3) coordination of professional development activities, (4) alignment of existing CPS support

structures, namely in-school instructional science and mathematics coaches, with the needs of SaMEI, (5) supervision of the new full-time manager, and (6) development of the integrated science/mathematics curriculum. Dr. Loehr will have the specific responsibility for convening, conducting, and guiding the work of the Chicago Alliance for Girls (See Appendix for curricula vitae).

They will each allocate twenty percent (20%) of their time to ensure that the project is aligned with the vision of their department and the parameters of district priorities.

MANAGEMENT PERSONNEL: GRANT SUPPORT

Project Manager (To Be Hired): Grant funds will support a new full-time position which will be responsible for overall project operation and fiscal management. The project Co-Directors will fill this position as early as possible during Year 1. The Project Manager will be responsible for: (1) performing daily administrative duties, (2) coordinating and monitoring afternoon enrichment activities, (3) visiting classrooms, (4) organizing the work of the partners, (5) conducting parent involvement activities, and (6) assisting the evaluation team in collecting data. Minimum qualifications for the project manager include a bachelor's degree, an Illinois Science or Mathematics Endorsement (or equivalent certification), at least three years of experience in managing science or mathematics programs as well as three years of superior teaching experience. Additional qualifications include: knowledge of research in integrated science and mathematics education, experience in working with parents, and high levels of interpersonal skills that promote collaboration and motivation. The project manager will devote 100% time to SaMEI.

External Evaluator: Dr. Adam Maltese, Assistant Professor of Science Education, Indiana University, will serve as SaMEI's external evaluator. Dr. Maltese's strong background in research and science education makes him particularly well-suited for this role. He serves as a

reviewer for several scientific journals and has published and made presentations related to teaching science and the link in pursuing science and mathematics between high school and college degree completion in STEM fields. Dr. Maltese currently is the evaluator for the district's K-12 National Aeronautics and Space Administration Education (NASA) grant.

Responsibilities, Timelines, and Milestones for Accomplishing Project Tasks

The following timeline lists major grant activities, implementation timeline, staff responsible, and achievement benchmarks.

Key Management Tasks

Activity	Timeline	Responsibility
▸ Advertise, interview, and hire project manager.	September 2009	Co-Directors
▸ Refine project evaluation objectives, performance measures, and schedule.	September 2009	Co-Directors Evaluator
▸ Develop appropriate surveys and protocols for teachers and parents.	October, 2009 – March 2010	Co-Directors, Project Manager, Evaluator
▸ Identify target schools and teacher participants for SaMEI.	March 2010	Co-Directors, Project Manager
▸ Select and order appropriate instruction materials for delivery to SaMEI sites	March 2010 – June 2010	Co-Director Project Manager
▸ Monitor project budget and expenditures and notify Co-Directors of status of grant fund balances.	Monthly beginning in December 2009	Project Manager
▸ Develop performance reports using evaluation data.	Annually	Project Manager
▸ Provide feedback to stakeholders on project progress.	Semi-annually	Co-Directors
▸ Identify members of Chicago Alliance for Girls.	November 2009	Dr. Loehr
▸ Develop/revise professional development plan for gender equity and the integrated science and mathematics module.	Annually	Co-Directors
▸ Ensure timely approval of consultant contracts.	Fall, Annually	Project Manager
▸ Conduct focus groups of diverse members to discuss project progress and needed revisions.	Quarterly	Project Manager

Implementation Years 1, 2, 3, and 4 Organized by Goals and Benchmarks

Goal 1: Provide participating students with equitable access to challenging and meaningful learning in science and mathematics.

Objective 1A: The level of science and mathematics achievement will increase by 5% for boys and 10% for girls.

Objective 1B: The level of engagement in science and mathematics will increase by 20% for boys and 25% for girls.

Objective 1C: Girls will demonstrate a 20% increase in positive attitudes toward science and mathematics.

Annual Activities	Timeline	Responsibility
▸ Pre-test participating students of each cohort.	Fall	CPS Assessment Team
▸ Develop a coherent, hands-on, inquiry-based, integrated curriculum and assessments aligned to state standards.	Fall - Winter	Co-Directors, Project Manager, Partners
▸ Develop and schedule afternoon girl-specific science and mathematics enrichment activities.	Winter - Spring	Co-Directors, Project Manager, Consultants
▸ Post-test participating students of each cohort.	Fall	CPS Assessment Team

Goal 1: Benchmarks	Performance Targets: '10	'11	'12	'13
Percentage of students who increase their content knowledge of science and mathematics	10%	20%	30%	40%
Percentage of students who actively participate in inquiry-based activities	15%	20%	35%	50%
Percentage of girls who take leadership roles in cooperative groups	5%	15%	25%	45%
Percentage of girls who report positive changes in beliefs about their abilities in science/mathematics	10%	25%	50%	75%
Percentage of girls who demonstrate improvement in using spatial strategies to solve problems	5%	15%	30%	45%
Percentage of girls who increase knowledge of non-traditional careers in science and mathematics	35%	45%	50%	75%
Percentage of students who demonstrate readiness for next grade level	5%	10%	15%	20%

Goal 2: Increase teachers' understandings of the need for equity in science and mathematics instruction and the skills necessary to produce gender equitable classroom environments.

Objective 2A: Participating teachers will show an increase of 70% in their understandings of gender bias as it relates to their own teaching behaviors.

Objective 2B: Participating teachers will demonstrate a 50% increase in the number of equitable classroom strategies used in daily instruction.

Annual Activities	Timeline	Responsibility
▸ Conduct baseline observations of classroom instruction.	Fall	Evaluator
▸ Conduct mid-year observations of classroom instruction.	January	Evaluator
▸ Provide feedback to teachers regarding findings and progress.	Semi-annually	Evaluator
▸ Monitor professional development activities.	Monthly	Project Manager
▸ Monitor on-site coaching and individualized training.	Bi-Weekly	Project Manager
▸ Use recommended strategies in a continuous manner that integrates with all aspects of daily classroom instruction.	Daily	Teachers
▸ Conduct end-of-year observations of classroom instruction.	Fall	Evaluator

Goal 2: Benchmarks	Performance Targets '10	'11	'12	'13
Percentage of teachers who provide prescriptive, informational feedback	5%	20%	30%	50%
Percentage of teachers who use language that is gender inclusive	2%	10%	25%	45%
Percentage of increased time students are actively engaged in inquiry-based activities	5%	30%	45%	70%
Percentage of teachers who use cooperative groups correctly	2%	15%	25%	50%

Goal 3: Increase the involvement of parents and youth-serving organizations in promoting science and mathematics activities for girls.

Objective 3A: Parents of girls will demonstrate a 25% increase in their awareness of the factors that lead to girls' successful pursuit of advanced study in science, mathematics and related careers.

Objective 3B: Members of the Chicago Alliance for Girls will exhibit an increase of 15% in their knowledge of and commitment to the education mandates of Title IX.

Activity	Timeline	Responsibility
▸ Conduct workshops for parents of female students on strategies to support their daughters' science and mathematics development.	Fall, Spring	Project Manager
▸ Conduct informational sessions for parents to provide most recent information on science and mathematics-related career opportunities.	Winter	Project Manager
▸ Convene meetings for members of Chicago Alliance for Girls to discuss gender equity issues.	Bi-Monthly	Dr. Loehr
▸ Disseminate information to schools regarding Chicago Alliance for Girls member organizations' programs	Fall, Spring	Project Manager

Goal 3: Benchmarks	Performance Targets '10	'11	'12	'13
Percentage of parents who attend meetings and workshops	35%	50%	65%	75%
Percentage of parents who demonstrate knowledge, attitudinal changes, and insight into gender bias.	5%	15%	25%	45%
Percentage of youth-serving organizations that increase the number of girl-empowering strategies into their programs	20%	40%	75%	90%

Post Implementation Wrap-up		
Activity	**Annual Timeline**	**Responsibility**
▸ Compile data into a summative report for distribution to stakeholders.	Spring	Evaluator
▸ Liquidate expenditures.	Spring	Project Manager
▸ Close out grant and prepare all reports.	Fall, 2013	Co-Directors
▸ Discuss final evaluation report and implications for expanded district roll-out.	Spring, 2012	Co-Directors, Evaluator

Ensuring a Diversity of Perspectives

Project planners conducted several focus groups consisting of teachers, principals, CPS managers of literacy, science, and mathematics, and high school initiatives, as well as university representatives to address the questions of "How can we ensure that students, particularly girls, make a strong transition into high school and remain "on-track" for graduation" and "What can we do to help teachers meet their needs?" Their comments and insights laid the foundation for many of the modifications in the current Freshman Connection and the specific strategies proposed in SaMEI. The project manager will conduct additional focus groups during implementation for participating teachers and professional providers to discuss continuing and revised operational needs of the project. These focus groups will expand to include other High School Transformation teachers as the project expands.

Parental and community involvement is vital to the success of this project. There are two areas in which the project will ensure the inclusion of their perspectives: workshops specifically designed for parents and regular meetings of the Chicago Alliance for Girls. In addition, students will participate in informal discussion groups during the afternoon enrichment sessions to discuss gender bias, its effects, and how participation in the project affects them.

5. Evaluation Plan

Dr. Adam Maltese, Assistant Professor of Science Education, at the Center for Evaluation and Education Policy (CEEP), Indiana University, will serve as the principal investigator. (See Appendix for curriculum vitae and letter of commitment). Dr. Maltese is currently conducting a National Science Foundation (NSF) funded evaluation of middle school students in Chicago and across the country regarding their interest and engagement in informal science programs. Early analysis of data suggests a significant loss in both variables as students advance from 6th through 8th grades. Continued analysis of this national data set will inform the proposed SaMEI evaluation by providing comparison data as well as a longitudinal perspective.

CEEP Capacity

The function of CEEP is to promote and support rigorous program evaluation and education policy research. Recent Center projects include evaluations of large scale initiatives such as, Reading First, Comprehensive School Reform, and 21st Century Community Learning Centers. CEEP also conducts randomized controlled trial studies that examine the impact of education programs. Among these is the US Department of Education funded study of the impact of full-day kindergarten programs and structured academic programs in after-school settings. CEEP also provides ongoing technical assistance to staff in the Department of Education's Office of Innovation and Improvement programs. In addition, they conduct formative and summative evaluations for various state departments of education, national foundations, and non-profit organizations. These ongoing and concluding evaluations at the national, regional, and local levels have involved 50 states.

CEEP is located within a highly-ranked School of Education at one of the world's largest research institutions, Indiana University. Although CEEP's operations are semi-autonomous and

fully self-funded, CEEP draws upon Indiana University's vast resources to deliver the most efficient combination of advanced evaluation methodologies, nonpartisan information and research, and cutting-edge technologies. The Center has over 60 researchers and support staff, with most senior personnel holding doctoral degrees and additional advanced training. This staff frequently publishes in major journals and presents their work at national conferences. Further, the Center has a dynamic professional development program that keeps staff abreast of the latest conceptual, methodological, and organizational strategies and advances.

CEEP evaluations are guided by an underlying philosophy that project evaluation and project management are inextricably connected. This means that the most effective evaluation does not simply occur at the end of a project, but rather is an integral living component throughout the life of the program. Meaningful and effective evaluation involves an ongoing process of both formative and summative feedback that not only helps decision makers better understand the project and make programmatic and policy decisions, but also helps to improve project implementation.

SaMEI Evaluation Plan

The evaluation plan for SaMEI includes three primary purposes: (1) Provision of formative feedback to key stakeholders intended for project modification; (2) Provision of summative data related to the impact of the project on intended outcomes; and (3) Guidance regarding effective strategies suitable for replication or testing in other settings.

During year 1 of the project, CEEP will work collaboratively with CPS project staff and key stakeholders to strengthen project objectives and performance measures that are: objective, measurable, and meaningful; clearly related to the intended outcomes of the project; and capable of producing high quality quantitative and qualitative data. Implementation of strong

measurable performance measures will provide valid and reliable data related to both ongoing progress and final project impact.

PROJECT OBJECTIVES, PERFORMANCE MEASURES, QUANTITATIVE AND QUALITATIVE DATA

Project Objective 1: Increase participating girls' attitudes and achievement in science and mathematics.

Performance Measure A	Beginning in year two, participating girls' achievement in mathematics will increase by 10% each year as measured by scores on the EXPLORE exams
Performance Measure B	Beginning in year two, participating girls' achievement in science will increase by 10% each year as measured by scores on the EXPLORE exams
Performance Measure C	Beginning in year two, participating girls' achievement in mathematics will be a minimum of 5% higher than the level of achievement of a carefully matched comparison group of non-participating girls as measured by scores on the EXPLORE exams
Performance Measure D	Beginning in year two, participating girls' achievement in science will be a minimum of 5% higher than the science achievement of a carefully matched comparison group of non-participating girls as measured by scores on the EXPLORE exams

Assessment: A -D	Extant data will measure the impact of the project on girls' achievement in mathematics and science. More specifically, the standardized achievement scores on EXPLORE exams that CPS students are required to complete in Grades 8 and 9 will be used to examine changes in participating students' scores over time. The Fall schedule of the exams for each academic year will provide sufficient data for pre-test/post-test analysis of the growth of SaMEI participants

GPRA Performance Measures

Achievement scores will provide data to evaluate if female participants achieve proficiency and advanced proficiency in science and mathematics, as required by **GPRA performance measures 1-4**. Additionally, since the EXPLORE testing is system-wide, Dr. Maltese will request data from the CPS Department of Research, Evaluation & Accountability to compare similar groups of female and male students who do not participate in project activities. To satisfy **Absolute Priority 3**, these data will allow for assessment of **GPRA performance measure 5** and indicate if program participants are making statistically significant gains in achievement

when compared to their non-participating peers. As students move on to 10th and 11th grade, they will complete the PLAN and ACT® exams, respectively. EXPLORE, PLAN, and ACT are part of ACT's assessment system to evaluate students' strengths and weaknesses in Grade 8 and continue to assess performance through Grade 12. EXPLORE is specifically designed to assess students in transition to high school. Analysis of scores on these exams will provide a measurement of the longitudinal effects of project participation.

NCLB Test Requirement

While the EXPLORE and PLAN exams are not specifically part of the NCLB testing regimen, they are standardized exams created by ACT® for use in schools across the country. To improve content and reliability, items on ACT exams incorporate state and national concepts included in national curriculum standards as well as national surveys of educational professionals. The ACT® reports KR-20 reliability values of between .83 and .88 for the EXPLORE and PLAN exams in mathematics and science. Detailed validity and reliability information regarding the data produced by EXPLORE and PLAN exams are available on the ACT® website (www.act.org).

Performance Measure E	Each year, participating girls' attitudes and interest towards science and mathematics will increase 20% as measured by a pre-post-survey administered before and after SaMEI
Performance Measure F	SaMEI will impact participating students' longer term attitudes and interest towards science and mathematics, as demonstrated by participating students in 9th grade maintaining at least a 10% increase over their original pre-test scores.

Assessment: E, F	SaMEI will improve participating students' interest and engagement in STEM. A survey, currently in use in the NSF-funded program on informal science learning, will evaluate similar constructs. The survey, a mix of scales and items from previously published work, uses items from the National Education Longitudinal Study of 1988 (Ingels, 1990), the Children's Science Curiosity Scale (Harty & Beall, 1984) and the modified Attitudes toward Science Inventory (Weinburgh, 1995). Students will complete surveys before and after SaMEI to provide a pre/post assessment at roughly the same time as the standardized exams. Students will take the surveys at the end of 9th grade to provide "long-term" analysis of project impact on interest and engagement.

Project Objective 2: Increase teachers' knowledge, understanding, and use of skills related to gender equity in science and mathematics instruction.

Performance Measure A	Each year, 70% of participating teachers will increase their knowledge and understanding of gender bias as it relates to their own teaching behaviors as measured by self-report instruments.
Performance Measure B	Each year, 50% of participating teachers will increase their use of equitable classroom strategies as measured by pre- and post-surveys, as well as limited classroom observations.

Assessment: A,B	Surveys and limited classroom observations will measure the impact of professional development on teachers' knowledge and classroom practices in promoting gender equity in the classroom. While there are a number of existing survey instruments and interview protocols (Plucker, 1996; Zozakiewicz & Rodriguez, 2007), during Year 1, Dr. Maltese will develop new instruments that closely match the issues and skills discussed in professional development. Teachers will take the survey before and after their participation in specific professional development activities. Classroom observations of a sample of participating teachers will occur before and after their participation. The surveys and classroom observations will evaluate student-teacher interactions, teacher mediation of student-student interactions as well as provide evidence indicating whether teachers are implementing presented strategies.

Project Objective 3: Increase the involvement of parents and youth-serving organizations in promoting mathematics and science for girls.

Performance Measure A	Each year, parents of participating girls will demonstrate a 10% increase in their awareness of the factors that lead to girls' successful pursuit of advanced study in science and mathematics as measured by a pre- and post-test survey of a representative sample of parents.
Performance Measure B	Each year, members of the Chicago Alliance for Girls will exhibit a 15% increase in their knowledge and commitment to the education mandates of Title IX as measured by annual surveys and random interviews.

Assessment: A,B	Surveys and random interviews will measure growth in knowledge and levels of awareness of parents and members of the Alliance. Project staff will work with Department of Research, Evaluation, and Accountability to modify existing instruments, rubrics, and protocols to align with project activities. Project staff will administer instruments on a pre- and post-test schedule. Dr. Maltese will act as consultant-advisor in analyzing and interpreting raw data to determine impact.

DELIVERABLES AND GUIDANCE FOR REPLICATION

CEEP will implement all aspects of the evaluation plan in a manner that meets or exceeds the highest standards in the field of evaluation and academic research. For example, CEEP adheres to the American Evaluation Association's "Guiding Principles for Evaluators" and The Program Evaluation Standards. In addition, CEEP's extensive resources will allow a thorough internal peer review process that ensures the quality and validity of all deliverables and products. While maintaining impartiality and independence, CEEP will also ensure that all deliverables meet the needs of project staff and key stakeholders by involving them in all stages of the evaluation process. This continuous involvement will allow multiple opportunities to review protocol and provide feedback on drafts of evaluation reports and deliverables. Throughout the project, a particular emphasis of the teacher surveys and ongoing discussions with key stakeholders will focus on ways to implement this program in other contexts and identify aspects in the local school settings that promote or impede achievement of objectives. Each deliverable will include this information as appropriate. Deliverables include:

1. ***Real-Time Feedback*** - Formative feedback, provided to project staff on a quarterly basis, will allow timely and continuous revisions for project improvement.
2. ***Yearly Summaries of Implementation Progress*** - Annual reports on project implementation will address strengths of the program, as well as obstacles or barriers.
3. ***Yearly and Final Reports on Project Impact*** - Annual reports, as well as a Final Report at the end of the evaluation contract, will provide specific information about project impact on participants' knowledge and skills, use of knowledge and skills, and student learning outcomes.

Budget Narrative File(s)

*** Mandatory Budget Narrative Filename:** SaMEI Budget_Final.pdf

Add Mandatory Budget Narrative | Delete Mandatory Budget Narrative | View Mandatory Budget Narrative

To add more Budget Narrative attachments, please use the attachment buttons below.

Add Optional Budget Narrative | Delete Optional Budget Narrative | View Optional Budget Narrative

Chicago Public Schools (CPS) Science and Mathematics Engagement and Instruction Project (SaMEI)
Budget Narrative

Personnel		Year 1	Year 2	Year 3	Year 4
Project Manager	Full time salary @ $60,000 + 3.3% annual increase	60,000	61,980	64,025	66,138
SaMEI Professional Development Teacher and Enrichment Coordinator Extended Day Pay	$35/hr x 15 hrs x 2 teachers x 4 schools	4,200			
	$35/hr x 15 hrs x 2 teachers x 7 schools		7,350	7,350	7,350
SaMEI Content Coach Extended Year Pay	$3,000/coach x 2 coaches	6,000	6,000	6,000	6,000
(1) CPS will hire a full-time project manager to work closely with the project co-directors to efficiently administer SaMEI. (2) Each integrated science/mathematics curriculum teacher and corresponding enrichment coordinator for the Freshman Connection will jointly attend 15 hours of professional development designed to help implement the new curriculum and interwoven enrichment activities. Per union agreement that teachers be paid for any professional development outside of the regular school day/year, an 'extended day' payment will be made to each teacher for each hour that they participate in project activities outside of the regular school day/year. The extended day payment rate was established through the Chicago Teachers Union contract, which runs from 2007-2012. (3) Instructional content coaches, who are part of the High School Transformation initiative, provide on-site support for teachers (team-teaching, modeling strategies in the classroom). Coach contracts only run through mid-July. In order to retain coaches for SaMEI to assist in implementing the new curriculum with embedded gender equity strategies, grant funds will cover the last two weeks of Freshman Connection.					
	Personnel Subtotal	***70,200***	***75,330***	***77,375***	***79,488***
Fringe Benefits					
Project Manager Fringe	@ 28%	16,800	17,354	17,927	18,519
Coach Fringe	@ 28%	1,440	1,440	1,440	1,440
(1) Fringe benefits are calculated for the project manager and coaches at 28% of base salary. This includes: 1) health, dental and life insurance 2) pension, 3) Medicare, 4) worker's comp., 5) unemployment comp., 6) general liability insurance.					
	Fringe Benefits Subtotal	***18,240***	***18,794***	***19,367***	***19,959***
Travel					
Project Manager	Local Travel @ $75/month x 12 months	900	900	900	900
An allowance of $75/month will be provided to the project manager for reimbursement for gas and parking for local travel to schools.					
	Travel Subtotal	***900***	***900***	***900***	***900***
Equipment					
Computer (Project Manager)	1 Desktop computer @ $950	950			
Printer (Project Manager)	1 Printer @ $250	250			
A computer and printer will be purchased for the newly hired, grant-funded project manager for use in administrative duties.					
	Equipment Subtotal	***1,200***	***0***	***0***	***0***
Supplies					

Freshman Connection Science & Mathematics Instructional Materials	$6,000/school x 4 schools	24,000			
	$6,000/school x 7 schools		42,000	42,000	42,000
Freshman Connection Enrichment Program Materials	$3,000/school x 4 schools	12,000			
	$3,000/school x 7 schools		21,000	21,000	21,000
Marketing	$1,000 for marketing materials	1,000			
Supplies	$500/month x 12 months	6,000	6,000	6,000	6,000
School-Year Professional Readings	$40/book x 56 participants	2,240	2,240	2,240	2,240
School-Year Flash Drives	$15/flash drive x 56 participants	840	840	840	840
(1) Instructional materials (books, mathematics manipulative, science laboratory equipment) will be purchased for each participating school for SaMEI integrated science and mathematics curriculum. (2) Enrichment program materials (robotics kits, computer software, admission fees and transportation for field trips, guest speakers, orientation and culminating activities) will be purchased for each participating school's SaMEI afternoon enrichment activities. (3) Funds will be used to purchase supplies for professional development (summer and school-year), as well as general office supplies for the project manager, cover printing costs for promotional flyers and posters, fund classified advertising related to the project manager job search, and pay for print advertising in community and church newsletters to attract parents to SaMEI workshops. (4) Books related to ongoing professional development provided in-kind through the district will be purchased for participating teachers and instructional coaches. (5) Flash drives will be purchased and distributed to participating teachers and instructional coaches so that professional development handouts may be provided elec					
	Supplies Subtotal	***46,080***	***72,080***	***72,080***	***72,080***
Contractual					
School-Year Professional Development Facilitators	$100/hr x 40 hrs x 1 facilitator	4,000	4,000	4,000	4,000
SaMEI Curriculum Facilitators	$500/day x 3 presenters x 2 days	3,000	3,000	3,000	3,000
Freshman Connection Science & Mathematics Curricula and Enrichment Program Development	$100/hr x 36 hrs x 4 consultants	14,400	6,000		
Evaluation Services					
Lead Evaluator, Adam Maltese	.10 FTE @ $57,000 salary	6,928	6,598	6,284	5,985
Lead Evaluator Fringe Benefits	@ 22.89%	1,586	1,510	1,438	1,370
Faculty Researcher, Patricia Ann	.025 FTE @ $87,433 salary	2,657	2,530	2,410	2,295
Faculty Researcher Fringe Benefits	@ 34.35%	913	869	828	788
Graduate Student	$20/hr x 150 hrs	3,000	3,000	3,000	3,000
Travel	4 trips/year x 3 travelers x 3 days	9,504			
	2 trips/year x 3 travelers x 3 days		4,752		4,752
	3 trips/year x 3 travelers x 3 days			7,128	

Chicago Public Schools (CPS) Science and Mathematics Engagement and Instruction Project (SaMEI)
Budget Narrative

Supplies		1,500	500	1,000	
Pre-/Post Survey Development		1,500			
Indirect Costs	@ 54%	14,088	10,670	11,928	9,823
(1) Professional development facilitators will be hired to present during the ongoing district-provided professional development on gender equity and integrating girl-empowering strategies into the standard curriculum. (2) Curriculum specialists will be contracted to present during summer professional development on implementing integrated science/mathematics curriculum. (3) External evaluators will be hired to conduct a rigorous evaluation of SaMEI and document findings to provide guidance for possible replication of effective strategies in other contexts.					
	Contractual Subtotal	***63,076***	***43,429***	***41,016***	***35,013***
Other					
Freshman Connection Parent Focus Group Stipends	$25/stipend x 20 parents/group x 8 groups	4,000			
	$25/stipend x 20 parents/group x 4 groups		2,000		2,000
Freshman Connection Parent Workshop Stipends	$25/stipend x 10 parents/school x 4 schools	1,000			
	$25/stipend x 10 parents/school x 11 schools		2,750		
	$25/stipend x 10 parents/school x 18 schools			4,500	
	$25/stipend x 10 parents/school x 25 schools				6,250
(1) Parent and teacher focus groups will be conducted regularly to inform project development. Parents will be paid a stipend to defray the costs of attending these sessions (i.e., travel, babysitting, snacks). This is especially important, given that CPS students come from low-income households. (2) Workshops will be provided for parents at schools participating in SaMEI to provide them with strategies to support their daughters' science and mathematics development. Stipends will be provided to participating parents to defray the costs of attending.					
	Other Subtotal	***5,000***	***4,750***	***4,500***	***8,250***
	Total Direct Costs	204,696	215,283	215,238	215,690
	Indirect Costs @ 4.27%	8,437	8,951	8,960	8,819
	Total Costs	213,133	224,234	224,198	224,509
	Grand Total		**$ 886,074**		

Other Attachment File(s)

* Mandatory Other Attachment Filename: Appendices.pdf

Add Mandatory Other Attachment | Delete Mandatory Other Attachment | View Mandatory Other Attachment

To add more "Other Attachment" attachments, please use the attachment buttons below.

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References

Allensworth, E. & Easton, J. (2007, July). *What matters for staying on-track and graduating in Chicago public high schools: A close look at course grades, failures, and attendance in the freshman year.* Retrieved October 22, 2007 from: http://ccsr.uchicago.edu/content/publications.php.

Allison, C. and Cossette, I. (2007). *Theory and practice in recruiting women for STEM careers.* WEPAN Conference.

Anderson, J. (2007, November 21). Encouraging girls in math and science: Questions with assistant professor Jon Star. *Harvard Graduate School of Education News.* Retrieved January 28, 2009 from http://www.gse.harvard.edu/news_events/features/2007/11/21_star.html.

Bae, Y. & Smith, T. (NCES 97-982). *The condition of education 1997: No. 11 women in mathematics and science.* Washington, DC: National Center for Education Statistics, U.S. Department of Education, Office of Educational Research and Improvement.

Baker, D. (2009). Teaching for gender differences. *Research Matters – to the Science Teacher.* Reston, VA: National Association for Research in Science Teaching. Retrieved February 7, 2009 from: http://www.narst.org/publications/research/gender.cfm.

Battey, D., Kafai, Y., Nixon, A. & Kao, L. (2007, January). Professional development for teachers on gender equity in the sciences: Initiating the conversation. *Teachers College Record, 109* (1), 221-243.

Carpenter, J. (2009). Integrated Science Curriculum. Retrieved February 11, 2009 from Louisiana Tech University, College of Engineering and Science Web site: http://www.coes.latech.edu/isc/summary.php.

Chicago Public Schools (2008, January 23). Comprehensive non-discrimination, title IX and sexual harassment. *Chicago Public Schools Policy Manual, Section 102.8.* Retrieved January 5, 2009 from: http://policy.cps.k12.il.us/.

Chicago Public Schools (2002, September). *Every Child, Every School: An education plan for the Chicago public schools.* Retrieved January 3, 2009 from http://edplan.cps.k12.il.us/pdfs/cps_education_plan.pdf.

Feranchak, B., & LaForce, M. (2003). *Preliminary analyses of course taking patterns of CPS high school students in math and science from 2000-2002.* Retrieved July 9, 2007, from CPS Office of Mathematics and Science website: http://cmsi.cps.k12.il.us/ViewProgramDetails.aspx?pid=160.

Grens, K. (2006, September 18). NAS issues report on gender bias. *The Scientist.* Retrieved January 20, 1009 from http://www.the-scientist.com.

Halpern, D., Aronson, J., Reimer, N., Simpkins, S., Star, J., & Wentzel, K. (2007). *Encouraging girls in math and science* (NCER 2007-2003). Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education. Retrieved January 8, 2009 from http://ncer.ed.gov.

Halpern D., Benbow, C. Geary, D., Gur, R., Hyde, J., & Gernsbacher, M. (2007, November 28). Sex, math and scientific achievement: Why do men dominate the fields of science, engineering and mathematics? *Scientific American Mind.* Retrieved January 19, 2009 from http://www.sciam.com/article.cfm?id=sex-math-and-scientific-achievement.

Harty, H., & Beall, D. (1984). Toward the development of a children's science curiosity measure. *Journal of Research in Science Teaching, 21*(4), 425-436.

Ingels, S. J. (1990). *National Education Longitudinal Study of 1988: Base Year: Student Component Data File User's Manual*: US Dept. of Education, Office of Educational Research and Improvement.

Kahle, J.B. & Damnjanovic, A. (1994). The effect of inquiry activities on elementary students' enjoyment, ease, and confidence in doing science: An analysis by sex and race. *Women and Minorities in Science and Engineering 1,* 17-28.

Mid-Atlantic Equity Consortium. Girls: Math and Science Achievement. Retrieved January 19, 2009 from http://www.maec.org/girlmath.html.

National Academy of Sciences (2009, January 19). Science learning at museums, zoos, other informal settings. *ScienceDaily.* Retrieved January 28, 2009 from http://www.sciencedaily.com/releases/2009/01/090114114934.htm.

National Mathematics Advisory Panel. (2008). Counting on excellence: How parents can help their children learn mathematics. Retrieved February 2009 from http://www.ed.gov/about/bdscomm/list/mathpanel/index.html.

National Mathematics Advisory Panel. *Foundations for success: The final report of the National mathematics advisory panel,* U.S. Department of Education: Washington, DC, 2008. Retrieved February 2, 2009 from http://www.ed.gov/about/bdscomm/list/mathpanel/index.html.

National Science Teachers Association. (2003, July). NSTA position statement: Gender equity in science education. Retrieved February 5, 2009 from http://www.nsta.org/about/positions.aspx?lid=tnavhp.

Plucker, J. (1996). Secondary science and mathematics teachers and gender equity: Attitudes and attempted interventions. *Journal of Research in Science Teaching, 33,* 737-751.

Roderick, M. (2006). *Closing the aspirations-attainment gap: Implications for high school reform.* San Diego, CA: MDRC.

Society of Women Engineers (2006, June). SWE general position statement on the application of Title IX to the science, technology, engineering, and mathematics (STEM) fields. Retrieved January 30, 2009 from http://societyofwomenengineers.swe.org/.

Society of Women Engineers (2008). 2007 Literature review. *SWE Magazine, 54* (3).

Weinburgh, M. H., & Steele, D. (2000). The modified attitudes toward science inventory: Developing an instrument to be used with fifth grade urban students. *Journal of Women and Minorities in Science and Engineering, 6*(1), 87-94.

John F. Loehr, Principal Investigator
Science Manager, Department of High School Teaching and Learning
Office of High Schools and High School Programs
Chicago Public Schools
1326 West 14th Place, Chicago, IL 60608
Phone: (773) 553-6384; email: jfloehr@cps.k12.il.us

Education and Training:

2001-2005 University of Virginia Charlottesville, VA.
Doctoral Program in Science Education
Dissertation Title: *"High School & College Biology: A Multi-level Model of the Effects of High School Biology Courses on Student Academic Performance in Introductory College Biology Courses*
Dissertation Advisor: *Dr. Robert H. Tai*

1996-1997 DePaul University Chicago, IL.
Teacher Certification Program, Secondary Education-Biology

1992-1995 University of Illinois at Chicago Chicago, IL.
Master of Science, Biochemistry

1988-1992 University of Illinois at Urbana-Champaign Urbana, IL.
Bachelor of Science, Biology

Professional experience (Research & Administrative):

2005-current Chicago Public Schools Chicago, IL.
High School Science Manager, Department of High School Teaching & Learning
- Consult with Senior District Leadership on Science Curricula and Programs
- Manage & Conduct District-wide Professional Development for Science Teachers
- Assist with the Development of District-wide Science Curricula and Assessment Systems
- Develop & Manage Professional Development for Teachers & Content Coaches
- Coordinate High School & University Partnership Programs
- Align External Partnership Programs with District Science Goals & Initatives

Research Analyst, Office of Research, Evaluation, & Accountability
-Coordinated the Development of a District-Wide Student Survey
-Assisted with the Development of District Accountability and Management Metrics
-Conducted Program Evaluations
-Prepared & Analyzed District Assessment Data
-Produced Written Data Analyses, Presentations, & Publications

2001-2005 University of Virginia Charlottesville, VA.
Research Associate & Data Manager, Factors Influencing College Science Success (FICSS)
-Conducted Research Interviews
-Designed Interview Protocols & Survey Instruments
-Maintained, Prepared & Analyzed Quantitative Data
-Produced Written Data Analysis, Grant Reports, Conference Presentations, & Publications
-Developed Grant Submissions & Projected Budgets for Follow-on Research

1999-2001 AT&T ENRICH Chicago, IL.
Writer & Editor
-Wrote & Edited Technology Integrated Science Lessons
-Coordinated efforts of team members
-Presented Lessons & Design Steps at Regional Conferences
-Received Advanced Technology Training

1998–2003 Chicago Public Schools Chicago, IL.
Chicago Academic Standards Examination (CASE) Consultant, Office of Accountability
-Designed the Biology CASE Test Blueprint.
-Wrote, Edited, & Reviewed Biology & Environmental Science Tests
-Analyzed Test & Survey Data
-Designed & Conducted Item Writer Workshops

Professional experience (Teaching):

2001-2005 University of Virginia Charlottesville, VA.
Instructor, Teaching Associate, University Supervisor
-Taught Elementary Science Methods Course
-Co-Taught a Secondary Science Methods Course & a Science Course for Education Majors
-Teaching Associate for Secondary Science Methods, Secondary Science Student Teaching, and Secondary Science Masters Student Research Courses
-Supervised & Evaluated Elementary and Secondary Science Teaching Associates
-Coordinated Teaching Associate Activities & Evaluations with Cooperating Teachers

1999-2001 Jones Academic Magnet High School Chicago, IL.
Biology Teacher & Science Department Chairman
-Implemented Project Based Learning & Technology into Biology Instruction
-Developed Department Budgets & Monitored Spending
-Evaluated Science Personnel & Class Offerings
-Represented the School in a Museum Education Outreach Program
-Supervised Pre-service Teachers & Student Teachers during Biology Field Experiences

1997-1999 Chicago Vocational Career Academy Chicago, IL.
Lead Science Teacher, Biology and Earth & Space Science Teacher
-Conducted Class with a Student Centered, Hands on Approach
-Used Interdisciplinary & Team Teaching to Enhance Learning

1996-1997 Chicago International SchoolChicago, IL.
Science & Mathematics Teacher
-Taught Advanced Placement Biology, High School Chemistry, & High School Mathematics
-Implemented the International Baccalaureate Middle Years Program
-Received College Board Advanced Placement Biology Training

1995- 1997 College of DuPage Naperville, IL.
Part-Time Biology Instructor
-Conducted Lecture & Laboratory Sections
-Integrated Technology into Science Instruction

Publications:

- Loehr, J.F., Tai, R.H., & Sadler. P.M. (n.d.) High school & college biology: A multi-level model of the effects of high school courses on introductory course performance. Manuscript in submission to the Journal of Biological Education.
- Tai, R. H. & Loehr, J. F. (n.d.). Directing energies: A look at the transition of student to scientist. Manuscript in submission to the International Journal of Science Education.
- Tai, R. H., Loehr, J. F., & Brigham, F. J. (2006). An exploration of the use of eye-gaze tracking to study problem solving on standardized science assessment. International Journal of Research and Methodology in Education. 29(2), 185-208.

- Tai, R.H., Sadler. P.M., & Loehr, J.F. (2006) Factors influencing college science. In J. J. Mintzes & W. H. Leonard (Eds), Handbook of College Science Teaching. Arlington, VA. National Science Teachers Association.
- Tai, R.H., Sadler. P.M., & Loehr, J.F. (2005) Factors influencing success in introductory college chemistry. Journal of Research in Science Teaching. 42(9), 987-1012.
- Loehr, J. (2001). What's for dinner? In J. Mundell (Ed.), Curriculum Integrating Science, Technology, and Engaged Learning (pp. 147-155). Chicago: AT&T ENRICH.
- Cherif, A., & Adams, G., Loehr, J. (2001). What on "earth" is evolution?: The geological perspective of teaching evolutionary biology effectively, American Biology Teacher, 63(8), 569-591.

Synergistic Activities:

- Committee Member, Research in Science Education, National Science Teachers Association
- Key Leader, National Science Teachers Association, Building a Presence Program
- Committee Member, Chicago Public Schools Student Science Fair, Inc.
- Regional Director, Illinois Science Teacher Association
- Board of Directors, In Search of Genius Foundation, Chicago, Illinois

Identification of Potential Conflicts of Interest or Bias in Selection of Reviewers:

- Collaborators or co-authors:
  - Mimnaugh, Michael: Chicago State University
  - Sadler, Phil: Harvard-Smithsonian Center for Astrophysics
  - Sabella, Mel: Chicago State University
  - Schwartz, Marc: University of Texas-Arlington
  - Slavsky, David: Loyola University Chicago
  - Tai, Robert: University of Virginia
  - Wink, Don: University of Illinois at Chicago
- Graduate advisor(s) and principal postdoctoral sponsor(s):
  - Brigham, Frederick: George Mason University
  - Fan, Xitao: University of Virginia
  - Tai, Robert: University of Virginia
  - Sadler, Phil: Harvard-Smithsonian Center for Astrophysics
- Provide a list of all current and pending support:
  None

ROBBY R. SINGER

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EDUCATION

Loyola University **Chicago, IL**

- 1994 Bachelor of Science in Mathematics
- 1997 Master of Arts in Curriculum and Instruction

Governors State University **University Park, IL**

- 2008 Masters of Arts in Educational Administration and Supervision

CERTIFICATIONS

- 1994 State of Illinois Type 09 Secondary Teaching Certificate (Mathematics)
- 2007 Certification – State of Illinois (Type 75) Administrative Certificate
- 2007 Office of Principal Professional Development Principal Eligibility List, Chicago Public Schools

EXPERIENCE

June 2008 – present **Chicago Public Schools: Office of Teaching and Learning**
CIDP Mathematics Citywide Team Leader

- Supervising the citywide mathematics coaching team with four direct reports.
- Coordinating and providing mathematics support to classroom teachers using a clinical supervision model of coaching.
- Participating in the development and delivery of citywide professional development to build the capacity of department chairpersons.
- Supporting principals in creating clear, measurable goals that will outline coaching work in their schools during the next school year.
- Supporting schools in building the capacity of their Instructional Leadership Team members.
- Expert in using data to drive instruction.

August 2007- June 2008 **Chicago Public Schools: Area 25 Instruction Office**
Mathematics Coach/Lead Instructional Coach

- Extensive experience in helping principals develop clear and measurable goals related to school improvement issues.
- Widespread knowledge and practice in aligning coaching supports to teacher needs to support the completion of previously identified school goals.
- Continual service provided to Area 25 schools, principals, and teachers as Mathematics Coach while serving as Lead Instructional Coach.

August 2005 – August 2007 Chicago Public Schools: Area 25 Instruction Office
Mathematics Coach

- Customized coaching support for all Area 25 mathematics teachers.
- Increased capacity of Area 25 math teachers to use EPAS data to differentiate instruction.
- Directed areawide and school-based planning sessions in which math teachers developed curricula aligned with ACT's College Readiness Standards and Applied Math WorkKeys skills.
- Built Professional Learning Communities among math teachers in Area 25.
- Spearheaded the district's mathematics Course Planning initiative in Area 25.
- Developed and delivered inservice training for Area 25 math department chairpersons.
- Supported Area 25 Principals directly during the 2006-2008 SIPAAA development process.
- Developed and conducted inservice training for Area 25 principals and testing coordinators regarding proper administration of the Prairie State Achievement Exam.
- Supported Area 25 schools in efforts to build strong advanced placement classes.

July 2003 – August 2005 Chicago Public Schools: Research, Evaluation, Accountability
NCLB Coordinator

- Adequate Yearly Progress (AYP) Specialist working in the NCLB Accountability Department.
- Supervised REA's State Assessment Project Team-responsible for coordinating efforts of all CPS central office departments regarding state testing on ISAT, IMAGE, IAA, and PSAE.
- Directed citywide testing demographic data cleanup initiative to improve the accuracy of NCLB AYP data reported for individual CPS schools and for the entire district.
- Represented CPS as its liason to ISBE concerning all state assessment issues and AYP concerns.
- Constructed and delivered inservice training for CPS schools on AYP, ISAT, and PSAE.

Feb. 2001 – July 2003 Chicago Public Schools: Office of Student Assessment
Assessment Specialist

- Constructed the citywide Algebra and Geometry Chicago Academic Standards (CASE) Exams.
- Supervised and trained all staff involved in construction of the CASE math exams.
- Developed and conducted inservice training for Chicago Public Schools regarding best practices in math preparation for ISAT and PSAE.
- Participated in all aspects of the administration and scoring of CPS system wide testing programs, including ITBS, ISAT, PSAE, CASE, and Logramos.

Sept. 1994 – Feb. 2001 Chicago Public Schools: James H. Bowen High School
Teacher - Mathematics

- Taught Algebra, Geometry, Trigonometry, and Pre-Calculus in a small school setting.
- Coached Bowen chess team to city championship in 2000, tie for 2nd place in state in 1999.

ADAM V. MALTESE

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Bloomington, IN 47404

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EDUCATION

UNIVERSITY OF VIRGINIA — Charlottesville, VA
Ph.D. in Science Education — May 2008

Dissertation Title: Persistence in Science, Technology, Engineering & Mathematics (STEM): An Investigation of the Relationship between High School Experiences in Science and Mathematics and College Degree Completion in STEM Fields

UNIVERSITY OF CONNECTICUT — Storrs, CT
M.S. in Geology — May 2003

HAMILTON COLLEGE — Clinton, NY
B.A. in Geology, with a Minor in Anthropology — May 1997

EXPERIENCE

INDIANA UNIVERSITY — Bloomington, IN
Assistant Professor of Science Education — Fall 2008-Present
Adjunct Professor of Geology

UNIVERSITY OF VIRGINIA — Charlottesville, VA
Research Assistant for Robert H. Tai — Fall 2005-Present

- *Project Crossover* (NSF REC 0440002) – studying transition from student to scientist
  - Project coordinator (2005-2006)
  - Conducted detailed interviews with scientists and graduate students
  - Completed qualitative analysis of interview transcripts
  - Assisted with development of instrument for national surveys of scientists and graduate students
- *Accelerated Longitudinal Study for Learning & Youth Evaluation Center* (NSF DRL 0748041) – investigating middle school student interest level in science; in coordination with Exploratorium
  - Project Coordinator – lead role in data collection at schools across U. S.
  - Prepared interest survey for middle school students
- Conceptions about Common Science Topics: Use eye-tracking to research differences in how respondents read material addressing their misconceptions about global warming

Teaching Experience

- Field Projects: Science/Math — Spring 2008
- Field Projects: Science/Math — Spring 2007
- Teaching of Elementary Science — Fall 2005 & 2007

CAMP DRESSER & MCKEE — Cambridge, MA
Geologist — 2003 - 2005

- Led numerous multi-day field assignments including drilling observation and well installation, groundwater and surface water sampling, and excavation oversight
- Worked with senior staff on development of remediation strategies for soil and water

BRUNSWICK SCHOOL — Greenwich, CT
Middle School Science Teacher — 1999 - 2003

- Developed and taught 6th Grade earth science curriculum
- Updated and taught 8th Grade physical science curriculum
- Incorporated technology in teaching using SMART Board™, data probes, and online chat
- Co-leader in creation of Middle School Science Fair

PUBLICATIONS

Maltese, A. V. (In Press). Shake, rattle and hopefully not fall. *Science and Children.*

Maltese, A. V., Dexter, K. M., Tai, R. H., & Sadler, P. M. (2007). Breaking from tradition: Unfulfilled promises of block scheduling in science. *Science Educator, 16*(1), 1-7.

Tai, R. T., Sadler, P. M., & **Maltese, A. V.** (2007). A study of the association of autonomy and achievement on performance. *Science Educator, 16*(1), 22-28.

Tai, R. T., Liu, C. Q., **Maltese, A. V.**, & Fan, X. T. (2006, May 26). Planning early for careers in science. *Science, 312* (5777), 1143-1144.

Tai, R. T., Liu, C. Q., **Maltese, A. V.**, & Fan, X. T. (2006). Teaching for the future of science. *NSELA* (Available from: www.nsela.org/publications/publications6.html)

PRESENTATIONS

Maltese, A. V., & Tai, R. H. (2007, August) *Project Crossover: Early interest in chemistry.* Paper presented at the American Chemical Society National Meeting, Boston, MA.

Maltese, A. V., & Tai, R. H. (2007, April). *The role of high school laboratories in student performance in introductory college science.* Paper presented at the National Association for Research in Science Teaching Annual Meeting, New Orleans, LA.

Tai, R. H., Lloyd, S. S., Hazari, Z., **Maltese, A. V.**, Potvin, G., Wyss, V. L., & Fan, X. T. (2006, December). *Project Crossover: A study of the transition from student to scientist.* Presented at the NSF REC Principal Investigators Annual Meeting, Arlington, VA.

Tai, R. H., Liu, C. Q., **Maltese, A. V.**, & Fan, X. T. (2006, April). *Planning early for careers in science.* Paper presented at meeting of the American Educational Research Association Annual Meeting, San Francisco, CA.

Tai, R. H., Sadler, P., Fan, X. T., Ward, B., & **Maltese, A. V.** (2006, April). *Instructional technology use in science education: Evidence of a findings gap between large-scale and small-scale studies.* Paper presented at the National Association for Research in Science Teaching Annual Meeting, San Francisco, CA.

AWARDS

American Educational Research Association Dissertation Grant — 2007-2008
Funding for dissertation research using NELS:88 data set to investigate student persistence in STEM [$13,790]

REVIEWER

Journal of Research in Science Teaching — 2006 - Present
Journal of College Science Teaching — 2006 - Present
Journal of Chemical Education — 2006 - Present

Sarah Harlow Shirk, MPH
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Education

1997 M.P.H. University of Illinois School of Public Health, Chicago, IL
1987 B.A. Swarthmore College, Swarthmore, PA

Professional Experience

2005- Present Director of Pre-College Outreach, Center for Research on Women and Gender
2003- 2006 Co-Chair Evaluation for UIC National Center of Excellence in Women's Health
1998-2004 Project Coordinator, UIC Center for Research on Women and Gender
1996-1998 Visiting Project Coordinator, UIC Occupational Therapy Department
1992-1996 Director of Client Relations, Formations in Health Care, Inc., Chicago, IL
1988-1992 Client Services Representative, Philadelphia Orchestra, Philadelphia, PA

Research and Direct Service Grants

2007-Present **Principal Investigator** for Women in Nanotechnology (WIN)
Mentoring program for community college students interested in nanotechnology/nanoscience careers.
Funding source: U.S. Department of Labor Women's Bureau **Total program funding:** $40,000

2001-Present **Principal Investigator/Co-Investigator**
Girls' Electronic Mentoring in Science, Engineering, and Technology
Responsible for day-to-day management of mentoring program, hiring of tutors for Chicago Public School partner schools including Young Women's Leadership Charter School and UIC College Prep, monitoring internal evaluation program, tracking outcomes, and reviewing applications for WISE Neighbors Grant program **Funding source:** U.S. Department of Labor Women's Bureau, Department of Education Women's Educational Equity Act, Motorola Foundation, Caterpillar Foundation
Total program funding: $500,000

2007-2008 **Principal Investigator** for BodyWorks
Health and Wellness program for adolescents girls and caregivers. **Funding source:** IDPH, DHHS
Total program funding: $44,000

2005-2006 **Principal Investigator** for WISE Transitions
Responsible for program timeline and outcomes for a community college to UIC recruitment program established with College of DuPage. Assist with development of summer computer camp for high school girls.
Total program funding: $37,200

2003-2004 **Co-Investigator** for Women's Health Research Registry
Responsible for increasing percentage of women and minorities enrolling in clinical trials and human subject research projects at UIC. **Funding source:** Office on Women's Health, Department of Health and Human Services, **Total program funding**: $86,000

1998-2000 **Co-Investigator** for Research Information Network
Responsible for development and maintenance of Internet-based research resource, www.uic.edu/orgs/rin and production of all interim and final reports to project officer. **Funding source:** Chicago Community Trust, **Total program funding:** $75,000

1999-2000 **Principal Investigator** for Year 2000 Status of Women and Girls in Chicago Report
Responsible for report production, editing, and dissemination, **Funding Source:** Chicago Foundation for Women, **Total program funding:** $20,000

1997-1998 **Principal Investigator** for Wellness By Design Evaluation
Responsible for evaluation of holistic wellness program for seniors based at Alexian Village **Funding Source:** Retirement Research Foundation, **Total program funding:** $16,000

Publications

Shirk, Sarah H. "Girls' E-Mentoring in Science, Engineering, and Technology (GEM-SET)." Cases on Online Tutoring, Mentoring and Educational Services: Practices and Applications. Ed. Gary Berg. Hershey, IGI Global (At press).

Shirk, S. H., & Abid, A. (Eds.). (2004). Girls' E-Mentoring in Science, Engineering, and Technology web site. *The Best of GEM-SET Daily Digest Archive.* http://www.uic.edu/orgs/gem-set/publications

Shirk, S. H. et. al. (Eds.). (2000). Center for Research on Women and Gender. Research Information Network web site. *Year 2000 Status of Women and Girls in Chicago Report.* http://www.uic.edu/orgs/rin/2000rpt/status.pdf

Selected Poster and Oral Presentations at Professional Seminars

Poster Presentation at Building a Healthier Community Conference, "BodyWorks Health and Wellness Program for Teen Girls: Successes and Lessons Learned in Chicago Community Sites." January 22, 2009 in Chicago, IL.

Speaker at Girl World Career Exploration Day, "GEM-SET Mentoring Options." May 12, 2007 at Senn High School in Chicago, IL

Speaker at IT Empowerment Day sponsored by YWCA, "Internet Safety for Teen Girls." May 4, 2007 at Rosalind Franklin University in Waukegan, IL

Panelist at National Association of Professionals in Equity Conference, "Patching the Stem Pipeline." May 2, 2006 in Washington, DC

Panelist at Michigan Women's Commission Young Women, Strong Leaders Conference, "Mentoring Models, How To Choose the Fit for Your Organization." March 31, 2006 in

Lansing, MI

Moderator for WISE Transitions panel "Easing the Transition from College of DuPage to UIC." January 26, 2006 in Chicago, IL

Panelist at Grace Hopper Conference, "Mentoring Programs for Women and Girls in Science, Engineering, and Technology Careers." October 8, 2004 in Chicago, IL

Guest Speaker at U.S. Department of Labor Women's Bureau Day at Adler Planetarium. "GEM-SET Overview: How to Connect to Mentors." April 24, 2004 in Chicago, IL

Guest Speaker at Mujeres Latinas in Accion Meeting. "GEM-SET Overview: How to Connect to Mentors." March 23, 2004 in Chicago, IL

Presenter at Women in Apprenticeships and Non-Traditional Occupations (WANTO) Meeting. "GEM-SET Overview: How to Establish and E-Mentoring Program." January 27, 2004 in Chicago, IL.

Co-Presenter at College of DuPage "Non-Traditional Careers Teacher Training Course" sponsored by the American Association of University Women Gender Equity Fund. July 2, 2003 in Glen Ellyn, IL.

Moderator for "Women Working in Science, Engineering & Technology Panel" at Expanding the Pipeline: Women and Girls in Science, Engineering & Technology sponsored by the U.S. Department of Labor, Women's Bureau. July 27, 2001 in Chicago, IL.

Community Affiliations

2000- Present	League of Women Voters Oak Park River Forrest, Board Member 2007-2009
2008- Present	Midwest Girls Collaborative Project Champions Board Member
2007- Present	IL State Leadership Team Board Member, STEM Equity Pipeline, a project of the National Alliance for Partnerships in Equity Education Foundation
2002 - 2004	Oak Park Department of Public Health, Community Board Member

INDIANA UNIVERSITY
SCHOOL OF EDUCATION
Department of Curriculum and Instruction
Bloomington

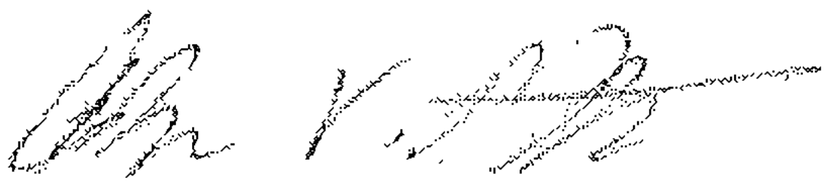
February 20, 2009

John F. Loehr, Ph.D.
Science Manager
Department of High School Teaching & Learning
Chicago Public Schools
1326 West 14th Place, Room 214
Chicago, Illinois 60608

Dear Dr. Loehr:

I am pleased to have the opportunity to participate with Chicago Public Schools in the Women's Educational Equity Act grant through the US Department of Education. This letter confirms that I will serve as the lead evaluator and work with the Center for Evaluation and Education Policy (CEEP) here at Indiana University to meet the obligations detailed in the grant proposal over the four project years.

Sincerely,



Adam V. Maltese, Ph.D.
Assistant Professor of Science Education
Indiana University
School of Education
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Bloomington, IN 47405

UNIVERSITY OF ILLINOIS
AT CHICAGO

Women in Science and Engineering Program (MC 180)
205D Science Learning Center
Science and Engineering South
845 West Taylor Street
Chicago, Illinois 60607

February 19, 2009

Dr. John F. Loehr
Science Manager
High School Teaching and Learning
Chicago Public Schools
1326 West 14th Place, Room 110
Chicago, IL 60608-2106

Dear Dr. Loehr,

I am pleased to write this letter of support for the Chicago Public School's application to the Department of Education Women's Educational Equity Act program. As a member of the Illinois state leadership team for the STEM Equity Pipeline project, I am able to offer my services for approximately four hours of in-service training in gender equity to Chicago Public School teachers at no charge.

The STEM Equity Pipeline project is designed to build the capacity of the formal education community to implement research based approaches proven to increase the participation and completion of females, including those with disabilities, in STEM education. It also will institutionalize the implemented strategies by connecting the outcomes to existing accountability systems. In general the training objectives will be to assist teacher participants to broaden their commitment to gender equity in STEM education.

More information about the STEM Equity Pipeline project and resources from the 5-Step Improvement Process curriculum are available at http://www.napequity.org. This curriculum will be utilized in the training program and is appropriate for teachers of grades k-12.

The training program will also offer teachers a better understanding of the programs available locally through the Women in Science and Engineering (WISE) program based at the University of Illinois at Chicago. This will enhance their ability to advise students on the best pathways to STEM careers.

I strongly support your proposal to enhance teacher education concerning STEM equity and Title IX. Chicago Public Schools has the talent to make our region a model in STEM equity education, and I'm pleased to be a part of that process. Attached is my CV which you may include in the submission. Please do not hesitate to contact me directly at (312)413-1636 if I can be of any further assistance for CPS to achieve its gender equity goals.

Sincerely,

Sarah H. Shirk

Sarah H. Shirk
Director, WISE Pre-College Outreach

Cc Mimi Lufkin, CEO NAPE

UIC

Phone (312) 355-1490 • Fax (312) 355-4902 • E-mail wiseuic@uic.edu

ADLER
PLANETARIUM

Education

February 20, 2009

Dr. John F. Loehr, Science Manager
Department of High School Teaching & Learning
Chicago Public Schools
1326 West 14th Place, Room 110
Chicago, Illinois 60608

Dear Dr. Loehr:

The Adler Planetarium is pleased to offer our support for your Department of Education grant submission, *Chicago Public Schools Science and Mathematics Engagement and Instructional Project (SaMEI)*. The issue of gender equity and female achievement is a central one in science and mathematics education. At the Adler, we have run several successful programs in this arena including a technology camp for girls, Girl Scout programming and an annual Women in Space Science Event. In addition, we are committed to being educational community partners with Chicago Public Schools. We are happy to share our experiences and learning with Chicago Public Schools as you seek to address this issue in your science and mathematics courses.

Adler would be honored to provide the appropriate people to serve on this project in an advisory capacity. As always, we are delighted to support CPS as you strive to increase your teachers' capacity and improve student achievement. We look forward to becoming part of *SaMEI* and wish you success for your efforts with this endeavor.

If in the interim, the Adler can be of any further assistance to you on this project or any other please don't hesitate to contact me.

Sincerely,

Karen Carney
Director of Education
Adler Planetarium

Science Olympiad
Two Trans Am Plaza Drive
Suite 415
Oakbrook Terrace, IL 60181
(630) 792-1251 voice
(630) 792-1287 fax

February 20, 2009

Dr. John F. Loehr, Science Manager
Department of High School Teaching & Learning
Chicago Public Schools
1326 West 14th Place, Room 110
Chicago, Illinois 60608

Dear Dr. Loehr:

Science Olympiad is pleased to offer our support for your Department of Education grant submission, *Chicago Public Schools Science and Mathematics Engagement and Instructional Project (SaMEI)*. The issue of gender equity and female achievement is a central one in science and mathematics education. Over the past 25 years, Science Olympiad has developed competitions and events to address this need and encourage girls to participate in science and mathematics activities. We would be happy to share our experiences and learning with CPS as you seek to address this issue in your science and mathematics courses.

Since 2007, Science Olympiad has enjoyed a close working relationship with Chicago Public Schools, partnering on public outreach activities like the City of Chicago's "Science in the City" 2007 and 2008, the Museum of Science and Industry's "Science Chicago" and the Science Olympiad Urban Schools Initiative. This initiative, piloted in Chicago Public Schools in 2007, has served nearly 500 Chicago students from schools with minority enrollments by providing challenging, exciting, year-long extracurricular science activities that culminate in a regional tournament at Wright College. We have appreciated your advocacy from within CPS and admire your commitment to reaching underserved students, like minorities and females.

Science Olympiad would be honored to provide the appropriate people to serve on the *SaMEI* project in an advisory capacity. As always, we are delighted to support CPS as you strive to increase your teachers' capacity and improve student achievement. We look forward to continuing our history of collaboration on *SaMEI* and wish you success for your efforts with this endeavor.

If in the interim, if Science Olympiad can be of any further assistance to you on this project or any other, please don't hesitate to contact me.

Regards,

Gerard J Putz

Dr. Gerard J. Putz
President and Co-Founder
Science Olympiad

Illinois State Board of Education
100 North First Street, Springfield, Illinois 62777-0001
www.isbe.net
Rod Blagojevich
Governor

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

MEMORANDUM

Vincent Chim
773/553-2731(Gen)

To: Mr. Arne Duncan, Chief Executive Officer
City of Chicago School District 299
125 South Clark Street
Chicago, Illinois 60603-5200

From: Deborah I. Vespa, Division Administrator
School Business Services

Date: June 27, 2008

Subject: Indirect Cost Rate Adjustments for FY08 Programs

The School Business and Support Services Division has re-calculated the district's indirect cost rates for **Fiscal Year 2008 programs** based on changes in policy and procedures approved and accepted by the U.S. Department of Education.

These changes relate to the computation of: (1) fixed indirect costs rates with carry-forward provisions; (2) fixed indirect cost rates generated from the amended/corrected annual financial report for Fiscal Year 2004; and (3) severance payments made by the district in addition to regular salaries and wages for workers whose employment was terminated as of June 30, 2006. The third adjustment was limited to payments made to retiring or terminated employees for accumulated sick and/or vacation days. It is also our understanding that such severance payments, as well as, "abnormal or mass severance" related to the 403 (b) pension enhancements have not been charged as direct costs to applicable programs.

The revised restricted and unrestricted indirect cost rates are 4.27% and 18.92%, respectively. These rates are applicable to Fiscal Year 2008 programs and recovery of indirect costs on each program is subject to the availability of funds.

To amend applicable Fiscal Year 2008 programs with budgeted indirect costs, contact the following Division Administrator no later than Monday, June 30, 2008:

Mr. Tim Imler, Division Administrator
ISBE/Funding and Disbursements
100 North First Street
Springfield, Illinois 62777-0001
217/782-5256

Thank you for your assistance. If you have additional questions or would like to further discuss the re-calculated indirect cost rates, please contact me at 217/785-8779 or e-mail dvespa@isbe.net.

cc: Linda Riley Mitchell, ISBE/Chief Financial Officer
Tim Imler, ISBE/Funding and Disbursements
Elizabeth Hanselman, ISBE/Special Education Services
Gina Hopper, ISBE/Grants & Programs

OMB Control No. 1894-0005 (Exp. 01/31/2011)

NOTICE TO ALL APPLICANTS

The purpose of this enclosure is to inform you about a new provision in the Department of Education's General Education Provisions Act (GEPA) that applies to applicants for new grant awards under Department programs. This provision is Section 427 of GEPA, enacted as part of the Improving America's Schools Act of 1994 (Public Law (P.L.) 103-382).

To Whom Does This Provision Apply?

Section 427 of GEPA affects applicants for new grant awards under this program. **ALL APPLICANTS FOR NEW AWARDS MUST INCLUDE INFORMATION IN THEIR APPLICATIONS TO ADDRESS THIS NEW PROVISION IN ORDER TO RECEIVE FUNDING UNDER THIS PROGRAM.**

(If this program is a State-formula grant program, a State needs to provide this description only for projects or activities that it carries out with funds reserved for State-level uses. In addition, local school districts or other eligible applicants that apply to the State for funding need to provide this description in their applications to the State for funding. The State would be responsible for ensuring that the school district or other local entity has submitted a sufficient section 427 statement as described below.)

What Does This Provision Require?

Section 427 requires each applicant for funds (other than an individual person) to include in its application a description of the steps the applicant proposes to take to ensure equitable access to, and participation in, its Federally-assisted program for students, teachers, and other program beneficiaries with special needs. This provision allows applicants discretion in developing the required description. The statute highlights six types of barriers that can impede equitable access or participation: gender, race, national origin, color, disability, or age. Based on local circumstances, you should determine whether these or other barriers may prevent your students, teachers, etc. from such access or participation in, the Federally-funded project or activity. The description in your application of steps to be taken to overcome these barriers need not be lengthy; you may provide a clear and succinct description of how you plan to address those barriers that are applicable to your circumstances. In addition, the information may be provided in a single narrative, or, if appropriate, may be discussed in connection with related topics in the application.

Section 427 is not intended to duplicate the requirements of civil rights statutes, but rather to ensure that, in designing their projects, applicants for Federal funds address equity concerns that may affect the ability of certain potential beneficiaries to fully participate in the project and to achieve to high standards. Consistent with program requirements and its approved application, an applicant may use the Federal funds awarded to it to eliminate barriers it identifies.

What are Examples of How an Applicant Might Satisfy the Requirement of This Provision?

The following examples may help illustrate how an applicant may comply with Section 427.

(1) An applicant that proposes to carry out an adult literacy project serving, among others, adults with limited English proficiency, might describe in its application how it intends to distribute a brochure about the proposed project to such potential participants in their native language.

(2) An applicant that proposes to develop instructional materials for classroom use might describe how it will make the materials available on audio tape or in braille for students who are blind.

(3) An applicant that proposes to carry out a model science program for secondary students and is concerned that girls may be less likely than boys to enroll in the course, might indicate how it intends to conduct "outreach" efforts to girls, to encourage their enrollment.

We recognize that many applicants may already be implementing effective steps to ensure equity of access and participation in their grant programs, and we appreciate your cooperation in responding to the requirements of this provision.

Estimated Burden Statement for GEPA Requirements

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is **1894-0005**. The time required to complete this information collection is estimated to average 1.5 hours per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. **If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to:** U.S. Department of Education, 400 Maryland Avenue, S.W., Washington, D.C. 20202-4537.

Optional - You may attach 1 file to this page.

SaMEI GEPA.pdf | Add Attachment | Delete Attachment | View Attachment

General Education Provisions Act Section 427 (GEPA)

In accordance with federal regulations (including the General Education Provision Act, Section 427) and Chicago Public Schools (CPS) anti-discrimination policies for student and employee participation and services, the Science and Mathematics Engagement and Instruction project (SaMEI) will not discriminate on the basis of race, color, national origin, gender, age, or disability. As with all CPS projects, the district is committed to diversification of its staff and the employment of minorities in a proportion that is equivalent to their availability among qualified applicants. The affirmative and proactive steps described below will ensure diversity among project participants.

School and Faculty Participation

All science and mathematics teachers at participating schools will have equal access to appropriate instructional programs, materials, and assessments and will take part in similar professional development activities. Teachers may be reluctant to have their performance evaluated – a requirement for participation in SaMEI. To counter this, SaMEI professional development features instructional coaches who not only ensure proper program implementation and classroom practice but are trained to provide extra support, both intellectual and social, to teachers who may feel over challenged. This will ensure that participation in the project is maintained and that there will be no discernable pattern in the social attributes (gender, race, national origin, color, disability, or age) of those that may not complete the project.

Student Participation

Participation in SaMEI will be open to all entering freshman students at participating schools regardless of race, color, national origin, gender, age, or disability. CPS already ensures that transportation costs do not pose a barrier to participation in Freshman Connection for low-

income students by providing public transit passes so that all students can take advantage of the program. Students participating in SaMEI will also qualify for the public transit passes. Because professional development offered through SaMEI will elevate the knowledge and transform the instructional practices of CPS science and mathematics teachers in high need Chicago high schools, participating students (male and female), the majority of whom (86%) are African American and Latino will receive high quality science and mathematics instruction. This grant emphasizes the coordination of inquiry-based activities that integrate science and mathematics and provides participating students with extra support as they are introduced to more rigorous material.

Students with Special Needs

In a number of CPS high schools, special needs students comprise close to 30% of the population. Where there are children with special needs, instruction will be adapted or modified to accommodate individual differences. Although activities will not necessarily be different for each student, they must be appropriate. Appropriateness refers to the degree of correspondence between the capabilities of the students and the objectives of a given lesson.

OMB Approval No.: 4040-0007
Expiration Date: 07/30/2010

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C.§§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U. S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	* TITLE
Alma Sanchez	Director, External Resources
* APPLICANT ORGANIZATION	* DATE SUBMITTED
Chicago Public Schools, District # 299	2/23/09

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,00 0 and not more than $100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subjec t to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

* APPLICANT'S ORGANIZATION

Chicago Public Schools, District # 299

* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

Prefix: Mr. * First Name: Albert Middle Name:

* Last Name: Sanchez Suffix:

* Title: Director, External Resources

* SIGNATURE: Albert Sanchez * DATE: 2/23/09

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

Approved by OMB
0348-0046

1. * Type of Federal Action:
- [ ] a. contract
- [X] b. grant
- [ ] c. cooperative agreement
- [ ] d. loan
- [ ] e. loan guarantee
- [ ] f. loan insurance

2. * Status of Federal Action:
- [ ] a. bid/offer/application
- [X] b. initial award
- [ ] c. post-award

3. * Report Type:
- [X] a. initial filing
- [ ] b. material change

4. Name and Address of Reporting Entity:

[X] Prime [ ] SubAwardee

*Name: Chicago Public Schools, External Resources

*Street 1: 125 South Clark Street Street 2:

*City: Chicago State: IL: Illinois Zip: 60603

Congressional District, if known: 1-9,11

5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:

6. * Federal Department/Agency:

U.S. Department of Education

7. * Federal Program Name/Description:

Women's Educational Equity Act Program

CFDA Number, *if applicable:* 84.083

8. Federal Action Number, *if known:*

9. Award Amount, *if known:*

$

10. a. Name and Address of Lobbying Registrant:

Prefix: *First Name: Board of Education Middle Name: of the

*Last Name: City of Chicago Suffix:

*Street 1: External Resources Street 2: 125 South Clark Street

*City: Chicago State: IL: Illinois Zip: 60603

b. Individual Performing Services (including address if different from No. 10a)

Prefix: Mr. *First Name: Ray Middle Name:

*Last Name: Anderson Suffix:

*Street 1: 1301 Pennsylvania Avenue Street 2:

*City: Washington State: DC: District of Columbia Zip: 20004

11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

* Signature: Albert Sanchez

*Name: Prefix: Mr. * First Name: Albert Middle Name:

* Last Name: Sanchez Suffix:

Title: Director, External Resources Telephone No.: (773) 553-1543 Date: 2/23/07

Authorized for Local Reproduction
Standard Form - LLL (Rev. 7-97)

Survey on Ensuring Equal Opportunity For Applicants

OMB No. 1890-0014 Exp. 2/28/2009

Purpose:

The Federal government is committed to ensuring that all qualified applicants, small or large, non-religious or faith-based, have an equal opportunity to compete for Federal funding. In order for us to better understand the population of applicants for Federal funds, we are asking nonprofit private organizations (not including private universities) to fill out this survey.

Upon receipt, the survey will be separated from the application. Information provided on the survey will not be considered in any way in making funding decisions and will not be included in the Federal grants database. While your help in this data collection process is greatly appreciated, completion of this survey is voluntary.

Instructions for Submitting the Survey

If you are applying using a hard copy application, please place the completed survey in an envelope labeled "Applicant Survey." Seal the envelope and include it along with your application package. If you are applying electronically, please submit this survey along with your application.

Applicant's (Organization) Name: Chicago Public Schools, District # 299

Applicant's DUNS Name: 067464487

Federal Program: Women's Educational Equity Act Program (WEA) CFDA Number: 84.083A

CFDA Number: 84.083

1. Has the applicant ever received a grant or contract from the Federal government?

   ☒ Yes ☐ No

2. Is the applicant a faith-based organization?

   ☐ Yes ☒ No

3. Is the applicant a secular organization?

   ☒ Yes ☐ No

4. Does the applicant have 501(c)(3) status?

   ☐ Yes ☒ No

5. Is the applicant a local affiliate of a national organization?

   ☐ Yes ☒ No

6. How many full-time equivalent employees does the applicant have? (Check only one box).

   ☐ 3 or Fewer ☐ 15-50

   ☐ 4-5 ☐ 51-100

   ☐ 6-14 ☒ over 100

7. What is the size of the applicant's annual budget? (Check only one box.)

   ☐ Less Than $150,000

   ☐ $150,000 - $299,999

   ☐ $300,000 - $499,999

   ☐ $500,000 - $999,999

   ☐ $1,000,000 - $4,999,999

   ☒ $5,000,000 or more

Survey Instructions on Ensuring Equal Opportunity for Applicants

OMB No. 1890-0014 Exp. 2/28/2009

Provide the applicant's (organization) name and DUNS number and the grant name and CFDA number.

1. Self-explanatory.

2. Self-identify.

3. Self-identify.

4. 501(c)(3) status is a legal designation provided on application to the Internal Revenue Service by eligible organizations. Some grant programs may require nonprofit applicants to have 501(c)(3) status. Other grant programs do not.

5. Self-explanatory.

6. For example, two part-time employees who each work half-time equal one full-time equivalent employee. If the applicant is a local affiliate of a national organization, the responses to survey questions 2 and 3 should reflect the staff and budget size of the local affiliate.

7. Annual budget means the amount of money your organization spends each year on all of its activities.

Paperwork Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is **1890-0014.** The time required to complete this information collection is estimated to average five (5) minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection.

If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: The Agency Contact listed in this grant application package.