

Awardee-Led Sessions 1 - Summaries

Monday, February 11, 2013

10:15 a.m. – 11:45 a.m.

Session Type:

 **Project Sessions:** Project findings and how these findings have influenced implementation issues will be discussed.

 **Collaborative Sessions:** Coordinated presentations with colleagues from one or two other MSPs that go beyond a simple showcase of project work.

 **Feedback Sessions:** Interactive working seminars providing the presenter(s) and participants with opportunities to share knowledge and provide feedback.

Strands:

1. Life Cycle of Implementation
2. Different Perspectives on Implementation
3. Evaluation, Research and Implementation: The Feedback Loop

Breakout Room 2

Teachers' Voices: Changing Practice to Effect Reform

It Happened To Me: Perspectives from MSP Teacher Participants



Felicia Martin, Minority Student Pipeline Math Science Partnership (MSP) 2

Summary: How People Learn made the important observation that students get turned on to science between the fourth and sixth grades, and minority students are particularly vulnerable to early school influences (<http://www.as.wvu.edu/~equity/african.html>). Minority Student Pipeline-Math Science Partnership (MSP) 2 is a multifaceted partnership between a large-urban school district, a university system (which includes 4-year institutions), and a community college. A major project focus is the impact of ongoing, high quality inquiry science professional development on middle school teaching and learning. This presentation centers on the experiences of MSP teacher participants and offers an opportunity for teachers to share specific examples of how MSP has affected their practice. More importantly, this panel of teachers will describe challenges and successes that MSP innovations have had on student achievement and interest in science.

Eliciting and Supporting Teachers' Openness to Discussing Deep Mathematical Issues



Amy Cohen, NJ Partnership for Excellence in Middle School Mathematics

Summary: The New Jersey Partnership for Excellence in Middle School Mathematics (NJ PEMSM) is an NSF-MSP project to help mid-career middle school mathematics teachers deepen their content understanding. Outside observers have noted that participants seem remarkably willing to reconsider the mathematics they teach and to discuss openly their questions and confusions. Authors present several conjectures about how NJ PEMSM achieves this level of engagement and trust and offer evidence collected from multiple sources to support these conjectures.

Breakout Room 3

Observing Teachers' Practice and Curriculum Implementation

Project MAST's Science Teacher Professional Development Observation Protocol



Kristin Bass, Project MAST (Mississippi Academy for Science Teaching)

Summary: This session introduces a professional development observation protocol that evaluators have developed for Project MAST (Mississippi Academy for Science Teaching), a program that prepares teachers from underperforming high schools to teach physical science. Observers take comprehensive notes on the PD sessions' content and pedagogy and then rate each session on 11 criteria (e.g., clarity of session goals; opportunities to engage in science inquiry) derived from past PD research. In our interactive session, we'll discuss why we developed the protocol and how we've used it, then give audience members a chance see it for themselves. We hope to give the MSP community an additional tool to monitor PD implementation and study its effect on teacher and student learning.

Examining Fidelity of Implementation of a Year-Long Curriculum in 9th Grade Physics



Deborah Hanuscin, A TIME for Physics First in Missouri

Summary: Curriculum materials play a key role in improving science education; however, curricula alone will not lead to enhanced student learning. Factors such as students' opportunity to learn and the way in which teachers present science content can influence student learning. Therefore, attention to teachers' fidelity of implementation of new curricula is an important consideration in evaluating impacts on student learning. As part of an NSF-funded Math and Science Partnership, thirty-seven school districts throughout a Midwestern state were engaged in the implementation of a year-long course in freshman physics. We examined teachers' curriculum implementation through three different indices, which we used to develop 'typologies' of implementation. These implementation data are currently being linked with student outcome data.

Breakout Room 4

Digital Tools to Support Teacher Learning

Using a Reflective Tool for Online Mentoring



Sara Torres, A TIME for Physics First in Missouri

Summary: We present two tools developed for supporting teachers in the classroom following a content and pedagogy focused professional development program. The first tool is geared to face-to-face observations, while the second is a reflective tool geared for online or hybrid mentoring. These tools were employed in a Freshman Physics PD and leadership development program. We will present the tools and demonstrate a follow-up conversation between a mentor and a mentee who used the reflective tool for online mentoring. Attendees will be asked to comment on the tool and discuss possible generalizations of the tool for other projects. Results of the research conducted on the two tools will be presented.

Digital Suite for Supporting Research and Online Data Collection, Analysis, and Management



Reshmi Nair, Shandy Hauk, Jodie Novak, Mathematics Teacher Leadership Center (Math TLC)

Summary: Just as demand for online teaching and learning is increasing, there is a growing need for technology-rich methods of communication for research data gathering, analysis, and dissemination. The Math TLC project offers in-service mathematics teachers distance delivered master's degree and Teacher Leadership programs that rely on both synchronous and asynchronous innovations. Also, the research team for the project is distributed across the U.S., and hence is required to communicate mostly in the online environment. In this session we share ways in which the research team has adopted and adapted online tools for collaborative research and data management.

Breakout Room 5

Mathematical Knowledge for Teaching, In-Service and Pre-Service

Strategies for Developing Teacher Content Knowledge for Teaching the Common Core State Standards for Mathematics



Kevin McLeod, Milwaukee MSP

Summary: We believe and expect that teachers should know the standards they are expected to teach, yet it is widely acknowledged that the Common Core State Standards for Mathematics (CCSSM) are not written in teacher-friendly language. How, then, can we ensure that teachers gain a deep understanding of the CCSSM? In this interactive session participants will learn a process that has been used by the Milwaukee Mathematics Partnership to deepen teachers' understanding of CCSSM standards and standards progressions.

Implementing Pathways Curriculum: What Are We Learning from In-Service and Pre-Service Teachers to Inform and Modify Project Resources?



Dawn Teuscher, Pathways to Calculus

Summary: Our project's findings from Phase I and II interventions provide two keys important for implementation of the Pathways curriculum – (i) teachers must have a deep understanding of the mathematics they teach and (ii) student thinking is vital for teachers to focus on as they work with students in their classroom. In this session we present findings about how in-service and pre-service secondary mathematics teachers use the Pathways curriculum and how these data inform our work across the two populations (in-service and pre-service). This session will engage participants in activities that reflect our findings from working with both populations with the intentions of generating productive discourse about how working with multiple populations can serve project goals.

Breakout Room 7

Using MSPs to Inform College Administrators and Pre-Service Teacher Preparation

Galvanizing University Leadership for Science Teacher Preparation: the Role of a Higher Education Association



Jennifer Presley and Kacy Redd, Promoting Institutional Change to Strengthen Science Teacher Preparation

Summary: Can a national higher education association that communicates regularly with presidents and provosts, in concert with disciplinary societies that engage faculty, facilitate institutional change to strengthen science and mathematics teacher preparation? The Association of Public and Land-grant Universities (APLU), the American Physical Society, and 25 public research universities set out to address this question four years ago, as part of a MSP RETA. We found that engagement of university leaders and prominent support of teacher preparation helped institutions stimulate change. We also found that while most participants valued the heightened involvement of their senior leadership through the galvanizing action of APLU, its impact was most clearly felt by those institutions that achieved campus-wide change.

Seeking Consensus on Quality Science-Math Teacher Preparation



Charles Coble and Jennifer Presley, Promoting Institutional Change to Strengthen Science Teacher Preparation

Summary: In 2008, A·P·L·U launched its Science and Mathematics Teacher Imperative (SMTI), the goal of which is to increase the quantity and quality of secondary science and mathematics teachers. To better define ‘quality’ SMTI staff, Jennifer Presley and Charles Coble and consultants interviewed 32 national teacher preparation experts, practicing teachers and policy leaders and conducted group interviews with representatives of six disciplinary or professional societies - from October 2011 to May 2012. Using a standard interview protocol, respondents were asked to describe their vision of an ideal science and mathematics preparation program. A clear consensus emerged and synthesized into four thematic briefs and the focus of an invitational conference in Boulder, Colorado, April 2012.

Breakout Room 8

Using Early Data & Experiences to Refine MSP Trajectories

Shared Vision to Practice: Early Lessons Learned from Developing a Partnership with Higher Education STEM Faculty



Rose M. Pringle, U-FUTuRES: University of Florida Unites Teachers to Reform Education in Science

Summary: The development of a shared vision among the stakeholders in our National Science Foundation (NSF-MSP) innovative partnership is important for achieving the goal of improving middle school science achievement. In the initial phase of our project, we explore how STEM faculty navigate the challenges and view inherent benefits while developing a shared vision in preparing science teacher leaders. Guided by design-based research and analyzing a range of data sources, we assert that despite recognition of the mutual benefits, the bureaucratic structures within school districts and the university, and the need to maintain “perceived rigor” in university classwork, present unique challenges to partnerships, and the development and implementation of science courses that embrace current practices and beliefs in science education.

Improving K-12 Science Instruction – Higher Education/K-12 Partnership, Professional Development, Mentoring & Collaborative Strategies



Michele Williams, The NanoBio Science Partnership for the Alabama Black Belt Region

Summary: This partnership among 5 universities, 9 school districts, 5 community colleges, STEM industry, science centers and SECME, a pre-college STEM initiative is led by Tuskegee University and focuses on the Black Belt region of Alabama, among the poorest and most academically challenged in the state. Through the development of innovative content, rich in nanobio science, including 3D simulations, this project seeks, in part, to improve academic performance in middle grades by improving teachers’ instructional practices and content knowledge. Partners will share year one informal and formative evaluations of the Summer Institute professional development component of the project and discuss using these to inform program development and modifications to year two and beyond.

Breakout Room 9

Learning Theory-Driven Professional Development—Stories from Two MSP Projects

Learning Theory-Driven Professional Development—Stories from Two MSP Projects



Dave Weaver, The Arizona Mathematics Partnership and the Making Mathematical Reasoning Explicit

Summary: Learning Theory-Driven Professional Development (LTDPD) empowers teachers to engage students in learning experiences derived from research about how students learn. Two MSP projects are implementing forms of LTDPD. The Arizona Mathematics Partnership is a targeted middle school mathematics MSP project that involves Scottsdale, Chandler-Gilbert, and Glendale Community Colleges and 7 school districts in the Scottsdale area. Making Mathematical Reasoning Explicit is a K-12 mathematics institute project that develops a cadre of teachers to serve as school- and district-based intellectual leaders and master teachers in rural eastern Washington and northern Idaho schools. Both projects are guided by mathematics learning theories. Session participants will learn about LTDPD, the results of prior research efforts, and how these two MSP projects are utilizing LTDPD.

Breakout Room 10

Gathering Evidence of Project Impact and Effectiveness

Examining Evidence of Project Impact and Effectiveness



James J. Madden, Louisiana Math and Science Teacher Institute (LaMSTI)

Shandy Hauk, Mathematics Teacher Leadership Center (Math TLC)

Jodie Novak, Mathematics Teacher Leadership Center (Math TLC)

Roger Peach, Mathematics Teacher Transformation Institutes (MTTI)

Summary: The purpose of this session is to generate discussion among projects in order to a) identify common problems of reasonable specificity in research and evaluation and b) find ways of exchanging solutions. The three presenting projects differ somewhat in design and objective, but the presenters have found significant common ground. All have responded to challenges in matching the evaluation/research design to the overall project vision, balancing the research/evaluation portfolio, articulating useful theoretical models, acquiring data, and generating publishable findings. This session is intended to initiate lasting communications between projects, leading to productive cooperation with focused objectives and possible joint activities in the future.

Breakout Room 11

Lessons Learned with Time: Mature Projects Reflect

Life Cycle of RITES Implementations: The Past, Present, and Future History of a Statewide Effort to Improve STEM Education



Daniel Murray, The Rhode Island Technology Enhanced Science (RITES) Project

Summary: RITES provides supplemental Professional Development (PD) to 5th through 12th grade science teachers throughout Rhode Island that emphasizes the innovative use of technology and inquiry-based teaching. The premise is that our PD will result in more effective STEM teaching, which will in turn generate gains in student achievement. In addition to demonstrating RITES materials, this presentation chronicles the evolution of our supplemental PD from its inception as PD linked to New England Common Assessment Program (NECAP), to a vehicle for transitioning STEM curricula to an NGSS-based framework for improving student performance in RI and elsewhere. The presentation will document our efforts to maintain program fidelity in the light of unexpected challenges and opportunities related to an educational environment in flux.

Modifying Program Implementation and Addressing Sustainability Issues to Improve Research Experiences for Teachers



Alicia Shaw, Minority Student Pipeline MSP

Summary: The recruiting strategies and implementation of a year-long professional development program using authentic research experiences to promote explicit nature of science instruction in the classroom evolved to better address the needs of program participants, and the partnering school system, as well as, lay the groundwork for future program sustainability. Changes to the recruiting strategy included broadening accessibility of the program, encouraging repeat participation, and encouraging development of cohorts within individual schools. Changes to programmatic implementation led to developing enrichment and extension activities for repeating participants, and providing and encouraging leadership opportunities for repeating participants. Additionally, relationship building with the partnering school system helped guide program modifications to create a useful product for both teachers, and the system as a whole.

Breakout Room 12

Approaches to Measuring Professional Development

Studying the Impact of Interconnected STEM Learning: Lessons Learned from the Mathematics Infusion into Science Project



Deborah Hecht, Math Infusion into Science Project Phase II

Summary: As educators increasingly focus on interconnected STEM learning, there will be increased demand for new assessment procedures that capture the richness of these learning experiences while simultaneously assessing the core learning required within each content area. Measuring the implementation of these interconnected learning experiences creates new challenges for evaluators and researchers. This session will explore both the challenges of assessing these new learning paradigms and the types of academic and attitudinal changes that need to be considered. Assessment tools and results from a mature MSP will be shared and discussed through this interactive session.

The RETA and MSP Partnership: Developing Knowledge from Research and Evaluation Support



Kwang Suk Yoon, Impact of MSP Professional Development on the Quality of Instruction in Middle-School Mathematics Classrooms

Summary: In late 2009, the American Institutes for Research (AIR) was awarded a Research, Evaluation, and Technical Assistance (RETA) grant from the National Science Foundation's Math and Science Partnership (MSP) Program to assess the impact of MSP-supported professional development (PD) on the quality of instruction in middle-school mathematics and science classrooms. To conduct this study, AIR partners with two MSPs: Greater Birmingham Math Partnership (GBMP) and Rhode Island Technology Enhanced Science (RITES). AIR is producing data collection instruments for MSP use and is serving as a data collection and analysis partner. In this session AIR will describe results of our study, share instruments, and reflect on the challenges of operating as a RETA project.

Breakout Room 13

Teachers Gaining Math Content and Examining Student Learning

Interdisciplinary Perspectives in a Teacher Development Program



David W. Carraher, Poincaré Institute: A Partnership for Mathematics Education

Summary: We describe the Poincaré Institute's efforts to develop interdisciplinary graduate level courses, along with school-based support, for grades 5 to 9 teachers. In the courses, teachers examine the content of middle school mathematics in depth, going beyond what they teach, and from the perspectives of mathematics, mathematics education, and physics, including investigations of students' learning and reasoning. We mention previous collaboration leading to the project and on the evolution of our shared vision towards the improvement of teaching and learning. We illustrate our progress by examining how the first course was structured and later adjusted on the basis of what we have learned from the first cohort of 60 participant teachers from nine New England School Districts.

An Adaptive Model for Supporting Shifts in Secondary Precalculus Instruction and Student Learning



Marilyn P. Carlson, Project Pathways: A Math and Science Partnership Program for Arizona Targeted Project Track

Summary: The Pathways Precalculus Professional Development Model (P3DM) includes focused workshops for teachers, student curriculum and instructor support materials. Our research to scale Pathways to all teachers within a school and district have revealed new challenges, while supporting past results of the importance of sustained interventions to develop teacher's Mathematical Knowledge for Teaching (MKT). This session will engage participants in an activity to illustrate the process by which teachers acquire MKT, and how a teacher's emerging pedagogical conceptions and knowledge of the content impacts her instructional choices and classroom interactions. We will also report on the wide variation we have observed in teachers' knowledge, school leadership, and parental support, and how we are responding to these variations in scaling Pathways.

Breakout Room 14

Measuring MSP Impact When Students are Not Randomly Assigned to Classrooms

An Investigation of the Behavior of Value-Added Models for Estimating MSP Impact



Pamela Fellers, Data Connections: Developing a Coherent Picture of Mathematics Teaching and Learning

Summary: Appropriate evaluation of MSP programs is essential. One tool for measuring the impact of MSP programs on teaching effectiveness is student achievement data. This requires a coherent picture of student progress before, during, and after a project's professional development program. However, the data available to projects often do not meet the technical requirements of current statistical methods including value-added models (VAMs). Specifically, models assume random assignment of students to classes when, in reality, students are not randomly assigned to classes for a variety of educationally legitimate reasons. This project is investigating the impact of non-randomization on the ability of VAM to detect impact of an MSP project. The examination of non-randomization will be presented and discussed in this session.

Looking for Early Evidence of Implementation: Using the Lens of Propensity Score Matching



Howard Everson, Math and Science Partnership in New York City (MSPinNYC)

Summary: Our session relates to the Evaluation, Research, and Implementation strand. MSPinNYC2 restructures high school STEM courses using peer-enabled restructured classrooms (PERC) to improve achievement. In year one 711 students enrolled in Integrated Algebra, Biology, and Chemistry courses across four public high schools in NYC. Trained Teaching Assistant Scholars (n=234), mostly high school sophomores, collaborate with teachers and tutor PERC students in class. Our session will demonstrate the utility of propensity score matching methods for developing early evidence of program impact and efficacy—showing how differences in prior achievement and academic experiences between TAS and non-TAS students contribute to variation in college readiness; and how prior achievement and instructional experiences between PERC and non-PERC students contribute to variation in achievement.

Breakout Room 15

Distributed Leadership-Crossing Boundaries

Building a Distributed Leadership Model for Systemic Change and Sustainability in an MSP Middle School Science Project



Robert Curtis, SF Bay Integrated Middle School Science Project

Summary: This session will explore a model for building distributed leadership capacity to support scaling and sustaining of middle school science MSP project. We will share structures and processes developed for systemic change and distributed leadership. Research shows that leaders primarily exert their influence by setting directions for school improvement, cultivating shared goals and norms, developing human capacity, and modifying structures to create conditions to support student achievement (Leithwood and Riehl 2005). IMSS has cultivated leadership teams from each of our ten districts to partner with project staff in building shared goals, setting a clear direction and building capacity of teachers and administrators to support systemic K12 improvements in science education as part of our MSP project.

Exploring a Boundary Crossing Map of Challenges within Partnerships between K-12 Teachers, and STEM & Education Faculty



Jacob Noel-Storr, Boundary Crossing Teams in Support of Math and Science Excellence in Our School Systems

Summary: In order to create and sustain a pipeline of highly competent and pedagogically qualified mathematics and science teachers, our project has created three boundary-crossing teams of STEM and Education faculty, students, and teachers who are conducting needs assessments, cataloging the challenges of working across boundaries between institutions, boundaries between pedagogy and science, and boundaries between student education and careers. We will solicit input on our in-progress Boundary Map, which illustrates the boundaries between pedagogic and science content knowledge, between grade levels from middle school through college, between disciplines in science, and between STEM Faculty, Education Faculty, and Teachers. The map also explores the boundaries for college students entering and graduating college within STEM or STEM education disciplines.

Breakout Room 16

Building for Long-term Capacity

Sustainability of NSF-funded Science Education Fellowship: An MSP Noyce Master Teacher Supplement



Allison Scheff, Boston Science Partnership

Summary: In June 2012, the Boston Science Partnership (BSP) thought it was saying goodbye to the Science Education Fellowship (SEF) program it had started with supplemental funding from Noyce to design a master-teacher program. However, the SEF program will continue for the next five years to support at least three more cohorts of Fellows through a scaling up model in the greater Boston area and a replication site in the greater Newark area with a new university partnership. This session will focus on how we received external funding, the elements of SEF that were attractive to the funder, and how the program is evolving in order to meet overcome the challenges of both scale-up and replication efforts.

Life After an MSP: Lessons Learned about Building Capacity for On-Going Reform



Nancy Bunt, MSP of SW Pennsylvania

Summary: What does it mean to build a legacy or to accomplish sustainability? Is it about relationships that survive the churn of inevitable personnel change? Is it about creating capacity at all levels? Does it involve demonstrating value-added? Funded ten years ago, the MSP of SWPA added math and science expertise to the staff of a regional education agency. It aimed for scale, involving 50+ school districts across an 11 county region, engaging rural, urban and suburban districts with enrollments from 600 to 4,000+. As a comprehensive MSP, it engaged district teams in systemic planning, while providing all building administrators with sustained learning opportunities. Join the PI, Project Director and Evaluator to explore their experiences and discuss their ultimate lessons.

Breakout Room 17: Teacher Leadership Success and Change

Midlife Reflections on Success and Change: The Pennsylvania Earth and Space Partnership



Tanya Furman, Middle Grades Earth and Space Science Education Partnership

Summary: The Earth and Space Science Partnership is at the midpoint of our 5-year funding cycle. In this presentation we reflect on the successes and challenges - anticipated and unforeseen - around which the group has come together. ESSP has successfully maintained and implemented a shared vision around supporting and engaging middle grades teachers of earth and space science within public school districts that are rife with struggles of their own. We will structure discussion around leadership and management practices, engagement with district personnel, and developing ways to achieve respectful accountability across diverse individuals and groups. Findings, best practices and advice from the community will be disseminated by the MSP network and may inform or prepare personnel in new projects.

The Effects of Modifications to a Teacher-Leadership Project Based on Feedback from an Initial Cohort



Ronald Schwarz, Mathematics Teacher Transformation Institutes (Lehman College, CUNY)

Summary: Lehman College's Mathematics Teacher Transformation Institutes (MTTI) aims to build leadership skills in Bronx middle and high school math teachers. MTTI supports two cohorts of teachers. We outline the ways in which MTTI was modified for the second cohort based on the experiences of working with the first cohort, and the effects of those modifications. We found that more careful recruitment of Cohort 2 has resulted in a more cohesive group, and a substantially lower dropout rate. Threading leadership seminars throughout other coursework has helped to provide an overview of the purpose of the program and encouraged the sharing of resources. The addition of written reflections makes participants more reflective practitioners and informs the running of the program.

Featured Topic Sessions 1 - Summaries

Monday, February 11, 2013

2:00 p.m. – 3:15 p.m.

Room:
Congressional A

Taking A Distributed Perspective to School Leadership & Management: Diagnosis and Design for Instructional Improvement

James P. Spillane, Olin Professor in Learning & Organizational Change, School of Education & Social Policy, Northwestern University

Summary: In this interactive presentation we will examine the entailments of taking a distributed perspective to leading and managing instruction, especially in diagnosis and design work that is essential for instructional improvement. We will discuss essential elements of a distributed perspective and examine some common myths about the perspective. We will explore how a distributed perspective presses for attention to *both* formal and informal sources of leadership in school organizations. We will pay particular attention to the practice-aspect of a distributed perspective and in particular examine how aspects of the organizational situation, such as organizational routines and tools, shape the practice of leading and managing instruction. Threaded throughout our discussion will be a consideration of how a distributed perspective can inform school leaders' efforts to improve instruction.

Room:
Congressional B

Next Generation of Science Standards: What NGSS May Mean for Your MSP

Presenter: *Martin Storksdieck*, Director of the Board on Science Education, National Research Council

Facilitators: *Rachelle DiStefano, Jeff Seitz, Robert Curtis, and Dawn O'Connor*

Summary: Although most MSP project teams were not thinking about NGSS when their proposal was submitted and approved for funding, the proposed standards have implications for many of the current projects. This session is designed to answer the following questions in addition to creating a network of NGSS resources for MSP projects:

1. Why is NGSS different from other standards?
2. What does NGSS mean for your MSP?
3. What will it take to make what was intended as a framework to actually make it into the classroom and translate to better teaching?
4. How can stakeholders be empowered to see themselves as actors in successful implementation of NGSS?

This interactive session includes active discussions within teams, across projects, and within both heterogenous and homogenous stakeholder groups. It is designed to leverage the richness of experiences of teacher leaders, K-12 administrators, faculty, and evaluators who are encouraged to participate in this session with their teams.

Room:
Mount Vernon A

Designing to Address Important Problems of Practice

William Penuel, Professor of Educational Psychology and Learning Sciences at the University of Colorado Boulder School of Education

Summary: In this session, participants will engage in activities to help MSP teams come to agreement on how best to address the root causes of important problems of practice. The activities will illustrate one way to integrate insights from research with the wisdom of practice. As part of the session, we will create diagrams of key drivers for transformation in four key areas of STEM teaching and learning: learning through STEM practices, formative assessment, cyberlearning, and relating everyday, informal, and formal learning. As part of the session, participants will hear how this set of activities fits into a broader effort aimed at supporting research-practice partnerships, the *Research+Practice Collaboratory*, a newly funded project of the Exploratorium, EDC, TERC, the University of Washington, and the University of Colorado.

Room:
Mount Vernon B

The MSP Initiative – Documenting the Total Return on the Federal Investment

Mark St. John, Founder and president, Inverness Research Inc.

Summary: Are the Mathematics and Science Partnerships an *expenditure* or an *investment* of federal dollars? Seen as an expenditure, the MSP grants buy services and short term outcomes. In this view MSP are funds used to enhance student achievement, in particular. An investment differs from an expenditure in that it produces capital – enduring assets that can be used for future improvement efforts. Too often we believe MSP projects do not see themselves as long-term investments. And evaluators do not carefully document the different forms of educational capital the MSP projects create.

This session will explore the need for documenting and communicating the total return on investment that accrues from the MSP investment. Discussions will focus on the ways in which evaluators can broaden their lens and capture long term capital creation as well as short term activities and contributions.

Room: 12/13/14

Common Core: Implications for Higher Education

Davida Fischman, CSU San Bernardino

Jim Lewis, University of Nebraska-Lincoln

Jennifer Lewis, Wayne State University

Summary: In this interactive session, two mathematicians and a mathematics educator consider implications of the CCSS Standards for Mathematical Practice (SMPs) for Institutions of Higher Education. NSF Mathematics and Science Partnerships bring together content and education faculty, yet many of us have discovered that we don't initially speak the same language. The presenters provide perspectives from collaborative work being done at three different universities, and will describe how the SMPs have served as a locus for productive cross-disciplinary conversations pertaining to an array of challenges we all face in mathematics education. Participants will explore how the SMPs might frame university instruction of mathematics or mathematics education, how they can support the deepening of their content-education partnerships, and how the SMPs might sustain changes initiated by MSP project work.