



ITEST National STEM Learning Exchange E-News

Spring 2012

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Welcome to ITEST's National STEM Learning Exchange March 2012 E-News. A shout out to the ITEST Summit Planning Committee for organizing a highly successful event. Using the links below we invite you to join archives sessions to learn about: "Maker Fairs" from Dale Dougherty (Maker Media), types of "evidence" that describe projects' successes from Vera Michalchik and Patrick Shields (SRI) and from Joy Frechtling (Westat), and current issues in STEM career development from David Bluestein (Boston College), Julia Martas (DC Schools) and Rich Feller (Colorado State).

See what's new in the ITEST community, mark your calendars for upcoming events, cruise presentations at recent conferences and upcoming solicitations, and review additional resources. Contact us to learn more about Replicable STEM Models emerging from the ITEST experience and how you can tap into the ITEST community's evidence of STEM success.

Joyce Malyn-Smith, Principal Investigator, ITEST Learning Resource Center

What's new

ITEST NINTH ANNUAL SUMMIT | RECORDED SESSIONS AND PRESENTATIONS ARCHIVES

The presentation [archives](#) and project posters are now available for your viewing.

NEW PUBLICATION: ITEST DATA BRIEF VOLUME 1, ISSUE 1, FEBRUARY 2012

Summary of Project Findings from the 2011–2012 ITEST Management Information System (MIS)

In this new publication, we share information about project outcomes from across the program, around the findings, research and evaluation questions, and methods. View this new [publication](#).

NEW UPDATED ITEST PROGRAM SNAPSHOT

View and share this 2012 updated program [snapshot](#).

Mark your calendar

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STEM CAREERS PARTNERSHIPS: HOW BUSINESS PARTNERSHIPS CAN BE USED TO ENGAGE STUDENTS IN STEM CAREERS

STEM CAREERS QUARTERLY WEBINAR SERIES EVENT #3 | MARCH 28TH 3-4 ET

Learn how involving the business community can increase student engagement in STEM careers and learning. The Connecticut Business and Industry Association's Education Foundation has a 25-year history in building effective

[Bringing Engineering Design to High School Classrooms - Video](#)

- [Scaling Up STEM Learning with the VCL - Role Model Videos](#)
- [The POD Project: Harnessing the Power of Data Featured in the HP Catalyst Online Showcase](#)

Additional resources

- [Science and Engineering Indicators 2012](#)
- [Successful K-12 STEM Education: Identifying Effective Approaches in Science, Technology, Engineering, and Mathematics](#)
- [National Girls Collaborative Project \(NGCP\) 2012 Collaboration Conference](#)
- [The FabFems Role Model Directory has launched!](#)
- [Puzzle Play Improves Math Skills](#)
- [Just Press Play](#)
- [Reducing the Outcomes Angst: A step-by-step approach to identify what to measure](#)
- [CSCP Webinar CSTA: Services and Resources to Engage Youth in Computer](#)
- [Get mapped with MOST Science!](#)

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business- education partnerships to ensure that Connecticut companies have access to a highly qualified workforce. Hear from two of their partners, Pfizer and General Electric about how they are involved in this work-based learning project designed to encourage students to enroll in STEM Advanced Placement courses. The webinar will also feature a segment from CBIA's Connecticut Career Pathways DVD Series. Hosted by Judy Resnick, Principal Investigator, [Project Opening Doors: An AP mathematics and science strategy to prepare underrepresented students for college success and STEM careers](#), and ITEST Corporate Partners. Make sure to reserve this event on your calendar. Please feel free to share this upcoming event with your colleagues. Register early at <http://learningtimeevents.org/itest>.

Conferences

CONFERENCE PAPERS AND PRESENTATIONS

- **Society for Information Technology and Teacher Education (SITE) | Austin, TX and online March 5-9**
 - Virtual Brief Papers in the Distance/Flexible Education strand – papers to be published in Conference Proceedings:
 - The ITEST Community of Practice: Lessons Learned and Future Directions – *Siobhan Bredin, ITEST Learning Resource Center*
 - Investigating Frequency and Type of Middle and High School Teacher Communication in a Blended Learning Physics Professional Development Program – *Pamela Gilchrist, Photonics Leaders I and II*
 - Front-Loaded Confidence: The Efficacy of Hybrid Professional Development in an ITEST Geospatial Technologies Project – *Steven Moore, Ocean Explorers and Coastlines*
- **International Technology and Engineering Educators Association (ITEEA) | Long Beach, CA March 15-17**
 - Special Interest Sessions:
 - Engineering Education Models Emerging from NSF's ITEST Program – *ITEEST LRC staff and multiple ITEST PIs*
 - NSF's ITEST Resources in Technology & Engineering Education – *ITEEST LRC staff and multiple ITEST PIs*
- **American Educational Research Association (AERA) | Vancouver, BC April 13-17**
 - Symposium and Papers:
 - STEM Learning to STEM Careers – *Dean Cristol (chair), It's about Discovery; Carol Greenes, Prime the Pipeline; Rhonda Christianson, Gerald Knezek, Tandra Tyler-Wood, Middle Schoolers Out to Save the World; Karen Michaelson, The Science Journalism Pathways to STEM Careers*
 - Working Group Roundtable - SIG on Informal Learning Environments:
 - Research and Strategies for Engaging African American and Latino Families in Informal STEM Education – *Jill Denner (chair) & Jacob Martinez, Girl Game Company and Watsonville Tecnología-Educación-*

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the National Science Foundation, and no official endorsement should be inferred.

National ITEST STEM Learning
Exchange @ EDC, Inc. • Waltham, MA



Comunidad (WTEC); Melissa Koch, Build IT and Girls InnovaTE3; Jason Lee, Detroit Area Pre-College Engineering Program (DAPCEP)

- Panel and Paper
 - Integrating Informal Education Experiences in K-12 Technology-Intense Teacher Professional Development - *Cathlyn Stylinski (University of Maryland); Caroline Parker (Education Development Center, Inc.); Carla McAuliffe (TERC)*

- **International Society for Technology in Education (ISTE) | San Diego, CA June 24-27**

- Panel Session - Youth Motivation in STEM:
 - Lessons Learned from NSF's ITEST Program – *Sarita Pillai (chair), ITEST Learning Resource Center; Michele Masucci, Building Information Technology Skills among North Philadelphia Youth (bITS); Kathy Hayden, iQUEST: Investigations for Quality Understanding and Engagement for Students and Teachers; Eli Tucker-Raymond, Bridging Math and Digital Media Creation*

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Opportunities

- [Cyberlearning: Transforming Education](#)
- [SCIENCE EDUCATION RESOURCE CENTER \(SERC\) - CALLS FOR PARTICIPATION](#)

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HIGH SCHOOL ENTERPRISE (HSE) SHOWCASE 2012 – DETROIT, MI | MAY 3RD

High School Enterprise Showcase and Conference, presented by Michigan Tech and hosted by General Motors. Browse and engaging display of HSE STEM projects and catch the excitement of participant students and teachers in one-on-one informal conversation as they present project work. [Find out more about the event.](#)

Project: [High School Enterprise](#)

HANDS-ON, MINDS-ON: BRINGING ENGINEERING DESIGN TO HIGH SCHOOL CLASSROOMS - VIDEO

This 2011 film by Emmy Award-winning producer Lawrence Klein tackles the huge issue of motivating students to achieve mastery in the science, engineering, and technology areas most likely to prepare them for productive, high-paying jobs. [Read more and view the film.](#)

Project: [CAPSULE: CAPStone Unique Learning Experience](#)

SCALING UP STEM LEARNING WITH THE VCL - ROLE MODEL VIDEOS

The role model videos are an important aspect of our scaling model for "Scaling Up STEM Learning with the VCL." In bringing professionals' real world views of the application of math to 9th and 10th geometry and algebra students, we are trying to counter the ever-pervasive questioning by North Carolina rural high school students' of the relevance of math to their futures. [Read more and view the videos.](#)

THE POD PROJECT: HARNESSING THE POWER OF DATA FEATURED IN THE HP CATALYST ONLINE SHOWCASE

The POD [projects](#), are part of an international collaboration between educators exploring innovations in STEM(+) education. The gallery includes many examples of how technology is transforming learning and teaching in STEM education in grades 6 through undergraduate levels. Take a moment to visit the online showcase "[poster](#)," leave a comment, and indicate that you "like" the project work – before April 12th. Votes will help the project compete for the "HP Catalyst People's Choice Award".

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Additional resources

SCIENCE AND ENGINEERING INDICATORS 2012

Source: *MSPnet*

"The Science Indicators series was designed to provide a broad base of quantitative information about U.S. science, engineering, and technology for use by policymakers, researchers, and the general public. [Read more](#) and download the report.

SUCCESSFUL K-12 STEM EDUCATION: IDENTIFYING EFFECTIVE APPROACHES IN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

Source: *The National Academies Press*

Authors: Committee on Highly Successful Schools or Programs in K-12 STEM Education; National Research Council

Successful K-12 STEM Education examines the vast landscape of K-12 STEM education by considering different school models, highlighting research on effective STEM education practices, and identifying some conditions that promote and limit school- and student-level success in STEM. The book also looks at where further work is needed to develop appropriate data sources. [Read more](#).

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NATIONAL GIRLS COLLABORATIVE PROJECT (NGCP) 2012 COLLABORATION CONFERENCE | APRIL 25-27 - ALEXANDRIA, VA

ITEST PI Karen Peterson is also PI of the National Girls Collaborative Project, which is hosting an upcoming event of interest to educators who work with girls in STEM. Back by popular demand, the NGCP National Collaboration Conference 2012: Advancing the Field through Collaboration, Capacity Building, and Equity will be held in conjunction with the nation's largest celebration of science and engineering. Read more and **register by the deadline of March 25th**:

<http://www.ngcproject.org/collabconf2012>

THE FABFEMS ROLE MODEL DIRECTORY HAS LAUNCHED!

Funded by the [Motorola Solutions Foundation](#), the FabFems Project is a new initiative from the [National Girls Collaborative Project](#), [Platform Shoes Forum](#) and the [Smith College Summer Science and Engineering Program](#). We are seeking female role models interested in volunteering a small amount of time to spark girls' interests in science, technology, engineering and mathematics. Many girls do not have the opportunity to meet a scientist or engineer— especially a female

professional with whom they can relate. FabFems choose the type of outreach that suits their availability and interests – speak at a science night, visit an after-school program, or create a profile page to show girls what it looks like when you follow your passion. [Share your past and spark a future.](#)

PUZZLE PLAY IMPROVES MATH SKILLS

Source: *NSF website*

An important context for figuring out problems through reasoning is puzzle play, say researchers at University of Chicago. Psychologist Susan Levine and colleagues recently conducted a study that found 2-4 year-old children, who play with puzzles, have better spatial skills when assessed at 4 1/2 years of age. [Read more.](#)

JUST PRESS PLAY

Source: *Education Development Center, Inc. Newsroom*

Tapping students' natural interest in play makes learning more engaging.

From climbing to solving toy puzzles, the earliest learning experiences of young children revolve around play. "Pure play gives kids experiential knowledge that teachers can build on," says Katie Culp, a project director for EDC's Center for Children and Technology. [Read more.](#)

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REDUCING THE OUTCOMES ANGST: A STEP-BY-STEP APPROACH TO IDENTIFY WHAT TO MEASURE | WEDNESDAY MARCH 21, 1-2:30 PM ET

Source: *EvaluATE Resource Center*

Deciding what to measure (and what not to measure) towards gathering evidence of impact can be a daunting task, but it doesn't need to be. In this webinar, Lana Rucks, an ATE external evaluator, will provide a step-by-step approach for making the decisions around what should be measured as an indication of impact. Read more and [register.](#)

CSCP WEBINAR | CSTA: SERVICES AND RESOURCES TO ENGAGE YOUTH IN COMPUTER SCIENCE | THURSDAY, APRIL 5, 2012 | 11 AM - 12 PM PACIFIC

Source: *The Computer Science Collaboration Project E-Newsletter*

CSTA is the Computer Science Teachers Association, a membership organization of 10,000 educators, institutions, and companies dedicated to supporting and promoting the teaching of computer science and other computing disciplines in K-12. This webinar will focus on services that CSTA provides for formal and informal educators and the free resources it provides for helping young people, their families, and their educational community better understand the computing disciplines and the world of opportunities they provide. [Register.](#)

GET MAPPED WITH MOST SCIENCE!

MOST-Science is a nation-wide study funded by the National Science Foundation and the Noyce Foundation. They are collecting data on science and engineering-focused out-of-school-time programs across the country, and want you to contribute information about your programs to the study. Highlight your organization and its youth programs in this national research study. [Read more on how to contribute.](#)

DRLNET WEBSITES

The ITEST National STEM Learning Exchange is a member of DRLnet, a group of resource centers serving five NSF [Division of Research and Learning in Formal and Informal Settings](#) (DRL)-funded program communities including: [Academies for Young Scientists](#), [Discovery Research K-12](#), [Informal Science Education](#), and [Research and Evaluation on Education in Science and Engineering](#). Each of these websites has information of interest to the ITEST community.

About the ITEST National STEM Learning Exchange at EDC

The mission of the ITEST National STEM Learning Exchange at Education Development Center (EDC) is to support achievement of the ITEST program goals through:

- **Increased knowledge and capacity** among ITEST PIs and their teams to design, evaluate and refine their work to achieve individual project goals
- **Synthesis, analysis and documentation** of the collective experience and results of ITEST projects
- **Dissemination of the knowledge** created in the ITEST program to inform the field of STEM workforce development

The ITEST National STEM Learning Exchange