

# Fostering Youth Motivation, Achievement and Persistence in STEM: Findings from the ITEST Program

Wednesday October 22<sup>nd</sup>, 2014

Hosted by:

STEM Learning & Research Center (STELAR)  
Education Development Center, Inc.

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# NSF's Innovative Technology Experiences for Students and Teachers (ITEST) Program

- To build understandings of best practices, factors, contexts and processes contributing to K-12 students' motivation and participation in STEM
- Helps students to be aware of STEM careers, and to pursue formal school-based and informal out-of-school educational experiences to prepare for such careers
- Includes **288** current and past projects across **44** states have served **247,700 students, 9600 educators, 3000 parents and caregivers**

# ITEST Portfolio



- **Computer Science** gaming & simulations, general programming, web development, multimedia – audio, video and animation, computer hardware.
- **Bioscience** bioinformatics, biotechnology, DNA analysis/sequencing, neuroscience and biomedicine
- **Environmental Science** GIS/GPS, remote sensing technology, climate modeling, ecological research/analysis
- **Engineering** aerospace, astronomy, design, robotics and nanotechnology

# STEM Learning and Research Center (STELAR) Goals

- Facilitate projects' success through **technical support** with a focus on synthesis of findings
- Inform and influence the field of STEM stakeholders by **disseminating** project findings nationally
- Deepen the impact and reach of the ITEST program by **broadening participation** in the ITEST portfolio



# STELAR Website – <http://stelar.edc.org>

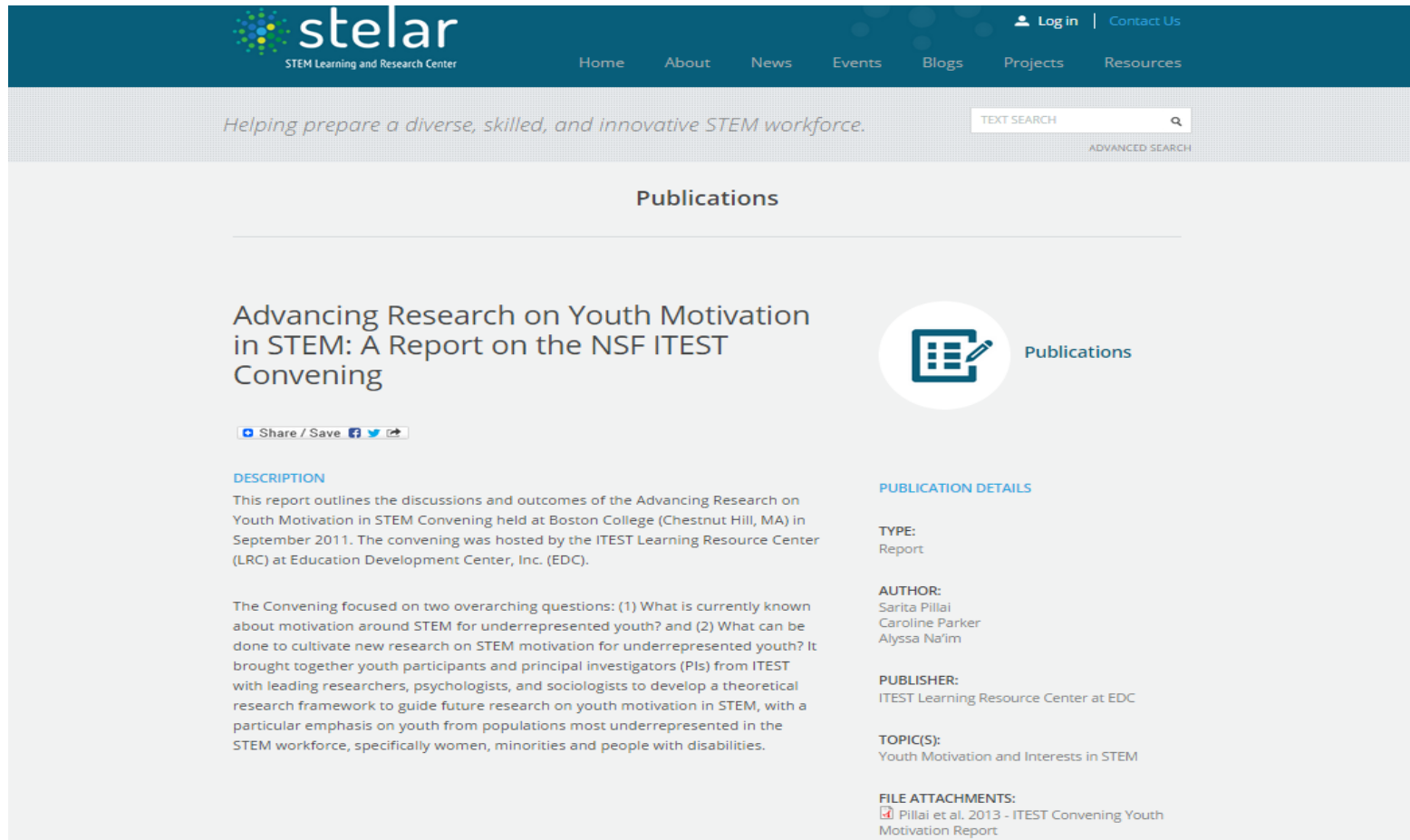
The screenshot shows the homepage of the STELAR website. At the top left is the STELAR logo, which consists of a cluster of colorful dots followed by the word "stelar" in a lowercase, sans-serif font. Below the logo is the text "STEM Learning and Research Center". To the right of the logo is a navigation menu with links for "Home", "About", "News", "Events", "Blogs", "Projects", and "Resources". Further right are links for "Log in" and "Contact Us".

The main content area features a "MONTHLY HIGHLIGHT" section. The highlight title is "ITEST PROPOSAL DEVELOPMENT TOOLS AND RESOURCES". Below the title is the text "Access resources to help you prepare a stronger proposal." and a green button labeled "Learn more »". To the right of the text is a photograph of three children looking at a document on a table.

Below the highlight section is a tagline: "Helping prepare a diverse, skilled, and innovative STEM workforce." To the right of the tagline is a search bar with the text "TEXT SEARCH" and a magnifying glass icon. Below the search bar is the text "ADVANCED SEARCH".

At the bottom of the page are four icons with corresponding text: a magnifying glass icon for "ITEST Program Findings", a binoculars icon for "Find a Project", a briefcase icon for "Find a Resource", and a cluster of dots icon for "STELAR Materials".





# STELAR Website – <http://stelar.edc.org>



The screenshot shows the STELAR website interface. At the top, there is a dark blue header with the STELAR logo (STEM Learning and Research Center) on the left and navigation links (Home, About, News, Events, Blogs, Projects, Resources) on the right. A 'Log in' and 'Contact Us' link is also present. Below the header is a light gray banner with the tagline 'Helping prepare a diverse, skilled, and innovative STEM workforce.' and a search bar labeled 'TEXT SEARCH' with an 'ADVANCED SEARCH' link below it.

## Publications

### Advancing Research on Youth Motivation in STEM: A Report on the NSF ITEST Convening

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**DESCRIPTION**

This report outlines the discussions and outcomes of the Advancing Research on Youth Motivation in STEM Convening held at Boston College (Chestnut Hill, MA) in September 2011. The convening was hosted by the ITEST Learning Resource Center (LRC) at Education Development Center, Inc. (EDC).

The Convening focused on two overarching questions: (1) What is currently known about motivation around STEM for underrepresented youth? and (2) What can be done to cultivate new research on STEM motivation for underrepresented youth? It brought together youth participants and principal investigators (PIs) from ITEST with leading researchers, psychologists, and sociologists to develop a theoretical research framework to guide future research on youth motivation in STEM, with a particular emphasis on youth from populations most underrepresented in the STEM workforce, specifically women, minorities and people with disabilities.


**PUBLICATION DETAILS**


**TYPE:**  
Report

**AUTHOR:**  
Sarita Pillai  
Caroline Parker  
Alyssa Na'im

**PUBLISHER:**  
ITEST Learning Resource Center at EDC

**TOPIC(S):**  
Youth Motivation and Interests in STEM

**FILE ATTACHMENTS:**  
 Pillai et al. 2013 - ITEST Convening Youth Motivation Report



# Today's Panel

- What specific **programmatic aspects** have the greatest impact on **youth motivation, achievement and persistence in STEM** beyond ITEST?
- What do these STEM learning experiences teach young people about **STEM educational/career paths**?
- What are the **systemic barriers** that impeded student persistence in STEM education and career pathways and how can they be addressed? What are the **drivers of change** and the policy implications?

# Panel Members

- *Moderator:* **Sarita Pillai**, Education Development Center, Inc.
- **Carolyn Staudt**, Concord Consortium
- **David Reider**, Education Design
- **Jamie Larsen**, TERC Inc.
- **Mike Barnett**, Boston College
- **Andy Trossello**, Waltham High School
- **Russ Anderson**, Worcester Technical High School
- **Tim Gay**, Boston Latin Academy



# Thanks and Q&A

**Materials from our session today including presentations and links to reports will be available from our website:**

**<http://stelar.edc.org>**

**Or send us an email at:**

**[stelar@edc.org](mailto:stelar@edc.org)**