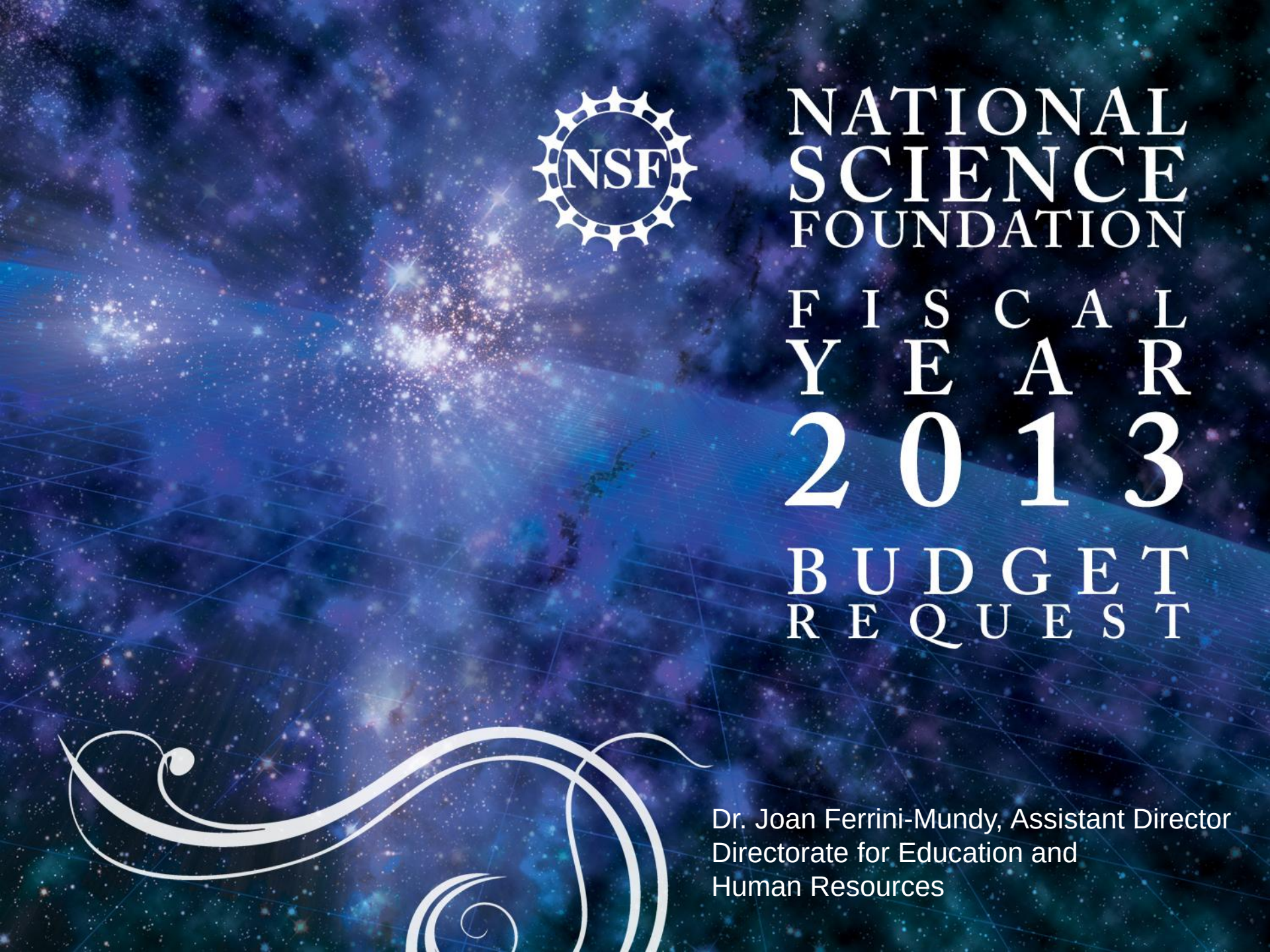


Dr. Joan Ferrini-Mundy, Assistant Director
Directorate for Education and Human Resources

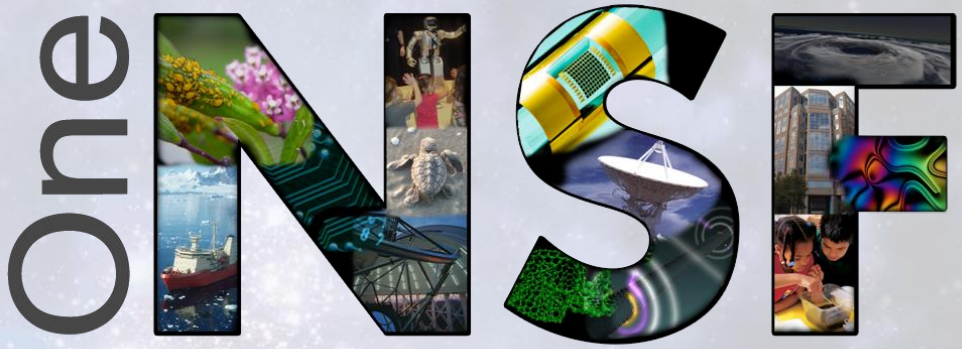
Inspiring STEM Learning

http://visionandchange.org/
http://www.nap.edu/catalog.php?record_id=12984#toc
http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-stemed-report.pdf
http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-engage-to-excel-final_feb.pdf

EHR FY 2013
Congressional Budget Request

Total FY 2013:
$875.61 million

Change Over
FY 2012 Estimate:
+5.6%
+$46.61 million



Responsiveness

Leveraging

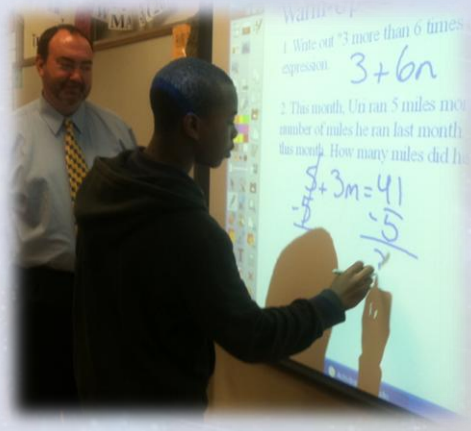
Leadership

EHR 2013

Research & Development Core

Leadership

Expeditions



Research & Development Core

Building the knowledge base and evidence needed to achieve excellence

Research & Development Core

Core Launch

- ✓ STEM Learning
- ✓ STEM Learning Environments
- ✓ Broadening Participation and Institutional Capacity in STEM
- ✓ STEM Professional Workforce Preparation

Research & Development Core

Advancing Informal STEM Learning (AISL)

Building innovative models for engaging today's young people and adults in outside of school settings

Research & Development Core

Research on Education and Learning (REAL)

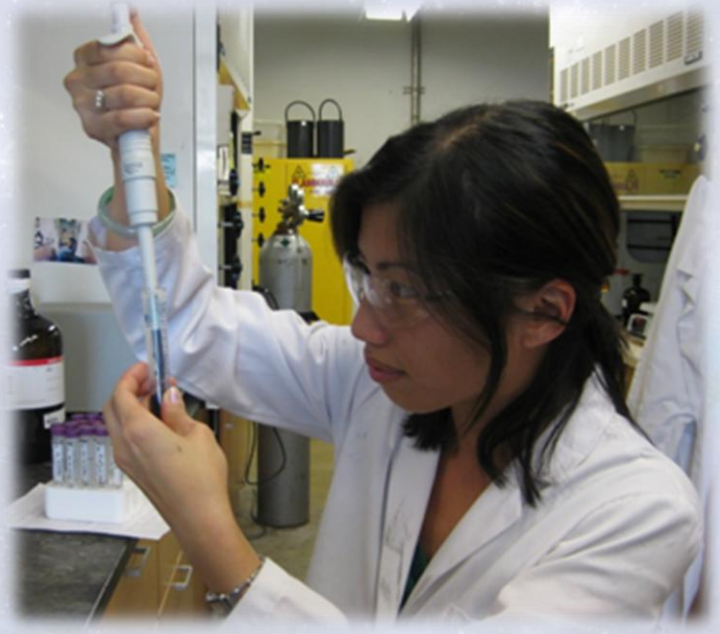
Advancing the frontiers of STEM education research and accelerating the building of a diverse workforce through systematic research and model building into broadening participation in STEM learning and education

Leadership

Accelerating the development of the next generation of diverse well qualified STEM researchers and educators

Leadership

Graduate Research Fellowship (GRF) Program



Recognizing and supporting outstanding graduate students early in their careers who are pursuing research-based master's and doctoral degrees in fields within NSF's mission

Leadership

Excellence Awards in Science and Engineering (EASE)

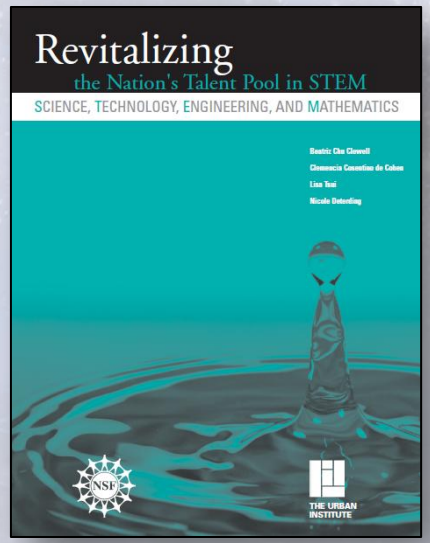
2010 and 2011 PAESMEM recipients

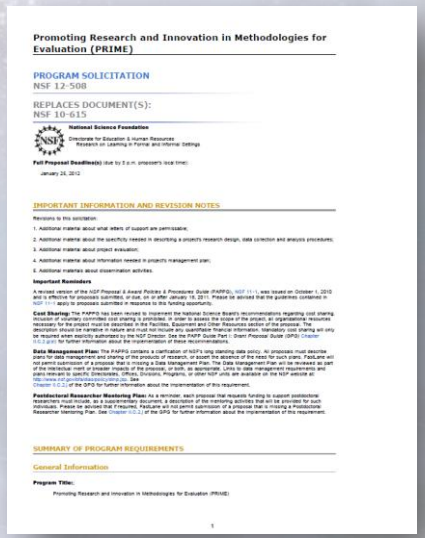
2010 PAEMST awardees

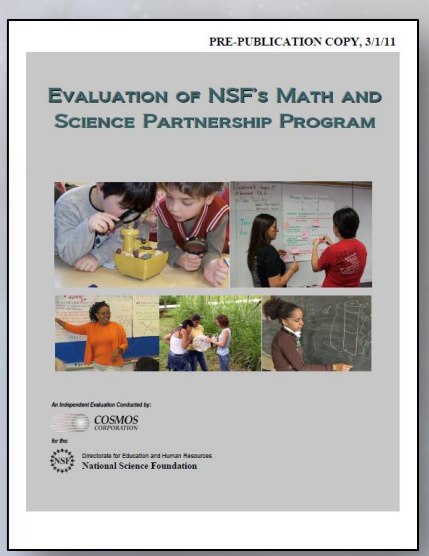
Promoting broader participation and success in Presidential awards programs

Leadership

Project and Program Evaluation (PPE)





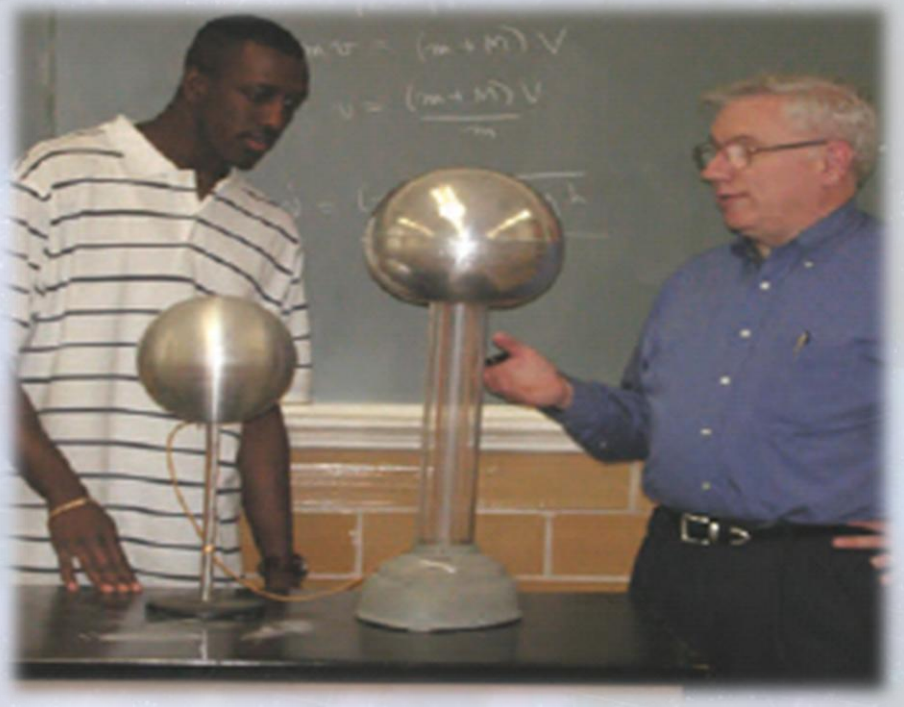


http://www.urban.org/publications/311299.html
http://www.nsf.gov/pubs/2012/nsf12508/nsf12508.htm
http://msppe.mspnet.org/media/data/Final_Dissem_Rpt__11-8-11_WEB_VERSION.pdf?media_000000007243.pdf

Supporting the evaluation of NSF STEM education programs for the purpose of evaluating program effectiveness and improvement

Leadership

High Priority Performance Goal



By September 30, 2013, 80% of the institutions funded through NSF undergraduate programs document the extent of use of proven instructional practices.

Expeditions

Catalytic and high-return activities that have the potential to transform science and engineering education and create the world-class workforce needed to compete in the twenty-first century: done in partnership, internally and externally.

Expeditions

Expeditions in Education- E^2
Engage, Empower, Energize

Transforming STEM learning for the nation by bringing frontier science and learning research together- NSF-wide collaborations

Expeditions

Expeditions in Education- E^2 *Engage, Empower, Energize*

Focus Topics for 2013:

- Transforming Learning for STEM Undergraduates
- People and the Planet
- Cyberlearning and Big Data

FY 2013 Budget—NSF Total:	$49 Million

Expeditions

Expeditions in Education- E^2
Engage, Empower, Energize

E^2 Investments will:

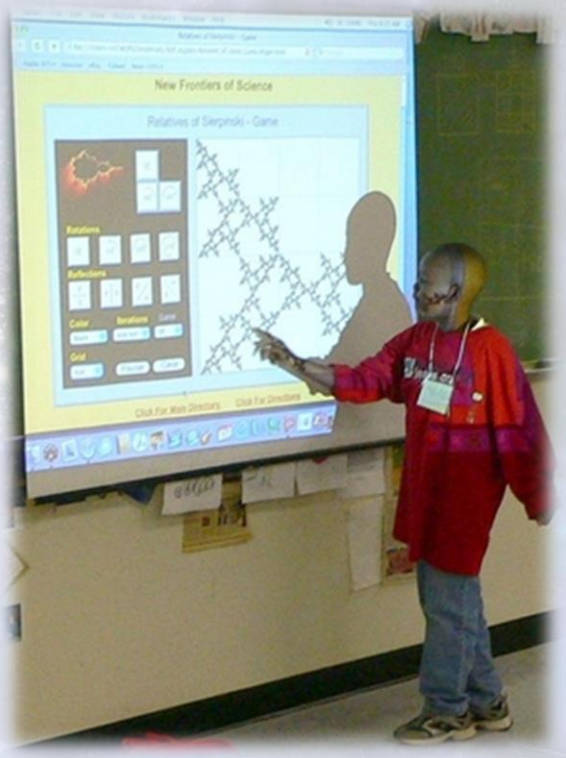
- Make frontier science central
- Use theory and research on STEM learning
- Aim for bold learning outcomes
- Commit to common metrics
- Design for scale
- Involve all NSF directorates and offices

Expeditions

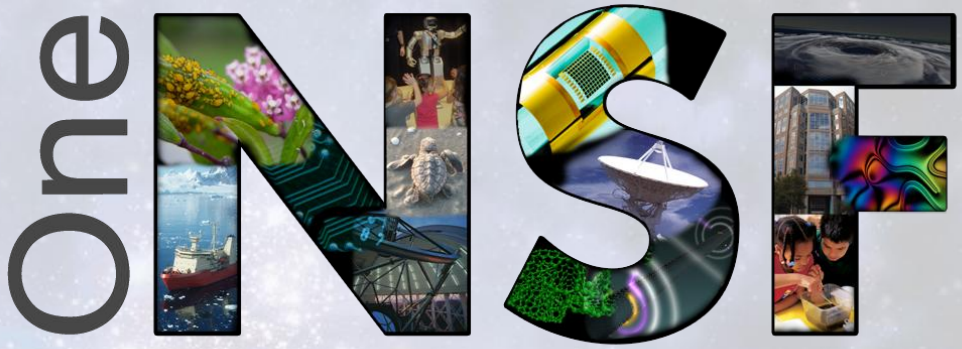
President's K-16 Mathematics Education Initiative

Moving successful education programs from early research to widespread use

Expeditions



Collaboration with the Department of Education to explore ways to improve STEM-based initiatives within states, regions, or districts based on the lessons learned in NSF's Math and Science Partnership program with a focus on mathematics in tiered-evidence approach.

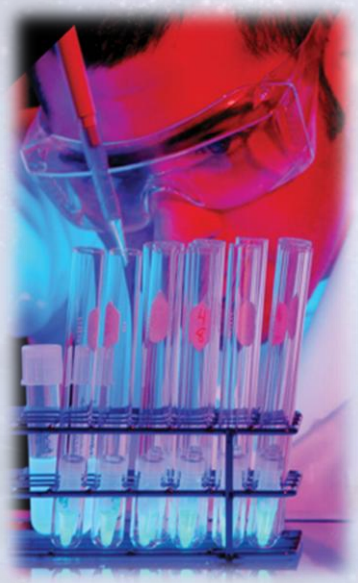


Innovation Corps (I-Corps)- $300,000

Secure and Trustworthy Cyberspace (SaTC)- $25.00 million

Expeditions in Education (E^2)- $20.50 million

Ensuring the Health and Vitality of our Nation's STEM Education Enterprise



Contributing to the Presidential goal of producing one million additional college graduates with degrees in science, technology, engineering, and mathematics

Photo Credits

- Slide 3
  - Jim Markle, UC Davis Tahoe Environmental Research Center
- Slide 5
  - Left: Sengyong Lee, Ivy Tech Community College
  - Middle: Christine Thomas
  - Right: K. Leonard
- Slide 6
  - Yan Cain, teacher, PS 3, New York City Department of Education
- Slide 7
  - ATE Centers Impact 2011, Patton, Madeline, Ed. Tempe, AZ: Maricopa Community Colleges, 2011. p. 51
- Slide 8
  - Miriam Moody, Exploratorium
- Slide 9
  - Mark Benjamin, Rochester institute of Technology
- Slide 10
  - American Association of Community Colleges, Community Colleges Impact K-12 STEM Teaching, p. 34
- Slide 11
  - Left: Lesa Tran
  - Right: Harris Wang, Ph.D., Harvard University

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  - Right: Official White House Photo by Lawrence Jackson
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  - Louis Dale, The University of Alabama at Birmingham
- Slide 15
  - Osman Yasar, SUNY College at Brockport
- Slide 16
  - Left: Steven Fletcher, St. Edward's University
  - Right: Jurgen Schulze, Calit2, UC San Diego
- Slide 19
  - Left: MSP National Impact Report (NSF 2010-046), p. 15
  - Right: Osman Yasar, SUNY College at Brockport
- Slide 20
  - Richard Voss and Heinz-Otto Peitgen, Florida Atlantic University
- Slide 22
  - Left: ATE Centers Impact 2011, Patton, Madeline, Ed. Tempe, AZ: Maricopa Community Colleges, 2011. p. 41
  - Right: ATE Centers Impact 2011, Patton, Madeline, Ed. Tempe, AZ: Maricopa Community Colleges, 2011. p. 29