

FEDERAL LABORATORY CONSORTIUM
FLC
FOR TECHNOLOGY TRANSFER

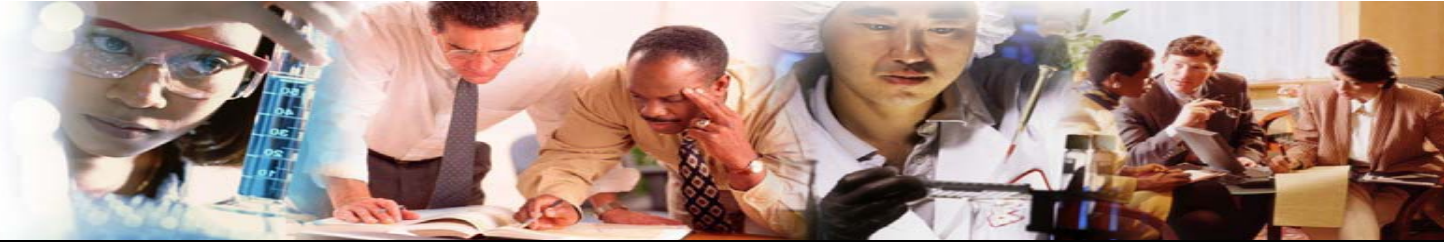
*The Only Government-wide
Forum for Technology
Transfer*

FLC Washington DC Office

Gary K. Jones
FLC DC Rep

“Federal Programs in Science,
Technology, Engineering and
Math (STEM): Improving STEM
Education in America”

May 6, 2007



Some Worrisome Indicators

(*The Gathering Storm Report, 2005*)

- Fewer than one-third of US 4th grade and 8th grade students performed at or above a level called “proficient” in mathematics; ... about one-third of the 4th graders and one-fifth of the 8th graders unable to perform basic mathematical computations.
- US 12th graders performed below the international average for 21 countries on a test of general knowledge in math and science.
- 11 (out of 15) nations outperformed the US (12th graders) and 4 countries had scores similar to the US scores in advanced math assessments.
- In 1999, only 41% of US 8th grade students received instruction from a mathematics teacher who specialized in mathematics (the international average was 71%).
- In Germany, 36% of undergraduates receive their degrees in science and engineering. In China, the figure is 59%, and in Japan 66%. In the United States, the corresponding figure is 32%.
- In 2004, China graduated over 600,000 engineers, India 350,000, and America about 70,000.



America COMPETES Act

(P.L. 110-69)

SENATE

The American COMPETES Act (S. 761)

PACE bills, others

OMB: Statement of Administrative Policy

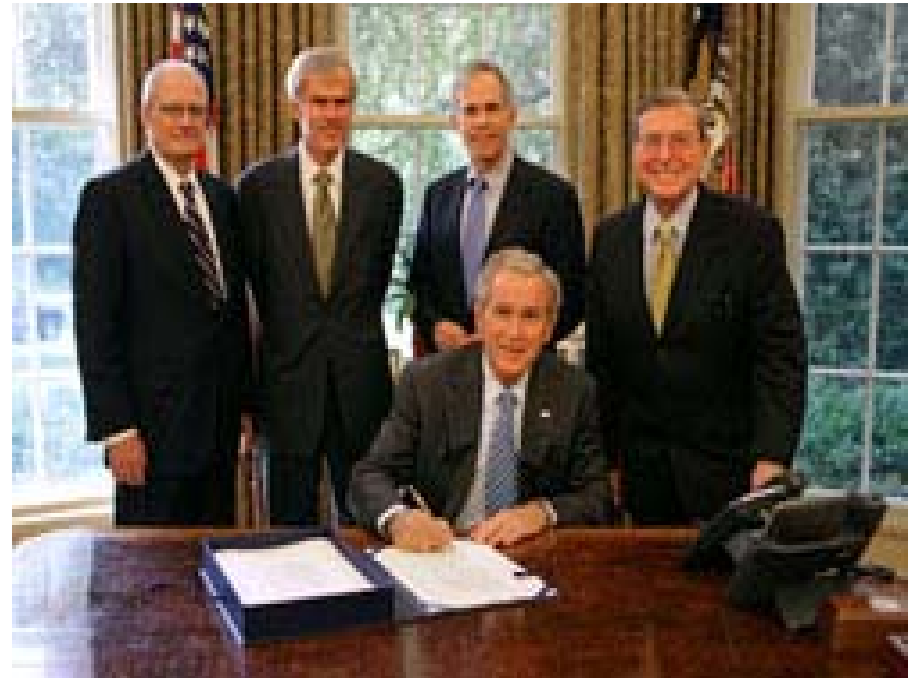
HOUSE

The 21st Century Competitiveness Act (H.R. 2272)

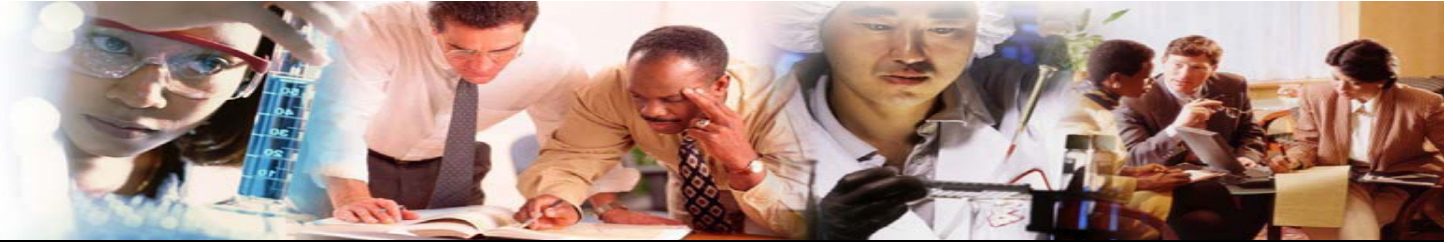
NIST Reauthorization

NSF Reauthorization

Two bills based on *Gathering Storm*



House/Senate Conference Agreement July 31, 2007
President Signed P.L. 110-69 August 9, 2007



America COMPETES Act

(Authorized --- Not Appropriated)

Selected STEM-Related Highlights:

- Authorized \$33.6 B (FY08-FY10) for STEM research and education programs government-wide;
- Created thousands of new teachers and improves skills of current teachers through NSF Noyce Teacher Scholarship Program and Math & Science Partnership Programs;
- Expanded NSF programs to enhance UG education of future S&E workforce;
- Authorized two new competitive grant programs to support BS science degrees with concurrent teaching certification;
- Authorized competitive grants to increase number of teachers in high schools and expand AP/IB programs;



STEM Panel

Gerry Wheeler

Executive Director
National Science Teachers Association

Bill Valdez

Director
DOE HQ, Workforce Development for Teachers & Scientists

Karen Wieda

Team Lead
DOE, Pacific Northwest National Laboratory

Robert Stiegler

Project Coordinator
DOD, Naval Surface Warfare Center, Dahlgren

Christine Ivie

Chief of Education
NASA, Ames Research Center