

# Entrepreneurship in Science Education

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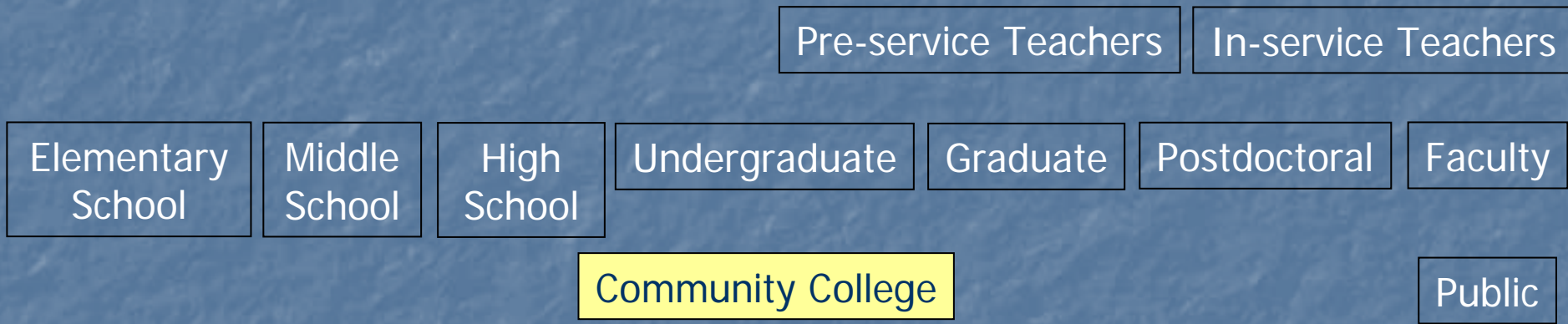
Floor of an oil well drilling rig





Marine Biology Laboratory, Woods Hole, MA

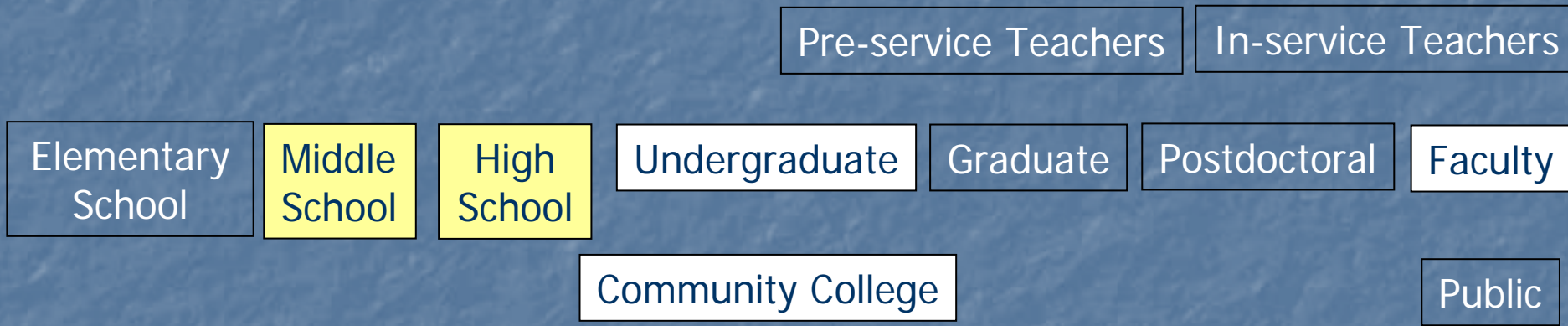
# 1993 NIH Bridges to the Baccalaureate



# 1994 Howard Hughes Medical Institute



# 1995 Stony Brook University - Biotechnology Teaching Center





# Biotechnology Teaching Center

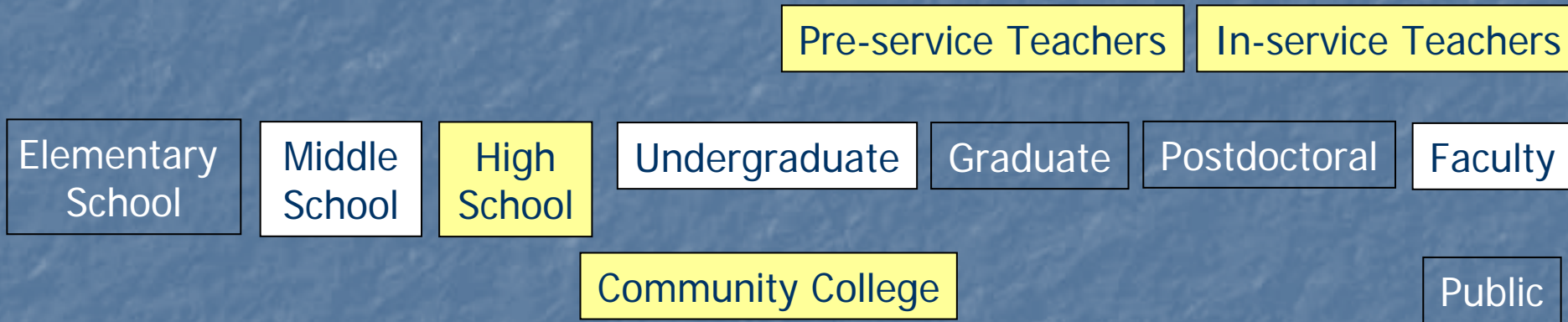
- Introduce middle and high school students to molecular biology, biotechnology, & forensics
- Hands-on, inquiry-based
- Aligned with the New York State Learning Standards
- Teachers schedule their classes for half day or day
- Cost is \$17 per pupil

# Students working in the Biotechnology Teaching Center

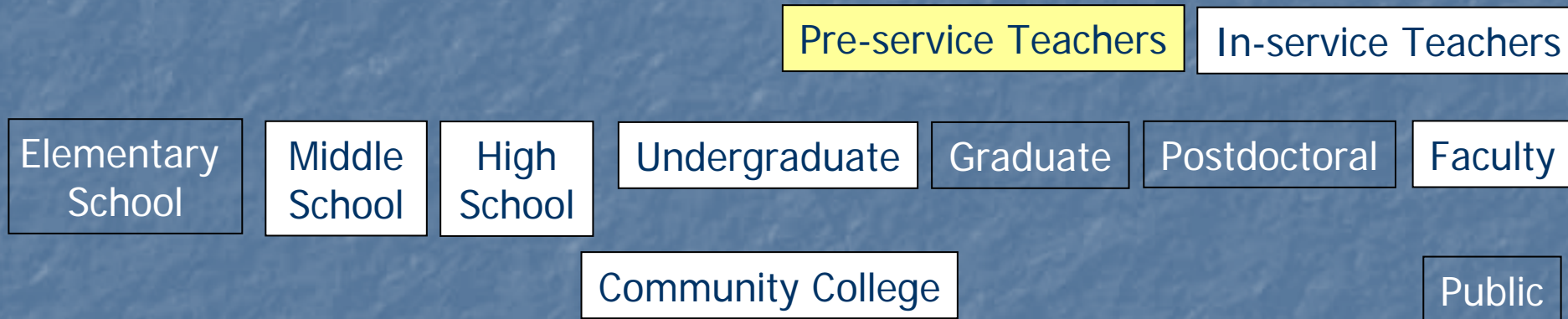




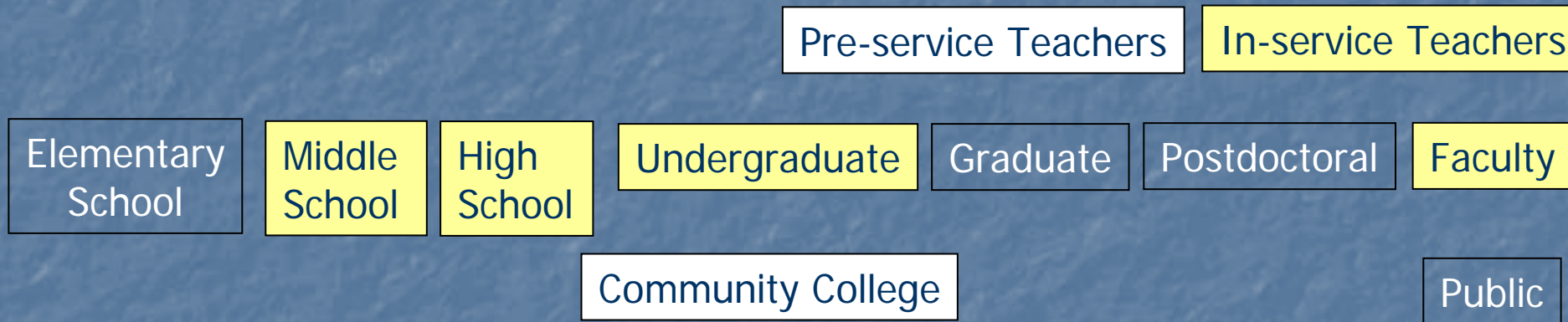
# 1996 NSF Advanced Technological Education



# 1998 Stony Brook University - Direct Biology Teacher Education



# 1998 Howard Hughes Medical Institute





# Laboratory Renovation



+ \$150,000  
+ faculty  
+ students =









**Howard Hughes Medical Institute High School Scholars  
meet with New York Governor George Pataki—August 2, 2002**

# In-Service Teacher Workshops

## **Elementary School**

- How Children Learn Science
- Using Children's Literature to Enhance Your Science Curriculum

## **Middle School**

- Environmental Health Science
- Physical Science in Grades 7-8

## **High School**

- Bioinformatics in the Biology Classroom
- i-Movie in the Science Classroom

## **K-12**

- A Marine Science – Oriented Approach to Teaching Science Standards!



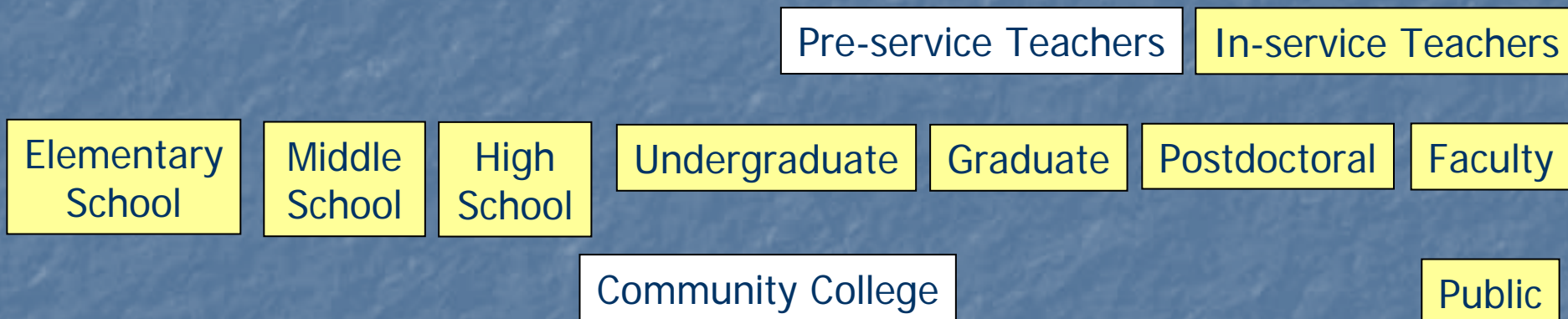
# In-Service Teacher Activities

- Co-teach summer science programs for students
- Teach science workshops for other teachers
- Collaborate on grants
- Teach Stony Brook courses for teachers

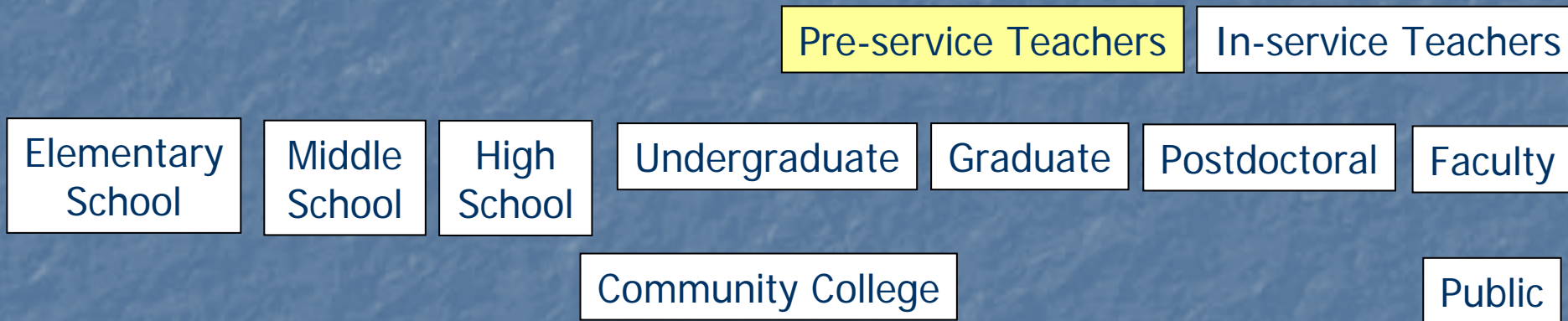




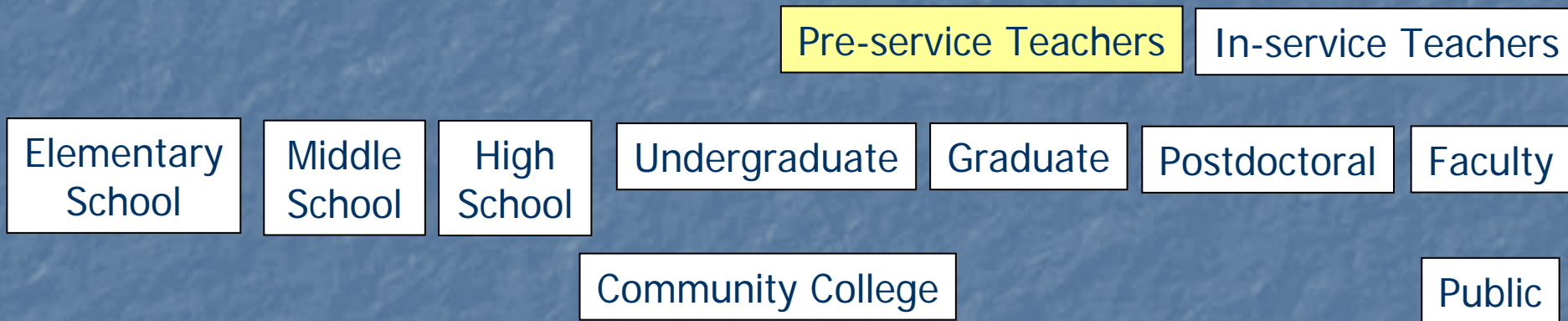
# 2002 Howard Hughes Medical Institute



# 2003 NSF Presidential Award



# 2004 Stony Brook University - Direct Science Teacher Education Biology, Chemistry, Earth Science, Physics



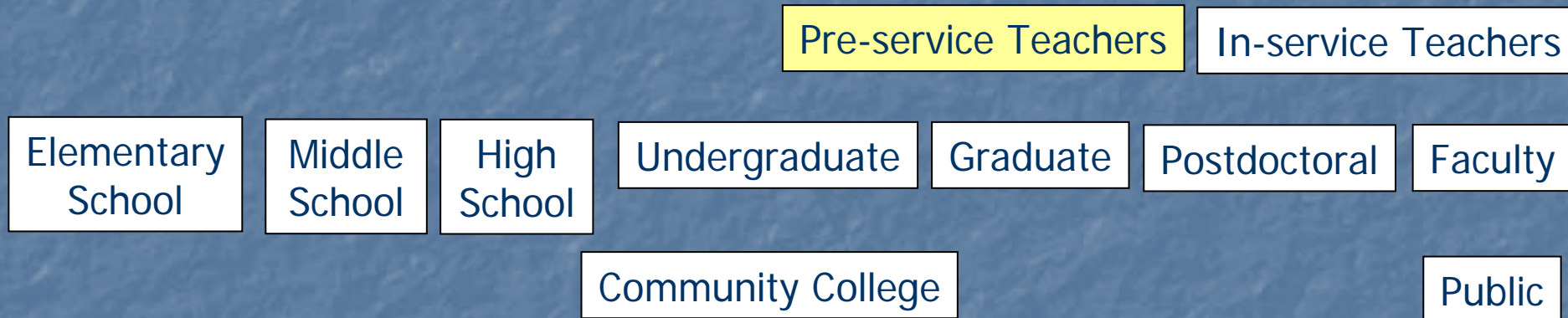


# Pre-Service Teacher Activities

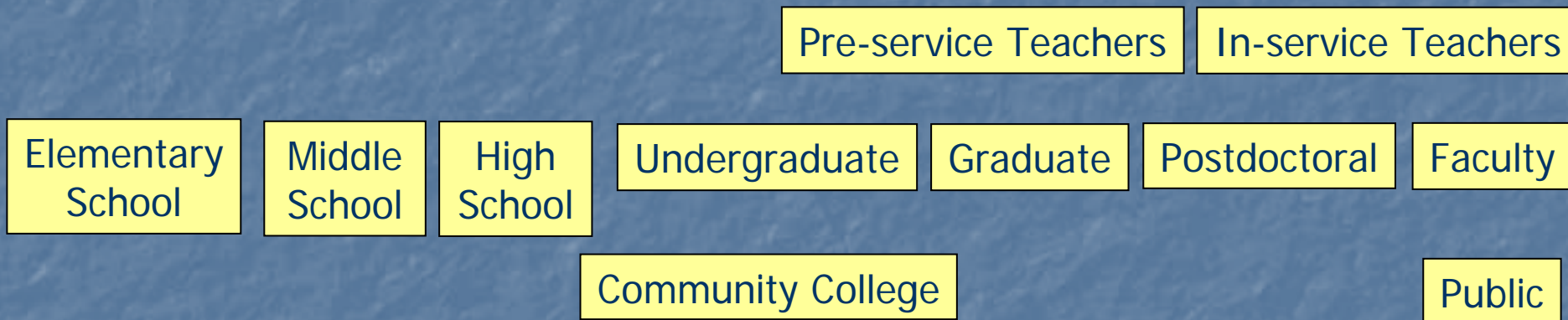
- Work in Biotechnology Teaching Center for credit and salary
- Serve as teaching assistants for undergraduate courses
- Co-direct summer science programs for students



# 2006 NSF Robert Noyce Fellowships

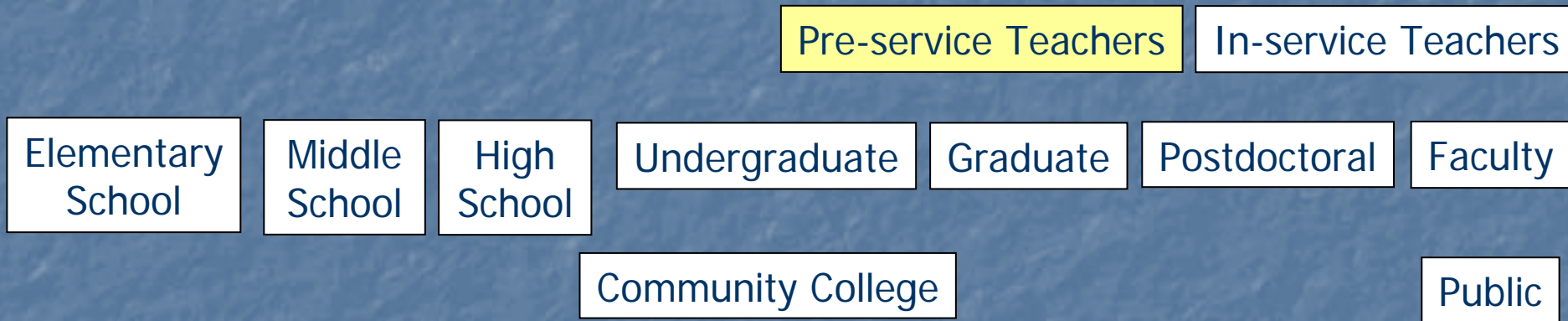


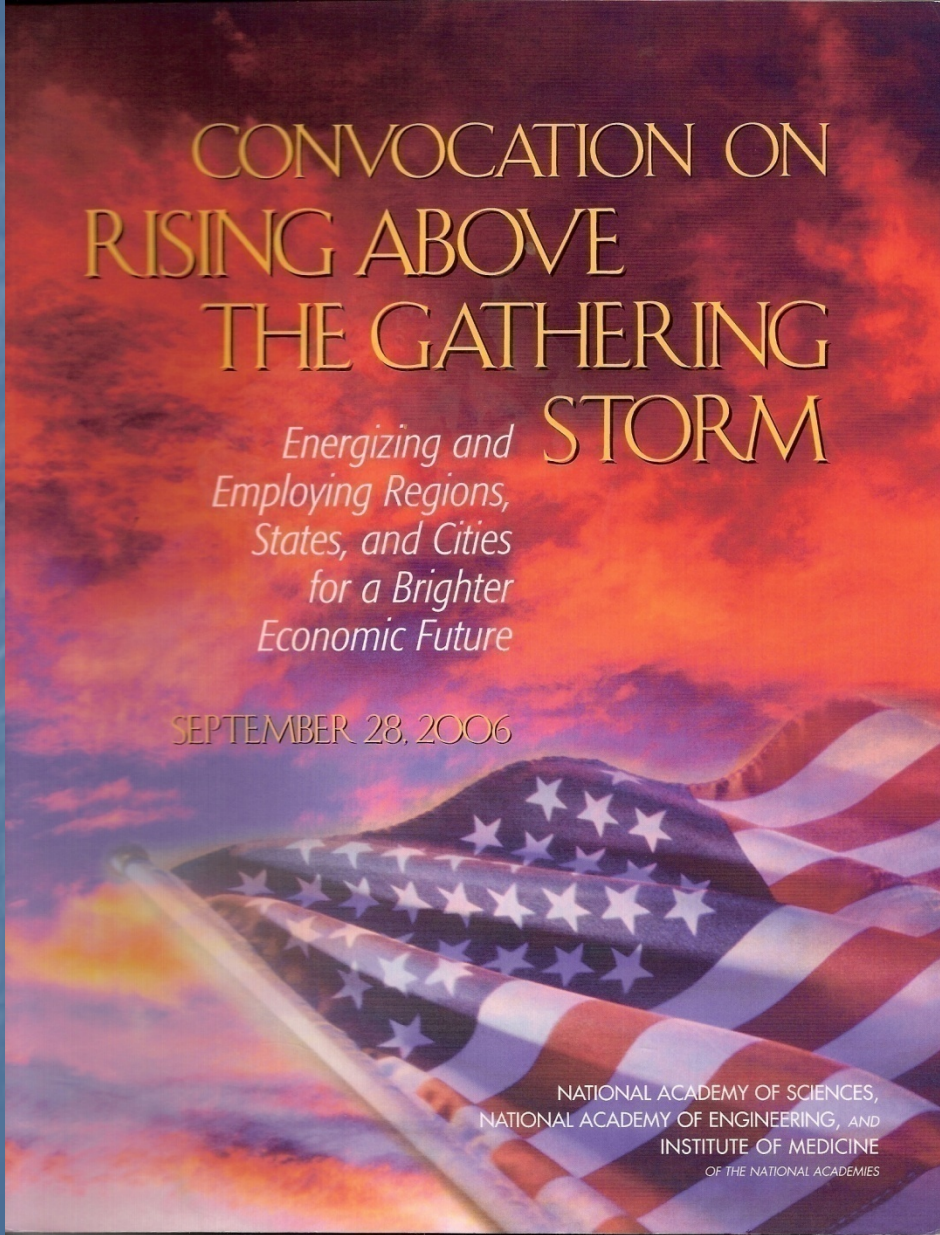
# 2006 Howard Hughes Medical Institute





# 2007 Petrie Foundation





CONVOCAATION ON  
RISING ABOVE  
THE GATHERING  
STORM

*Energizing and  
Employing Regions,  
States, and Cities  
for a Brighter  
Economic Future*

SEPTEMBER 28, 2006

NATIONAL ACADEMY OF SCIENCES,  
NATIONAL ACADEMY OF ENGINEERING, AND  
INSTITUTE OF MEDICINE  
OF THE NATIONAL ACADEMIES

STONY  
BROOK

STATE UNIVERSITY OF NEW YORK



# 2007 Stony Brook University Creation of Center for Science and Mathematics Education

Howard Hughes Medical Institute

National Institutes of Health

National Science Foundation

Stony Brook University

Office of the Provost

Office of the Vice-President for Research

Dean, College of Arts & Sciences

Dean, School of Medicine

OSI Pharmaceutical Foundation

Petrie Foundation

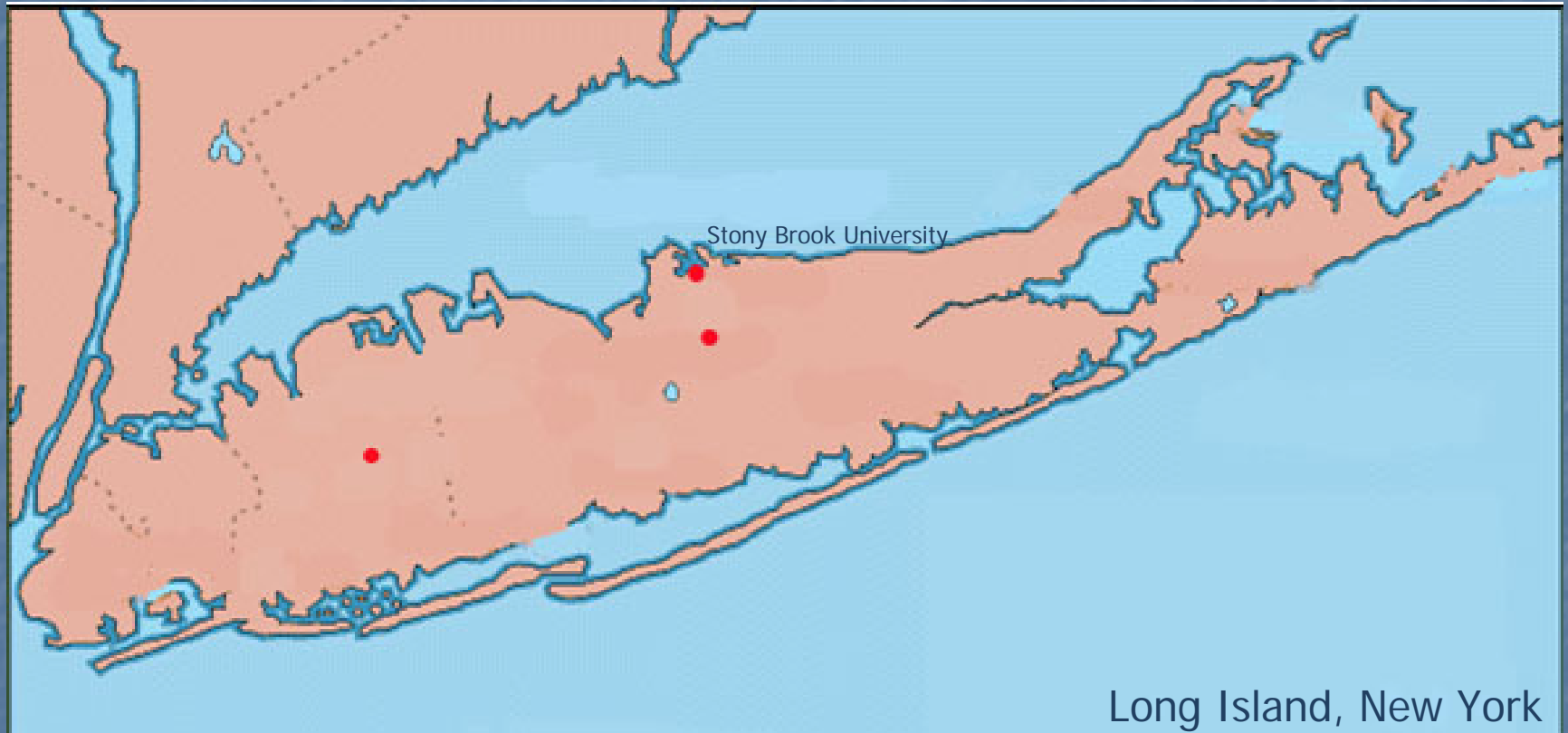
Tensor-SUMMA Foundation





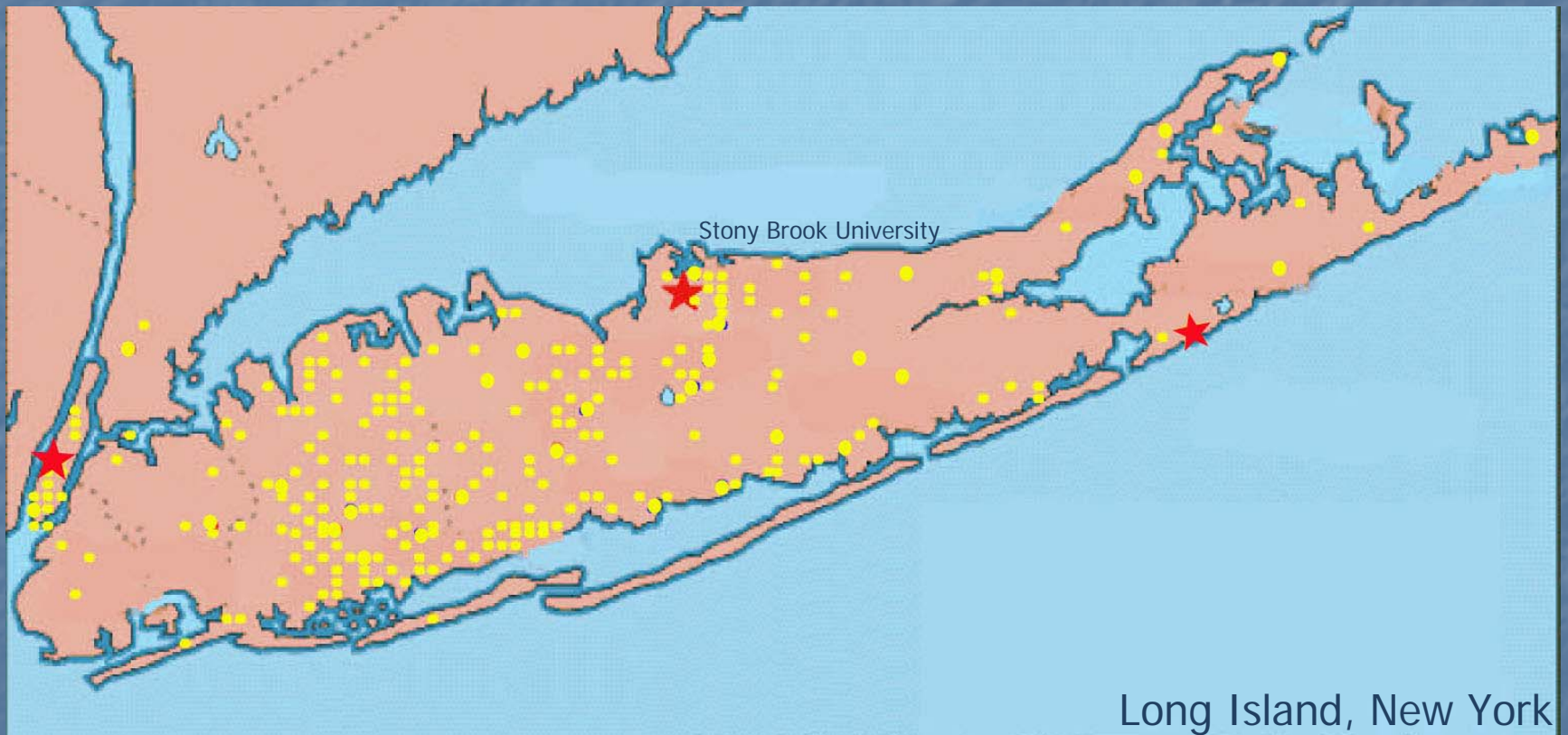
Congressmen Tim Bishop of New York & Bart Gordon (Chair, House Committee on Science and Technology) with Center faculty & students (May 5, 2008)

# Participants - 1994





# Participants - 2008





# Participants - 2008

## National:

Arizona  
California  
Connecticut  
Florida  
Illinois  
Louisiana  
Maine  
Maryland  
Massachusetts  
New Jersey  
New York  
North Carolina  
Pennsylvania  
Virginia  
Washington, DC



## International:

Australia  
Burma  
Canada  
China  
Germany  
Poland



Center Faculty & Staff



# Entrepreneurship in Science Education

Center for Science and Mathematics Education

[www.stonybrook.edu/ligase](http://www.stonybrook.edu/ligase)