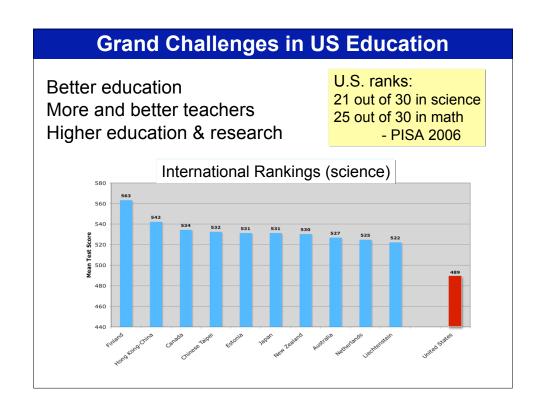
# Investing in the Future for Colorado and the Nation

Science, Technology, Engineering, Mathematics (STEM) at the University of Colorado Boulder



Valerie Otero and Noah Finkelstein University of Colorado at Boulder



## Rising Above Gathering Storm

Congressional charge (2005):

10 priority recommendations for American competitiveness in the 21st century

4 Recommendations (2006):

#1: 10,000 TEACHERS, 10 MILLION MINDS,

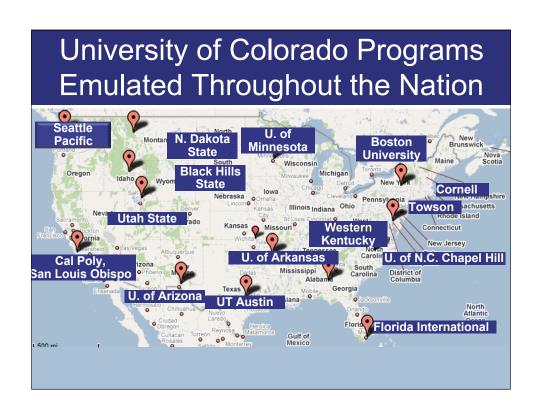
#2: SCIENCE AND ENGINEERING RESEARCH

#3: BEST AND BRIGHTEST IN SCIENCE AND ENGINEERING HIGHER EDUCATION

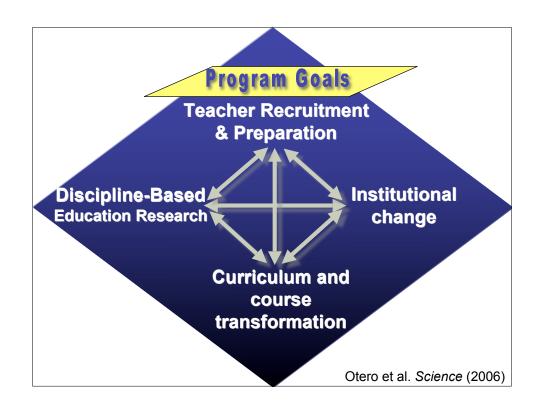
#4: INCENTIVES FOR INNOVATION

America COMPETES Act, 2007 and House Reauthorization, 2010

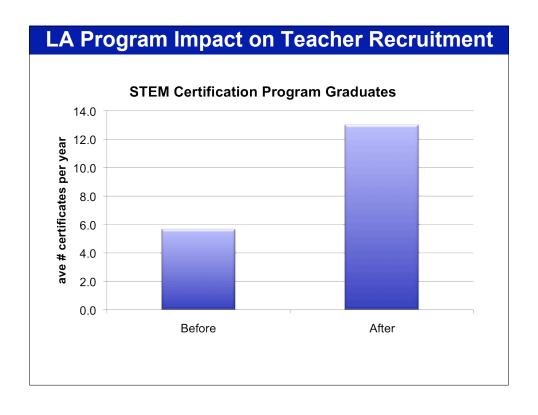


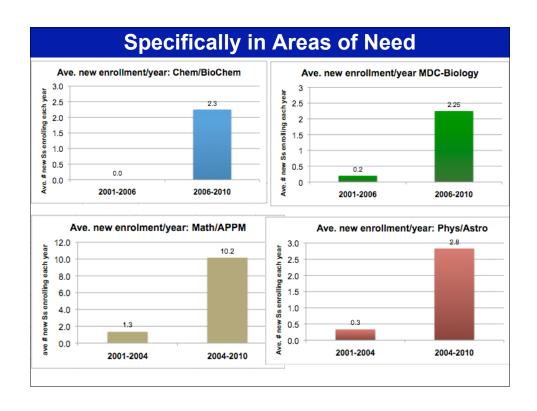


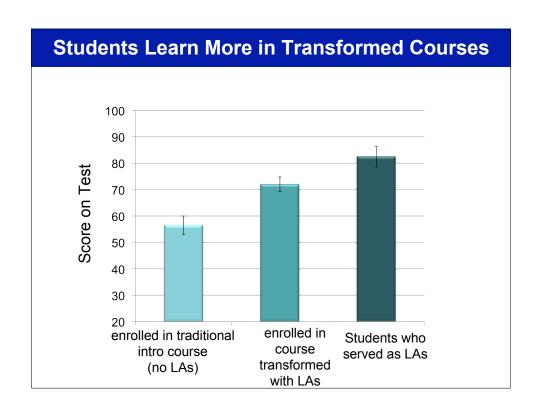








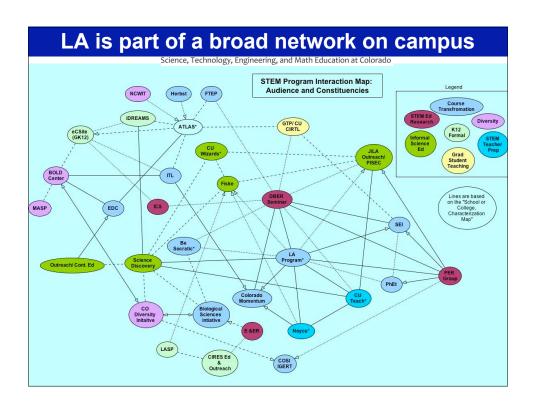




## **Needed to Transform our Teacher Certification Program**

# CU Teach

University of Colorado at Boulder





The University of Colorado as a national hub of STEM education research and reform

University of Colorado is a national center for:

- Education in STEM disciplines
- Research on STEM education
- STEM teacher preparation

PI: Chancellor DiStefano

Co-Pis include: Deans Argrow, Gleeson, & Shepard

### **Transforming Undergraduate STEM Education**

Science Education Initiative

Integrated Teaching & Learning Program

Discipline-based Education Research

Physics Education Research

Colorado Learning Assistant Model

## **Broad Faculty Participation**

**Applied Math** Jim Curry (Chair) Mary Nelson Anne Dougherty Harvey Segur, Tiejun Tong

Adam Norris

**Astronomy** Dick McCray Doug Duncan John Stocke Fran Bagenal

Chemistry Tom Cech Robert Parson

**Education** Valerie Otero Laura Moin David Webb Vicky Hand Nick Schneider Veronica Bierbaum Derek Briggs Erin Furtak Jeff Frykholm

Margaret Asirvatham Laurie Langdon Seth Hornstein Susan Hendricks

#### **MCD Biology**

Mike Klymkowsky Bill Wood Jennifer Knight Sylvia Fromherz Kathy Perkins Mike Dubson Jia Shi Michelle Smith Tom Blumenthal (chair) Nancy Guild

#### **Physics**

Steve Pollock Noah Finklestein John Cumulat (Chair Carl Wieman Ed Kinney Carl Rogers Jim Shepard Murray Holland James Nagle

Paul Beale (Chair) Steve Wagner Shijie Zhong Stephanie Chastine

#### K-12 Teachers

Steve Iona Mike Fuchs Roberta Tanner Craig Schneider May Lee

#### **Graduate Students**

Kim Geil Kara Gray Heidi Iverson Deb Morris Chandra Turpen Ben Spike

#### **Mathematics**

Eric Stade (Chair) Brian Argrow Stephanie Barr Rob Tubbs Evelyn Puaa Danielle Harlow

#### **Engineering**

Derek Reamon Daria Kotes-Schwartz

## **Community Partnerships, Outreach & Service**

**Bud Talbot** 

Deb Morrison

Science Discovery

Biological Sciences Initiative

CIRES Outreach JILA PISEC

.ASP

PhET Simulations

GK12s

**Engineering for Develop Communities** 

Office for University Outreach





#### **CU** as a National Leader / National Reputation

National Organizations Promoting CU Models:







#### Serving the Nation:





Educate to Innovate



Chancellors DiStefano & Finkelstein congressional Otero advises National **COMPETES Act** 



Governor's Association Race to the Top

## **Natural Synergies** investing in the future

**COLORADO INITIATIVE IN** MOLECULAR BIOTECHNOLOGY





## Serving Colorado, Engaged in the World



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More Information at: http://www.colorado.edu/istem