

Research and Technology Transfer

Faculty Conference

August 18th 2014

Bruce D. Honeyman

Office of the VPRTT

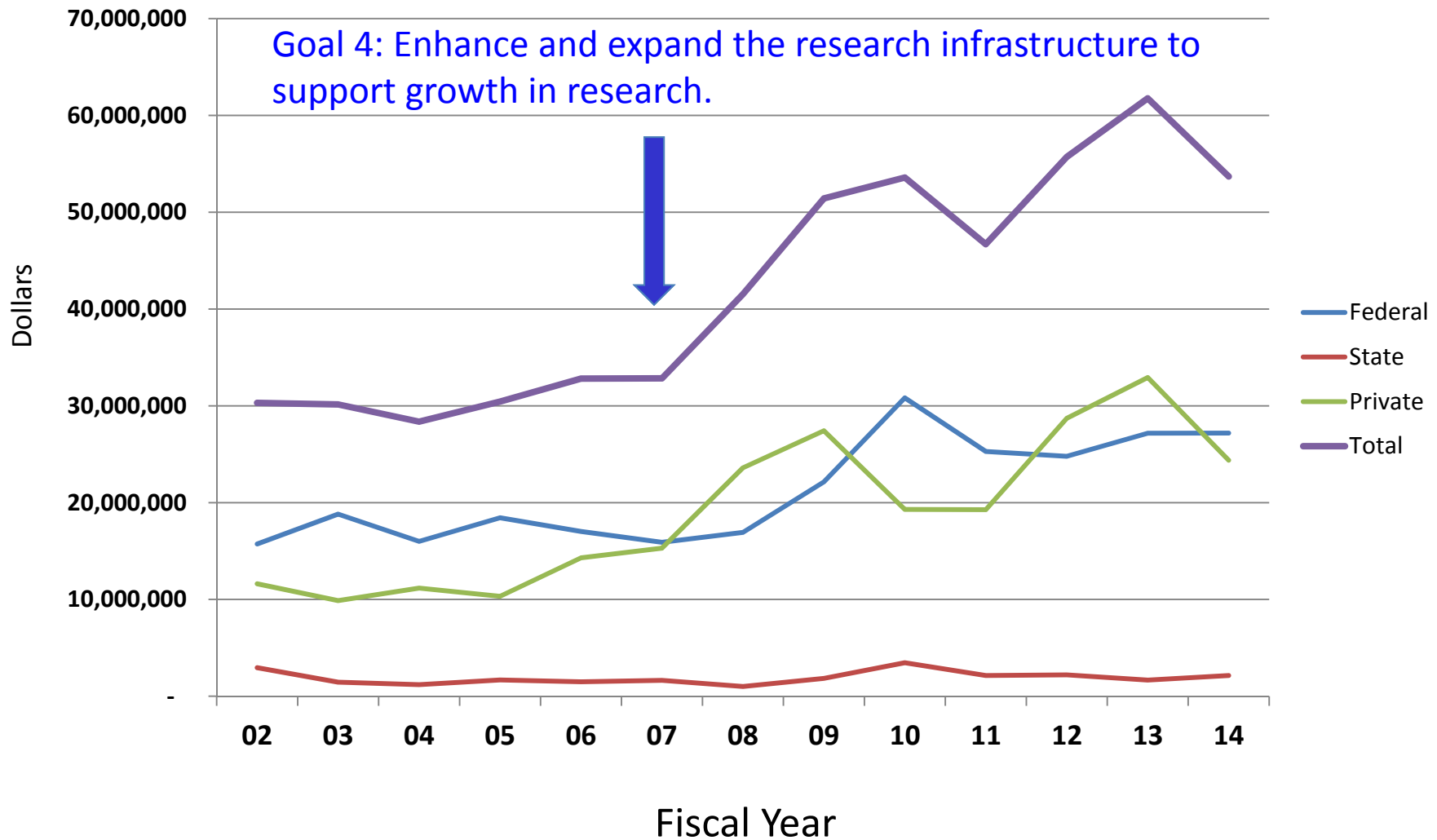
Role of the Office of the Vice President for Research and Technology Transfer

- ‘The role of the Research Office is to help drive the research agenda with the faculty by identifying and facilitating new research endeavors and enhancing the profile of Mines on the national and international stage.’
John Poate.
- Support Mines’ Strategic Plan

Office of the Vice President of Research and Technology Transfer:

John Poate (VPRTT), Bruce Geller, Katy Ginger, Bruce Honeyman, Lisa Kinzel, Dag Nummedal, Phil Romig, Jr., Will Vaughan

Research Awards Since 2002



Since 2007:

CSM has invested \$9 million in instruments and lab infrastructure—

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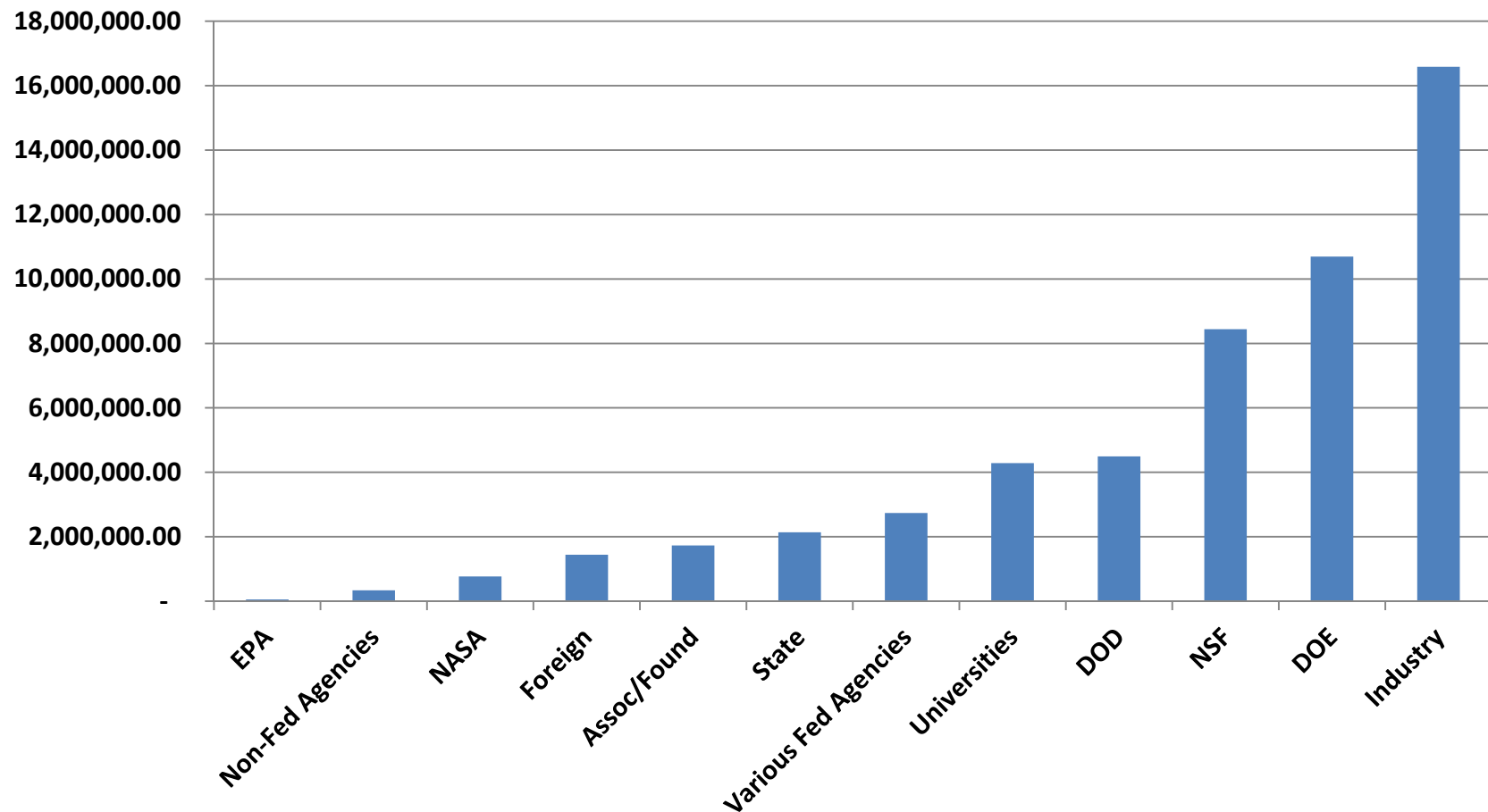
CSM has invested \$9 million in instruments and lab infrastructure—



Which has leveraged ~ \$20 M in federal, State and industrial funds for instrumentation.

FY 14 Awards by Sponsor

Goal #1; Goal #3: Produce a broadened research portfolio.

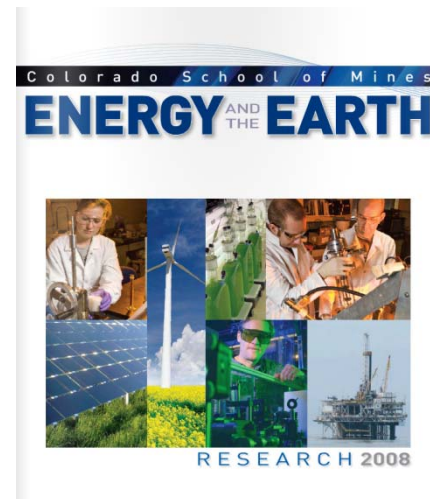
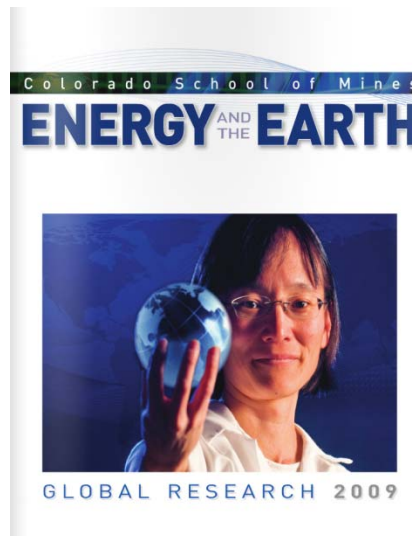
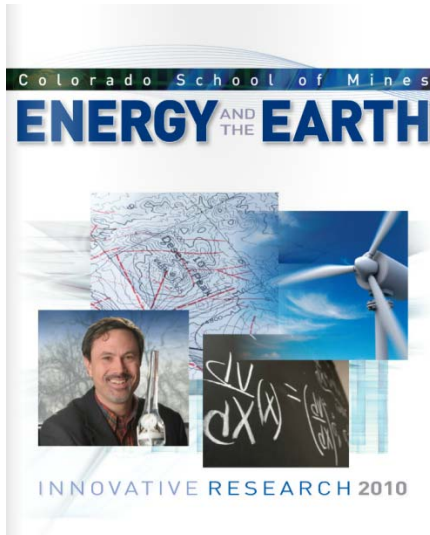
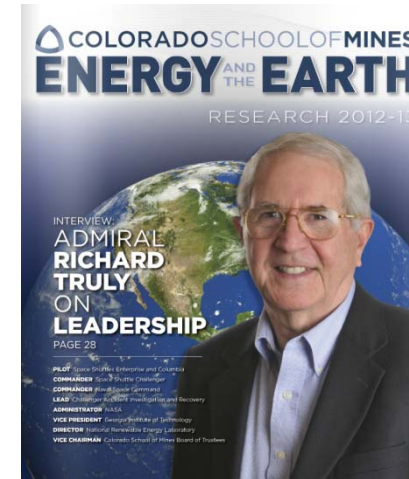
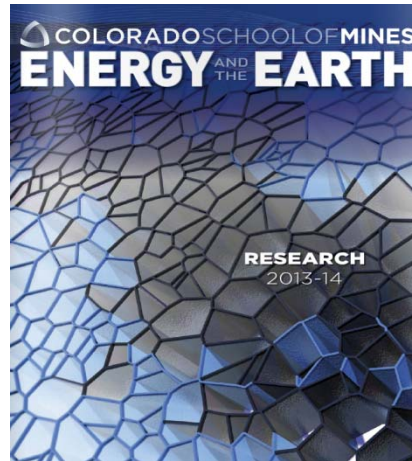
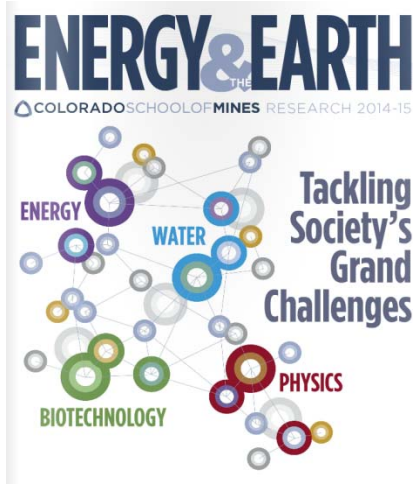


Research Outreach

Goal #1: Increase collaborations with other top quality institutions worldwide:

- NREL Alliance Board (CSM, CU, CSU, MIT, Stanford): \$9.6 million in support
- Collaboratory (CSM, CU, CSU, NREL): \$975,000
- CHECRA (Colorado Higher Education Competitive Research Authority) total of \$5.9 million for programs such as REMRSEC (C. Taylor), ERC (T. Cath) , WSC (R. Maxwell).
- Boards and Advisory Panels
 - Australian National University - Research School of Physics & Engineering Board
 - Lawrence Livermore National Laboratory:
 - Science, Technology and Engineering Advisory Panel
 - Global Security Principal Directorate and Physical and Life Sciences Directorate-Biosciences
 - Critical Minerals Institute Advisory Board
 - South Dakota School of Mines Board
- Colorado Delegation in Washington, DC

Outreach: *Mines Magazine*



Technology Transfer Activities: 2014

Goal #3: Support research innovation through an enhanced technology transfer program:

- 10 Proof of Concept Awards (~\$30k each)
- Generally a 5 year lag between receiving an invention disclosure and it being licensed
- Patent Generation (2009 - 2 vs. 2014 – 12)
- Patent Disclosures (2009 – 11 vs. 2014 – 46)
- Total number of Active Licenses (2009 – 13 vs. 2014 – 38)
- State investment in early stage technologies (~\$2 million)
- Oversees human subject research matters

Research Data Services

Goal #4: Develop and support campus infrastructure and *processes* to match Mines' aspiration...

- Manage data curation mandated by NSF/NIH, etc.
- Support students/faculty in data management for proposal generation
- Promote data citation
- Create templates, policies & best practices
- Make data available through Mines Institutional Repository: publish.mines.edu
- Contact: Katy Ginger (ginger@mines.edu)

Geology Museum

Goal #1: enhance the distinctive identity and reputation of Mines.

- A National Gem! The second most visited Geology Museum in USA (After Harvard);
- #1 Attraction in Golden by Trip Advisor!
- Blue Ribbon Advisory Board has driven collections and acquisitions (\$1 million per year);
- Campus centerpiece for functions.

Mural Restoration in Process



Major Research Initiatives

Goal #1: Create new and enhance existing large research initiatives focusing on global challenges:

- NREL/Mines Joint Institute (an 'umbrella' for initiatives in manufacturing, geothermal, renewal energy)
- Collaboration with NCAR
- Biomedical Collaborations:
 - Children's Hospital
- Water Institute (combine diverse initiatives on campus into a single institute)
- Geothermal Initiatives:
 - SURGE – (*Colorado SUbsurface Research for Geothermal Energy*)
 - FORGE (Frontier Observatory for Research in Geothermal Energy)

'Bureaucratic' functions

Goal #4: Develop and support campus infrastructure and *processes* to match Mines' aspiration...

- Review and update research policies (Research Integrity Policy, Fee for Service Center Policy, etc.);
- Help to resolve research space issues;
- Assist the CSM Foundation with research specific donations;
- 'Crisis' management;
- Adjudicate research misconduct cases;
- Support ORA to implement new processes and procedures.

Research at Mines

1990 vs. 2014

- 1990: Student Population: 2,300. 1,600 undergraduates, 700 graduate students, and 96 non-degree students
- 2014: Student Population: 5,400. 4,000 undergraduates and 1,400 graduate students
- Research Volume –
 - 1993: \$13.2 million
 - 2014: ~\$55 million
 - Comment by Pres. George Ansell to me in 1990 on my plans to get NSF funding: ‘That would be nice but we really don’t get NSF funding here at Mines’ [Note: NSF + NIH ~ \$11 million in awards 2014)
- Substantial additions to research space: Coolbaugh remodel, GRL, Brown Hall, Marques Hall

‘It is the right time and Mines is at the right place for us to make a tremendous impact on research and scholarship on the world stage.’

