

Strategic Planning Summer Working Group Report

- **Defining How to Better Grow and Support our Research Enterprise**

August, 2015

Section 1: Charge

The Strategic Plan for Colorado School of Mines states: “Mines will be the premier institution, based on the impact of its graduates and research programs, in engineering and science relating to the earth, energy and the environment.” Fulfilling that aspiration will require significant growth in our research funding and a growing emphasis on high-impact research that addresses national and global grand challenges. To help Mines achieve that research goal, the Task Force is being charged to develop a comprehensive plan for university investment in research:

How can CSM more effectively utilize its resources (capital and human) to achieve the premier status in research?

To answer this question the Task Force will need to (1) assess the ways in which leading academic institutions utilize their resources allocated to research and (2) provide faculty perspectives to the Office of the VPRTT on paths for moving forward. The goal is not simply to emulate leading institutions but to identify and implement the best practices that are applicable to our specific situation that will help us achieve our goal.

Section 2: Relationship to Strategic Plan

Goal 4: Develop and support campus infrastructure and processes to match Mines' aspiration to become a top-tier engineering and science institution.

Section 3: Membership

Tracy Camp, Tzahi Cath, Hossein Kazemi, Paul Sava, John Speer, Ryan Richards, Lisa Kinzel, Bruce Honeyman

Section 4: Summary of Activities to Date

The Task Force met throughout the summer. Reviewed current allocation of research funds and variety of metrics related to research. Reviewed the institution's practices, policies and procedures including but not limited to organizational (centers, comprehensive partnerships, etc.), personnel (role of tenured, teaching and research faculty, post-doctoral fellows, professional staff etc.), technical and administrative support (centralized support functions,

etc.), and facilities (laboratory space and major instruments). Identified several areas for further investigation with specific tasks for the faculty members of the task force:

- How many chaired distinguished professors and chaired “new” faculty positions are needed to substantially impact Mines’ research enterprise, and what critical research areas are emerging for the future?
- If most campus research activities and investments are focused on large “grand challenge” research centers across campus, what will be the impact on our existing and future research activities?
- What are effective mechanisms to stimulate collaboration and interdisciplinary research across campus?
- How many graduate research fellowships are needed across campus, how should they be structured, and what sources of funds should be pursued?
- How can we improve graduate student quality?
- What specific approaches can we take to directly improve efficiency in proposal preparation, post award finances, and contract preparation?
- How do current teaching loads across campus impact the research enterprise?
- What can Mines do to improve our research mentoring program?

Section 5: Recommendations

Awaiting outcomes of above investigations

Section 6: Next steps

Continue to meet as the group through the fall with target of recommendations submitted by December 2015.

Section 7: Resources/references consulted

FY14 Grant expenditures by faculty

FY 14 Grant awards/expenditures by department

Peer analysis of 62 other US engineering colleges (FY 14)

Breakout of institution support for research

Faculty input solicited--Breakout sessions at August Faculty Conference