



COLORADO SCHOOL OF MINES
EARTH • ENERGY • ENVIRONMENT



MARQUEZ HALL

2014-2024 STRATEGIC PLAN



The world needs Mines.

Audacious? Ambitious? As the global population soars and demand for resources, energy and technology climbs to unprecedented levels, the great challenges facing our world require innovative, ambitious and even audacious solutions.

Colorado School of Mines celebrated its 140th anniversary in 2014, providing a fitting time to reflect on milestones and accomplishments. Mines has much to be proud of as the university hits its stride as one of the most respected engineering and applied science institutions in the country. The accolades we have received confirm that Mines is poised to continue its excellence as a research university making a difference in addressing the world's most critical challenges.

A Mines education is in demand now more than ever. In its most recent Best Colleges report, U.S. News and World Report ranked Mines admissions as the 36th most selective among national universities. Non-residents now comprise more than 41 percent of the freshman class.

Student success continues to reach new heights. More than 75 percent of undergraduate students graduate within six years. Freshman retention rates now exceed 94 percent, indicating even stronger graduation rates can be expected in the near future.

Mines faculty are innovating in the classroom as well as the laboratory. Studio physics, studio biology and flipped classrooms are just a few examples of highly effective teaching and learning methods used at Mines. Sponsored research awards have doubled over the past decade to \$60 million and include several large, multi-institutional endeavors such as the Re-inventing the Nation's Urban Water Infrastructure Engineering Research Center (ReNUWIt).

The generosity of Mines alumni and friends has helped build an endowment that exceeds \$271 million. The current “Transforming Lives” campaign is well on its way to achieving its ambitious \$350 million goal and has resulted in three consecutive record-breaking fundraising years. The campaign has already resulted in 10 new named-faculty positions and more than \$52.5 million donated for student aid.

More than \$230 million has been invested in new buildings, facilities and other capital investments in the past eight years. These investments are helping build a stronger residential campus experience that enhances the Mines education, allows Mines to compete for the nation’s best students and faculty and modernizes our research capabilities.

The hard work, dedication and generosity of students, faculty, staff, alumni and partners, has led to extraordinary results for Mines. But, as all Mines graduates know, success is not achieved by resting on laurels. The world’s challenges simply demand more from Mines.

This strategic plan, as endorsed by the Board of Trustees on December 12, 2013, provides a vision and framework that will fuel the development of strategies and action plans by the university’s colleges, units and affiliates. It is not meant to be a static document, but a living document that will be re-examined and re-calibrated throughout its existence to ensure the university’s progress remains aligned as challenges and opportunities arise. As it evolves, the plan must continuously challenge our community, push our ambitions and inspire audacious ideas.

On behalf of all those who have helped shape Colorado School of Mines into what it is today, we present this shared vision for elevating Mines to be an even greater university in 2024.



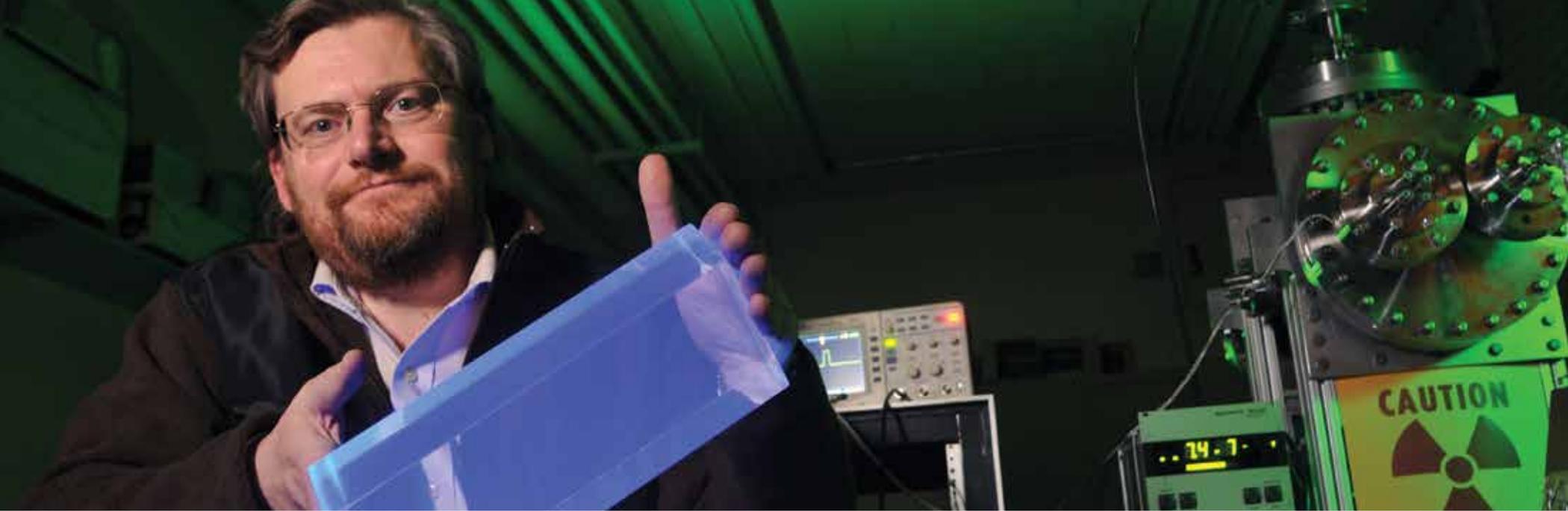
M.W. Scoggins

*President
Colorado School of Mines*



James Spaanstra

*Chairman of the Board
Colorado School of Mines*



Mission

Education and research in engineering and science to solve the world's challenges related to the earth, energy and the environment

- Colorado School of Mines educates students and creates knowledge to address the needs and aspirations of the world's growing population.
- Mines embraces engineering, the sciences, and associated fields related to the discovery and recovery of the earth's resources, the conversion of resources to materials and energy, development of advanced processes and products, fundamental knowledge and technologies that support the physical and biological sciences and the economic, social and environmental systems necessary for a sustainable global society.
- Mines empowers, and holds accountable, its faculty, students and staff to achieve excellence in its academic programs, its research and in its application of knowledge for the development of technology.

Vision

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

- Colorado School of Mines is a world-renowned institution that continually enhances its leadership in educational and research programs that serve constituencies throughout Colorado, the nation and the world.
- Mines is widely acclaimed as an educational institution focused on stewardship of the earth, development of materials, overcoming the earth's energy challenges and fostering environmentally sound and sustainable solutions.

Values

A student-centered institution focused on education that promotes collaboration, integrity, perseverance, creativity, life-long learning and a responsibility for developing a better world

- The Mines student graduates with a strong sense of integrity, intellectual curiosity, demonstrated ability to get a job done in collaborative environments, passion to achieve goals and an enhanced sense of responsibility to promote positive change in the world.
- Mines is committed to providing a quality experience for students, faculty, and staff through student programs, excellence in pedagogy and research and an engaged and supportive campus community.
- Mines actively promotes ethical and responsible behaviors as part of all aspects of campus life.

Guiding Principles



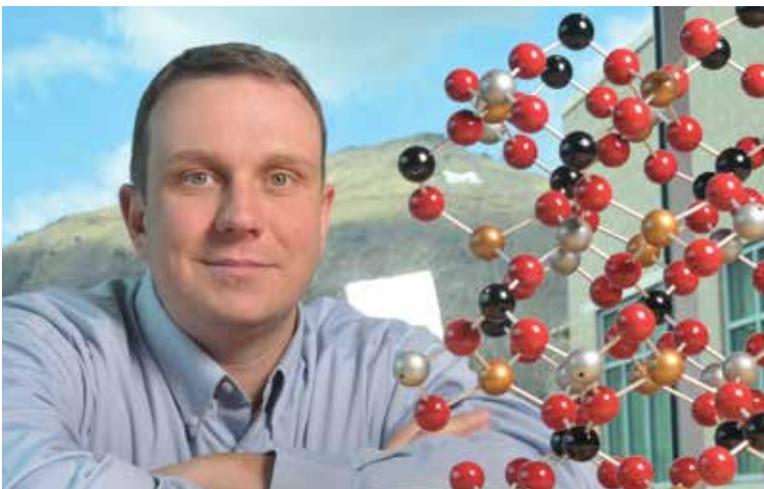
As Mines develops its next strategic plan, we are committed to these critical guiding principles:

- Mines will remain a small, specialized engineering and science research university.
- Emphasis on quality and excellence must be paramount in the education, research and services that we deliver.
- The future distinction of the institution requires building multiple best-in-class programs at both undergraduate and graduate levels.
- Mines must operate with the entrepreneurial mindset of a private institution that promotes innovation in programs and cost efficiency in operations.
- A diverse community with a sense of shared purpose toward serving our mission and our stakeholders.
- Curricular delivery that is student-centered and leverages the strengths of highly innovative faculty and best-in-class technology practices.

Aspirations

When Mines celebrates its 150th anniversary in 2024, the success of the strategic vision and plan will be measured by having achieved or significant achievement towards these aspirations:

- Recognized in the top 10 among similarly sized peer institutions (high-STEM).
- Four-year graduation rate of 60 percent and six-year rate of 85 percent while still maintaining Mines' hallmark commitment to quality, rigor and excellence.
- Surpass \$100 million in research expenditures.
- Mines will continue to be financially self-sustaining.
- 95 percent of graduates (undergraduate and graduate) report that they would have chosen Mines again.





Goal 1

Enhance the distinctive identity and reputation of Mines

Strategies

- Develop and implement an integrated marketing plan that expands our brand recognition and reputation throughout the world.
- Increase collaborations with other top-quality institutions worldwide.
- Expand active-learning instruction (such as studio and project-based, rather than traditional lecture format) utilizing best-in-class pedagogical and technological practices.
- Improve and expand opportunities for participation in professional practice and research throughout the entire undergraduate experience.
- Expand and enhance graduate student development of professional attributes through formalized activities and curricular excellence.
- Create new and enhance existing large research initiatives focused on the global challenges related to the earth, energy and the environment.
- Increase faculty membership in national academies and professional society fellows, and student participation in prestigious national awards and fellowships.



Goal 2

Build upon a student-centered campus culture of excellence, inclusion, diversity and community.

Strategies

- Expand residential campus to integrate efforts from academic affairs and student life—for undergraduate and graduate students—to promote student community and to foster collaboration, learning, leadership and citizenship.
- Advance academic culture and structure that fosters creativity, intellectual curiosity and student success.
- Enhance opportunities for students to develop effective communication skills as a complement to strong content expertise.
- Build a campus that values employees and students of the institution through a positive, supportive and inclusive environment.
- Increase the diversity and quality of Mines' faculty, students and staff.
- Improve mentoring and other support of faculty with the goal to enhance the overall quality of the student experience.







Goal 3

Build and diversify revenue streams and auxiliary enterprises.

Strategies

- Build upon advancements in board authorities that define Mines' relationship with the state.
- Expand institutional support and infrastructure development through alumni outreach and foundation initiatives.
- Establish new or expand continuing education and executive education enterprises that enhance the reputation, global reach and financial security of Mines.
- Continuously investigate new technologies and market trends that threaten core revenues and respond to best leading practices that maintain our preeminence in instructional delivery.
- Diversify federal research funding across multiple agencies while increasing corporate and private research support.
- Support research innovation through an enhanced technology transfer program.



Goal 4

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

Strategies

- Incorporate within the overall financial plan a strategy to sustain and improve capital infrastructure.
- Produce and continuously monitor the effectiveness of faculty teaching and research guidelines that promote excellence and satisfaction.
- Align performance expectations, outcomes, rewards and recognitions with campus needs and the strategic plan.
- Assess and reconfigure administrative processes to promote institutional efficiency, communication, transparency and ease of access to information.
- Upgrade and enhance instructional infrastructure and support services.
- Enhance and expand research infrastructure to support growth in research while ensuring effectiveness and efficiency.





Colleges & Departments

College of Engineering & Computational Sciences

- Applied Mathematics & Statistics
- Civil & Environmental Engineering
- Electrical Engineering & Computer Science
- Mechanical Engineering

College of Applied Sciences & Engineering

- Chemical & Biological Engineering
- Chemistry & Geochemistry
- Metallurgical & Materials Engineering
- Physics

College of Earth Resource Science & Engineering

- Economics & Business
- Geology & Geological Engineering
- Geophysics
- Liberal Arts & International Studies
- Mining Engineering
- Petroleum Engineering





COLORADO SCHOOL OF MINES

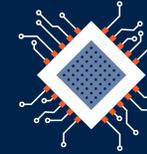
By the Numbers

Enrollment

4,383
UNDERGRADUATE

1,290
GRADUATE

Total degree-seeking: 5,673



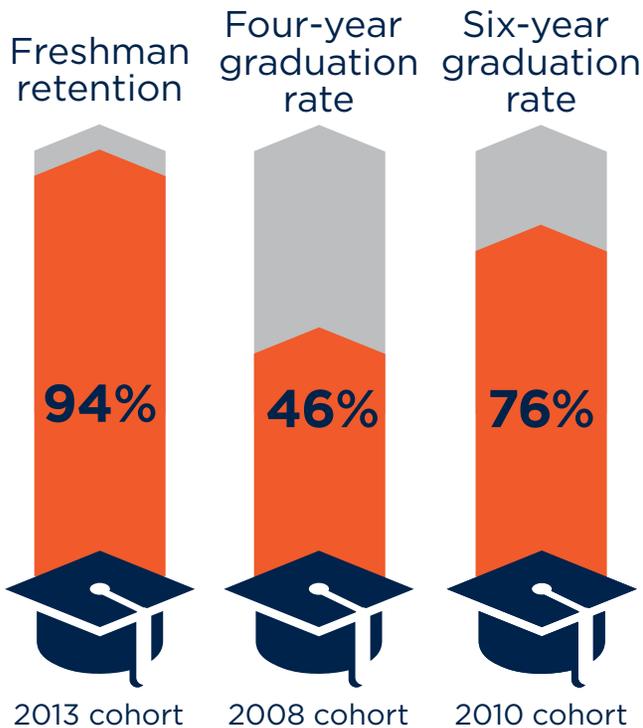
College of Engineering & Computational Sciences
2,137



College of Applied Sciences & Engineering
1,417



College of Earth Resource Science & Engineering
1,728



within 1 year of graduation

Avg starting salary:



Largest **Society of Women Engineers** student chapter in the nation



Research

Average sponsored research awards total and by sector. (FY12-14)

Total \$57.1 million

- Federal \$26.4
- State \$2.0
- Private \$28.7

Private Support

Transforming Lives Campaign

Goal: **\$350 million**

Raised: \$241.4 million

(as of 9/30/14)



FY14 fundraising results: **\$47.8 million**

Endowment: **\$271 million** (as of 6/30/14)

Miscellaneous facts:

34
35
→ **36** – Student selectivity rank per U.S. News Best Colleges report

37
38
39 **718** – Average GRE quantitative score

40
41
42 **1327** – Average SAT

4,602

On-campus interviews conducted

22 Current Mines faculty who have received NSF Early Career awards

36 Named faculty positions

43
44
45 Presidential Early Career Award for Scientists and Engineers winners on Mines faculty:



Ryan O'Hayre
2009



Moises Carreon
2013



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