The Tradition Continues

The Division of Economics and Business celebrated the start of another school year with its annual barbecue in August on the lawn of Engineering Hall. Students, faculty and staff gathered to mingle with familiar faces and welcome new students and faculty to the division. This annual tradition exemplifies the community and camaraderie that is distinctly “EB.”
Reflecting on the 2016-2017 Academic Year

Welcome to the 2017 edition of the Economics and Business newsletter, with news of student, faculty and alumni activities and accomplishments throughout the past year.

We welcomed two new faculty members, Tulay Flamand and Rick Hunt, profiled below. We celebrated the graduation of eight Economics undergraduate students, 39 MS-degree students in Engineering and Technology Management, as well as 39 MS and four PhD students in Mineral and Energy Economics. At the end of August, we’ll welcome new students into all our programs.

Thank you especially to those of you who contributed to the Division’s Alumni and Friends Fund. These donations help make it possible for students to travel to professional meetings and present their research, allow us to purchase specialized computer software and datasets, and in other ways enhance the student experience in Economics and Business.

Please keep in touch by visiting EconBus.MINES.edu and stop by if your travels bring you to Golden.

Roderick Eggert, Interim Division Director
reggert@mines.edu

Meet Our New Faculty Members

Tulay Flamand, Assistant Professor

Tulay Flamand (PhD, Management Science, University of Massachusetts Amherst) is an Assistant Professor of Business Analytics and Supply Chain Management. She obtained a BS in Mathematical Engineering at Yıldız Technical University, and an MS in Industrial Engineering at Istanbul Technical University, Turkey. Her research interests include operations management and marketing science with a strong methodological anchor in business analytics and optimization. Particularly, her research focuses on retail analytics and novel optimization models for store-wide shelf space allocation and the maximization of consumer impulse purchases. She has received several awards including Outstanding Researcher Award (2016) and Dissertation Research Award (2015) from the Isenberg School of Management, UMass Amherst.

Rick Hunt, Assistant Professor

Richard “Rick” Hunt (PhD, University of Colorado) is an Assistant Professor of Strategy and Entrepreneurship at Mines, teaching Project Management and Entrepreneurship. Most recently, he taught at the Pamplin College of Business at Virginia Tech. His research examines entrepreneurial environments, advantageous knowledge, new sector formation, market entry and early-stage operational behavior. His research-related work has received more than a dozen awards including the Academy of Management’s outstanding doctoral dissertation (2014). Hunt has also been recognized for teaching excellence at Mines and Virginia Tech. Prior to working in academia, he held senior positions at Pfizer, Prodigy, Merrill-Lynch, and his own environmental services firm. In addition to his PhD, Hunt holds degrees from Rice (BA), Harvard (MA) and Stanford (MBA).
Alumni Spotlight: Mauricio Gutierrez
President and CEO of NRG Energy, Inc.

Dual Degree: MS, Petroleum Economics, Institut Français du Petrole; MS, Mineral Economics, Colorado School of Mines ‘99

What stands out in your mind regarding your time at Colorado School of Mines?

First and foremost, it was the faculty. The professors, Michael Walls, Graham Davis, Rod Eggert, Carol Dahl, I remember all their names. They were all passionate about what they were doing. Not only did they have the patience and aptitude to teach, but they are active in their respective fields outside of school. They’re very well recognized. The faculty makes all the difference in the world. It doesn’t hurt that my classes were in beautiful Colorado and Paris, but to me, the faculty is what stood out.

What is your vision for NRG Energy, Inc.?

Our company is going through a significant transformation, which is the result of wanting a cleaner energy future. Our vision is to create a sustainable energy future and we will do that by providing reliable and cleaner energy for our customers. We believe that if we do that, we will create value for all our stakeholders. “Sustainable” is a powerful word, it’s not only having cleaner, faster, better, more reliable generation; it’s also in the context of a business model that can withstand very different commodity price cycles. That’s the objective of the company.

Alumni Spotlight: Jesus Salazar
CEO of Prosono
MS, Engineering and Technology Management ‘01

Why did you choose Mines and the ETM program?

I’ve always been drawn to math and science. When my high school counselor recommended that I look at a summer minority engineering program that Mines offered, I applied and got in. I loved my experience there and was intent on going to Mines for college.

After a couple of internships at large companies, I found that I didn’t really understand the mechanics of business. I was lost in non-technical meetings because I didn’t understand the vocabulary or what people were getting at. I always knew I would stay close to technology, but thought it would give me a leg up to better understand how a business actually operates. The ETM program made perfect sense for me.

Tell us about Prosono and your role there.

I am the CEO of Prosono, a Denver company that I founded last year. There is a striking trend these days of people trying to positively impact their communities by becoming more selective in the products they purchase and companies they choose to work for. This has created new opportunities for businesses to resonate more deeply with their customers and employees. We help organizations find and take advantage of these opportunities. It’s a mix of strategy, product development, innovation, philanthropy, corporate social responsibility and software development.

To read more from our interviews with Gutierrez, Salazar and other EB alumni, visit EconBus.MINES.edu and click on “Alumni & Supporters,” then “Alumni Spotlight.”

Subscribe to our E-newsletter at EconBus.MINES.edu

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Summer 2017
Faculty Highlights and Ongoing Research

Ian Lange
Assistant Professor Ian Lange was awarded funding from the U.S. Department of Energy in conjunction with Resources for the Future to study the impact of federal coal leasing policy on (non-federal) Eastern coal mine operations.

Roderick Eggert
In March, the Senate Committee on Energy and Natural Resources invited Professor Rod Eggert to testify at an oversight hearing to examine the U.S.’ increasing dependence on foreign sources of minerals and opportunities to rebuild and improve the supply chain in the U.S. In January, Eggert traveled to Seville, Spain to deliver a talk, “Rare-Earth Geology, Mineralogy and Resource Development,” part of the NATO Science and Technology Organization - Applied Vehicle Technology Panel Research Lecture Series on Rare Earths: Securing Supply Chains, Materials and Technologies. He also received the 2017 Mineral and Energy Economics Excellence in Teaching Award.

Peter Maniloff
At Mines’ annual Faculty Forum in May, Assistant Professor Peter Maniloff received the Senior Class Faculty Award for Economics and Business, as voted on by students. Maniloff also received the Economics and Business Excellence in Teaching Award at the spring 2017 graduation and awards ceremony.

Graham Davis
Professor Graham Davis was named GERENS Graduate School’s first Honorary Professor. GERENS is a private university in Lima established in 1998 by a group of academics and investors to provide quality graduate education in Peru. Davis was also the keynote speaker at the Society for Mining, Metallurgy and Exploration’s 5th annual Current Trends in Mining Finance conference in May in New York.

Jared Carbone
Associate Professor Jared Carbone was awarded a U.S. Department of Energy grant. The research subject is “Population Dynamics Thrust of the Integrated Multi-Sector, Multi-Scale Modeling (IM3) Scientific Focus Area.”

Scott Houser
Colorado School of Mines celebrated outstanding faculty in May at its annual Faculty Forum. Scott Houser was recognized for his promotion to teaching professor.

Michael Heeley
Associate Professor Michael Heeley received the 2017 Engineering and Technology Management Excellence in Teaching Award.
Faculty Highlights and Ongoing Research, continued

John Stermole and Andy Pederson

Associate Teaching Professor John Stermole and Associate Teaching Professor Andy Pederson offered “Economic Evaluation and Investment Decision Methods,” a short course through the Office of Special Programs and Continuing Education at Mines in June and July, with additional courses scheduled for September and November 2017.

This course has been taught more than 970 times to more than 22,500 people. It’s designed for managers, engineers, geologists, landmen, scientists, accountants and others concerned with making the best economic decisions possible.

Rick Hunt

Assistant Professor Rick Hunt was awarded the Outstanding Teacher Award at Mines (2017) by Tau Beta Pi (Engineering Honor Society).

At the 2017 Academy of Management Annual Meeting in Atlanta, Hunt was awarded the Entrepreneurship Division Best Conceptual Paper out of more than 800 submissions. He was selected for AoM Best Paper Proceedings, in the top 5 percent of 7,000 submissions. He was also selected as Outstanding Reviewer - Business Policy and Strategy Division at the AoM Annual Meeting.

For the latest faculty and division news, visit EconBus.MINES.edu.

Peru’s GERENS Graduate Students Visit Mines

In May, 22 students from the GERENS Graduate School in Lima, Peru visited the Mines campus as part of their Masters in Mine Management Program. Each year, Mines faculty and visiting lecturers provide instruction to GERENS students on valuation and evaluation of mining projects, commodity markets, mine strategy, mine planning and mine closure.

Faculty involved in the program include Graham Davis, Roderick Eggert, Alexandra Newman and John Tilton. Davis is an Honorary Professor at GERENS; he and Newman also travel to Lima once a year to provide instruction at GERENS.

As a result of the success of this program, GERENS wishes to strengthen its ties with Mines, proposing a new master’s degree at GERENS that includes both mineral economics and instruction on the technical components of mining provided by our Mining Engineering Department.
Payne Institute Hosts Successful Policy Event

The Payne Institute for Earth Resources at Colorado School of Mines teamed up with Inside Energy to host “Spark! Unpacking the Politics of Energy in Colorado” in September at Mines.

With more than 175 people in attendance, the Payne Institute and Inside Energy explored everything Colorado’s energy portfolio would stand to lose, gain or change in the 2016 election. Journalists from Inside Energy pressed a panel of experts on critical energy issues to help the public make their own decisions at the polls.

The panel (pictured) included Lee Boughey, senior manager, communications and public affairs, Tri-State Generation Transmission Association; Tracee Bentley, executive director, Colorado Petroleum Council; Ian Lange, Mines’ Mineral & Energy Economics program director; and Meghan Nutting, vice president of policy and government affairs, Sunnova.

“The panel covered a broad spectrum of the Colorado energy landscape,” Lange said. “It was exciting to hear the views of my fellow panelists and share my thoughts on how Colorado could be impacted by the policies on the ballot.”

To learn more about this and future Payne Institute events, visit EarthPolicy.MINES.edu.

Film Screening, Forum Focuses on High Plains Aquifer

The Payne Institute hosted two events centered around the High Plains Aquifer in October at Mines.

The series kicked off with a free film screening of “Written on Water.” The screening included an introduction by Director/Producer Merri Lisa Trigilio along with a question and answer session after the movie. “Written On Water” focuses on the Ogallala Aquifer and examines the conflicts, politics, economics and groundwater depletion in the High Plains region.

Work by the Kansas Geological Survey indicates that some parts of the High Plains Aquifer are already effectively exhausted for agricultural purposes; some parts are estimated to have a life-span of less than 25 years; and other areas remain generally unaffected (Buchanan et al., 2015). The AGI Critical Issues Forum, “Addressing Changes in Regional Groundwater Resources: Lessons from the High Plains Aquifer” covered multiple aspects of groundwater depletion in the High Plains. Breakout sessions identified lessons learned and best practices from the High Plains Aquifer experience that might apply to other regions facing changes in the earth system.

Keynote speakers included Sharon Megdal, University of Arizona Water Resources Research Center; Jason Gurdak, San Francisco State University; and Merri Lisa Trigilio, director and producer, “Written on Water.”
In February, Mines hosted the Critical Materials Institute Winter Meeting and 2nd annual Forum for Postdoctoral and Student Researchers. More than 85 CMI team members from national laboratories, universities, industry, and the Department of Energy gathered in Golden. Speakers included DOE Office of Advanced Manufacturing Director Mark Johnson, Mines Vice President for Research and Technology Transfer Tony Dean, CMI Director Alex King, Ames Laboratory Scientist Ikenna Nlebedim, and Mines President Paul Johnson.

Thirty-seven postdocs and graduate students presented CMI research from Mines, Purdue, UC-Davis, Florida Polytechnic, Yale, Lawrence Livermore National Lab, Idaho National Lab, Iowa State and Ames Lab. Mines student presenters included Tom Boundy, Brett Carlson, Dylan Everly, Philip Keller, Fangyu Liu, Alex Norgren, Hunter Scents and Victoria Vaccarezza from the Kroll Institute for ExtrACTIVE Metallurgy, as well as Max Brown, Sadie Fulton, Brett Jordan, Haeyeon Kim and Braeton Smith from the Division of Economics and Business. Congratulations to poster contest winners Mary Case from Idaho National Laboratory and Hunter Scents from Mines.

Critical Materials Exhibit Goes Green

A unique solar panel installation at the Mines Geology Museum began with a donation of a CdTe solar panel (from First Solar) and a CIGS panel (from EPRI; made by Solar Frontier). These two panels are now installed and powering a portion of the CMI exhibit inside the museum, making this the first solar photovoltaic module system at Mines. The installation was enabled by a partnership between Mines and Red Rocks Community College.

A solar installation workshop was hosted by CMI in December. RRCC instructor, Troy Wanek (Solar Energy Environments owner) led the audience through the entire installation process and shared the ins and outs of working on a government building. RRCC students from his class were joined by Mines students and professors. The presentation was followed by a walk-through of the solar exhibit.
ETM: Engineering the Way

Demand for Mines’ Engineering and Technology Management degree continues to grow and we anticipate 45 new students will join the program in 2017. Placement is strong with our spring 2017 grads who are now employed with companies such as Halliburton, Lockheed Martin, Oasis Petroleum and Oppenheimer Funds.

Curriculum Highlights

The program continues its emphasis to expand the analytics content of the curriculum, which is being increasingly demanded by employers. For the first time in the spring semester, ETM will offer a Marketing Analytics course that will focus on the best practices for developing predictive models.

The core Business Analytics course provides fundamental skills using quantitative tools to organize, process and critically interpret large business data, as well as key concepts in quantitative decision making to model and solve real-world problems.

Supply Chain Management introduces quantitative tools to model, optimize and analyze various decisions in supply chains, as well as real-world supply chain cases to analyze the challenges and solutions. With the increasing availability of large volumes of raw business data, the process of converting it into meaningful insights has become critical for organizations, and therefore such courses have been essential for today’s dynamic organizations.

The core course in Project Management offers a unique opportunity to integrate two of the central aims of the ETM Program: skill proficiency and managerial acumen. Firms exist to create and capture value. Well-executed projects create that value, and ably purposed, situationally appropriate management captures that value. While we devote considerable time to developing concrete project-related skills and tools, we will also be emphasizing the “management” side of Project Management!

Soaring to New Heights

The ETM tradition of an intensive, two-day economic evaluation workshop, followed by a full day leadership ropes course continues. Students from the 2016-17 cohort strengthened teamwork and management skills while conquering fears in this challenging experiential learning opportunity.
MEE: Economics of the Earth, Energy and Environment

The Mineral and Energy Economics Program is training the next generation of mineral and energy market analysts. This year, MEE students placed fourth in the Duke University Energy Case Competition and third in the Columbia University Case Competition. We’ve also begun a lunch and learn series where industry professionals speak with our students. If you would like to get involved, contact MEE Program Director Ian Lange, ilange@mines.edu.

Our students continue to hear good news regarding employment. Students from the 2017 cohort have secured internships at the Federal Energy Regulatory Commission, Xcel Energy, Resource Capital Funds (two students), Summit Midstream, Wells Fargo, the Central Intelligence Agency, among others. Further, the 2016 cohort has taken positions at Woods Mackenzie (two positions), Point Logic, Newmont, MMG, S&P Global/Platts and more. Learn more about the Mineral and Energy Economics Program at EconBus.MINES.edu.

PhD Spotlight

Max Brown is an Energy Systems Analyst at the National Renewable Energy Laboratory in Golden. His work focuses on developing computer models of electricity capacity expansion, distribution and end-use consumption. 


PhD student Tisi Igogo is an economist at Tanzania’s Ministry of Finance, advising on fiscal policy issues related to the mineral and energy sector. Her focus at Mines is to develop economic tools useful in assessing energy and mineral policy challenges in Africa. In June, she spoke at the Sustainability Exchange Conference hosted by the International Finance Corporation – World Bank Group in Cartagena, Colombia. She also won a research award from the Clean Energy Manufacturing Analysis Center.

Brett (Jordan) Watson is a post-doctoral researcher at the University of Alaska Anchorage’s Institute for Social and Economic Research. He analyzes how the management policies of natural resources extraction and distribution of natural resource wealth impacts economies and people.

BBA Economics, Texas State University; MS and PhD Mineral and Energy Economics, Mines (2014 and 2017)
Economics + Mines = Balance

Mines’ Bachelor of Science in Economics Program provides students with practical tools that they can apply in a wide range of jobs. Our degrees cultivate analytical skills that are used to solve real-world problems. Students gain a competitive edge with internships, summer field sessions and undergraduate research opportunities. Graduates leave with a competitive and technological advantage to enter careers in energy, business, government, consulting and graduate education.

“I declared math as a major. After taking a few statistics classes, I decided I wanted to study actuarial science, but Mines doesn’t have a major for that. I talked to a few companies and advisors and they suggested higher level economics classes with mid-level math classes, so I figured economics with a math minor would be the best choice for me. It was a little scary switching as a junior, but everyone has made me feel really welcome, and I have a great support system.

Mines has lived up to my expectations and then some. It’s more than I could have ever asked for and I’ll always be grateful for my time here.”

Cassidy Harris
BS, Economics, Class of 2018

The Future of Economics

All Mines students participate in summer field sessions, however, ours are a bit different. In the Division of Economics and Business, summer field sessions expose students to a variety of career opportunities available to those with a degree or interest in economics through on-site visits. This summer, our undergraduate economics students visited with companies from a variety of industries to learn about their missions, goals and current projects. During these visits, they also heard from various professionals about their different career paths.

For the first session, our students visited the Colorado State Capitol with stops at the Governor’s Offices of State Planning & Budgeting, as well as a discussion with the team from Policy, Research & Legislative Affairs. That afternoon, they met Mines alumna Lisa Martinez-Templeton, management analyst, and Jeffrey Romine, chief economist at the Denver Office of Economic Development. Martinez-Templeton received her BS in economics and an MS in mineral and energy economics at Mines. Students also met with companies such as CoBank, DrillingInfo, Newmont Mining Corporation, S&P Global Platts and Xcel Energy.

Learn more about our summer field sessions through the eyes of our students in a series of blog posts on our website, EconBus.MINES.edu. If you or your company would like to schedule a visit with our students, or if you have internship or job opportunities, contact Scott Houser, undergraduate economics program director, shouser@mines.edu.
Student Spotlight: Josh Mangone

MS, Engineering and Technology Management, Class of 2017

“I’m from Golden, but I got my undergrad degree in mechanical engineering from Georgia Tech. When I graduated, I wanted to get an MBA to add business and management skills to my technical degree. I found the Engineering and Technology Management program and decided it was a better fit as far as my interests and where I see myself in my career. While Georgia Tech is certainly an engineering powerhouse, coming to Mines was nice because there’s a great sense of community and you get more attention from your professors.

The diversity in coursework has been really nice. ETM touches on a lot of different areas within business and engineering - it’s really comprehensive. A really specific degree can be limiting in many ways. This program was best for me because of the variety.

This summer, I went back to South Carolina to do my third co-op rotation with BMW Manufacturing. I’ve done rotations in supply chain management, facilities planning, and now assembly process optimization. After signing up for ETM, so many doors opened. I’ve always wanted to work for BMW and this is a really competitive program to get into. Once I started this masters program, I got a call and an interview right away.”

Spring 2017 Graduates and Award Winners

Jerome and Rebecca Broussard Family Award for Academic Achievement in Engineering and Technology Management: Fred Zhu and Gabrielle Stuckenschneider

William Jesse Coulter Award in Mineral Economics: Brett (Jordan) Watson and David Rodziewicz

Joe Eazor Outstanding Graduate Award: Cameron Afkhami

Hubert and Sarah Risser Award in Mineral and Energy Economics: Steve Dahlke

Outstanding Senior Award for Economics: William Thieme
Thank You to Our July 2016 - June 2017 Supporters

Contributions from our alumni and friends truly make a difference. These gifts fund student recognition events, scholarships, faculty research efforts, outreach activities, computer software and the opportunity for students to attend professional conferences. We sincerely appreciate your continued commitment to the Division of Economics and Business. The following donors made a gift of $20 or more:

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Gifts can support scholarships, fellowships, professorships, academic programs, faculty research and other initiatives that are not typically supported through state appropriations. Private philanthropy empowers the division to achieve greater excellence in research and education.

To learn more about supporting the Division of Economics and Business, contact the Mines Foundation.

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