

COLORADO SCHOOL OF MINES

# THE DIVISION OF ECONOMICS AND BUSINESS

2007-08 Newsletter



## Division Facts at a Glance...

Undergraduate Majors	117
Undergraduate Minors	203
Engineering & Technology Management Students	41
Mineral Economics MS Students (includes IFP)	50
Mineral Economics PhD Students	16
Exchange Students	2

## Greetings from the Division Director

Dear Alumni and Friends:

Surprise! Surprise! I am holding down the fort while Dr. Eggert is on sabbatical. The last time I saw him he was disgustingly relaxed as I struggled to find my desk under all those post-its with little Division Director tasklists.



Time marches on within the Division and faces come and go. We miss the ones who have left and wish them well, and welcome the ones who have come. Kathleen Feighny resigned to take a job with Gevity. She has been replaced with Art Scibelli. Be sure and send him all your job announcements and internships. He has also been very active with the career fair so let him know when you want to join us to recruit our students. Dr. Irina Khindanova resigned to teach at an unnamed competitor down the road. Dr. Yadviga Semikolenova was bid away from us by the World Bank's prestigious young professional program. On a happier note, Dr. Scott Houser joined us from CSU as a lecturer to direct our growing undergraduate program. Dr. Daniel Kaffine joined us from UC-Santa Barbara as an assistant professor focusing on environmental policy. We are also recruiting three new assistant professors in the following areas strategy for ETM, finance for MinEc, and micro/policy/industrial organization for MinEc. Those hires are approved and applications should come rolling in soon.

Before this misadventure into administration, I was on sabbatical in spring semester. I vacationed in Tahiti (too much beach sand in my computer) and presented a paper at the International Association for Energy Economics in New Zealand. Consider joining this group if you are interested in energy. We could have reunions; it's a great way to network and the group has a job market service where you could hire our students. I visited the HVDC power cable between New Zealand's North and South Islands and brought home possum fur gloves for those dark snowy Colorado winter nights bicycling home from work.

I went on to spend six weeks visiting companies, universities, and government agencies in S. E. Asia to visit alumni and promote my book, my energy economics short course, and our Mineral Economics Program. I squeezed in some research and R&R on the side. Brunei now gets more money from natural gas than oil but the Sultan did not notice my visit. Singapore's big refining industry is booming and I saw Kuala Lumpur from the 42<sup>nd</sup> floor of the Petronas towers. Cambodia with newly found oil is interested in oil policy. It showed me some of the best and worst of human nature. Human skulls stared at me vacantly from the monument on the killing fields while magnificent carved faces looked me over from the ruins of Angkor Wat. Sleepy socialist Laos was a change from the capitalist bustle of Southeast Asia. Hong Kong was a glitter with neon and the smell of money. It felt freer than Singapore despite China breathing just over its shoulder. But I still didn't spit on the sidewalks. All in all I think I am better at sabbatical than Division Director. Do keep in touch and come and see us when you can. All the Best from the West.

Carol Dahl  
Acting Division Director and Professor

### **Division of Economics and Business Newsletter**

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## ETM Executive Seminars

This year a new approach was taken in presenting the Executive Seminar Series for the Engineering and Technology Management (ETM) program. Rather than having one Executive, we decided to draw on the experiences and talents of four leaders.

We welcomed back **John Bedker** from our Fall 2006 series. John's career in leadership include Naval Reserve Command of the aircraft carrier, U.S.S. Enterprise and serving as Captain of a Boeing 767. He began the seminars by giving an overview of leadership, discussed relevant models and administered the "Leadership Practices Inventory." The second seminar reviewed the data

results from the Leadership Practices Inventory and discussed the organizational meaning and practical application of the data.

**Peter Dea** brought his expertise to the program with two seminars. Peter is the President & CEO, Cirque Resources LP and Former Chairman and CEO of Western Gas Resources. He discussed individual passions, the inherent traits of the passions and how they form the foundation for leadership. For his second presentation, he examined the different disciplines and strategies in running energy companies and discussed his experiences of both hostile and friendly takeover attempts and mergers.

**JP O'Brien**, CEO and Founder of SageFire, Inc., discussed the challenges of starting and growing technology-based businesses. Prior to founding SageFires, JP was founder and CTO of Learning Productions.

**Greg Repetti**, President and Chief Executive Officer of Vail Valley Medical Center in Vail, CO concluded our seminar series by discussing the challenges and opportunities in leading a major not-for-profit medical center.

Each of our speakers brought valuable insights and wisdom to our students. Their generosity in sharing their knowledge truly gives our students a depth that can't be duplicated in the classroom alone. A big thank you to

## ETM Capstone Competition

The Engineering and Technology Management Capstone Competition represents the culmination of the ETM Program. It explores the process of strategy formulation and implementation. The competition continues to challenge and stretch our students to their greatest potential.

### Fall 2006 1st Place Winners



Michell Farnik and Dustin Bashford triumphed in their Capstone competition winning 1st place.

### Spring 2007 1st Place Winners



Matt Duncan, Melody Shum, and Garret Mehl accept their plaques from Dr. Rod Eggert.

## Faculty News

**Edward Balistreri**, was invited to participate in the United States Environmental Protection Agency's Commodity-grade Mercury Stakeholder Panel meetings held between May and September of 2007. This led to a research paper, coauthored with Christopher Worley (a Mineral Economics PhD student), on the proposed US export ban of commodity mercury. The work was presented by Balistreri at the final Mercury Stakeholder meeting (Washington, DC, 20 September 2007) and at the annual environmental economics workshop sponsored by the Department of Economics of the University of Colorado (Vail, Colorado, 21-22 September 2007). Balistreri was also interviewed by Mark Whittaker of the BBC about international trade in commodity mercury. Portions of the interview aired on the BBC World Service program One Planet, from 27 September 2007 through 4 October 2007.

**Graham Davis** spent the last academic year on sabbatical. His main project was working with mining companies around the world in an effort to help them acquire knowledge about real options methods. He gave workshops in England, Canada, and Australia, and continued to develop his real options short course. He also worked with CRC Mining in Brisbane, Australia on a major collaborative research proposal relating to real options practices in mine planning that is expected to be funded this year. Other travels took him to Chile, where he presented a paper at the first Mineral Economics and Management Society meeting to be held outside of North America. While in Chile he also participated in a European Commission on Latin America and the Caribbean/United Nations Conference on Trade and Development workshop on mining and development.

**Rod Eggert** is on sabbatical leave during the academic year 2007-2008. In September, he traveled to the Krygyz Republic to assess the transparency of the country's management of resource revenues, as part of a team from the International Monetary Fund. In October, the National Research Council released the report *Minerals, Critical Minerals, and the US Economy*; Rod chaired the committee that prepared this report. He is spending November and December in the School of Mining Engineering at the University of Witwatersrand, South Africa. During the spring semester, he will be in Chile, spending time at both the Catholic University of Chile and the University of Chile.

**Michael B. Heeley** and Robert Jacobson had their paper "The Recency of Technological Inputs and Financial Performance" accepted for publication in the *Strategic Management Journal*. He also presented his paper "Innovation, Appropriability and the Underpricing of Initial Public Offerings" (with Sharon F. Matusik and Neelam Jain) at the Richard Ivey School of Business, University of Western Ontario, Canada in October. This paper was recently published in the *Academy of Management Journal*.

**Alexandra Newman** spent the 2006-07 year on sabbatical, during which she traveled to Montreal, Canada to visit the Mining Engineering Department at McGill University; to California to visit the Operations Research Department at the Naval Postgraduate School and at Monterey to visit the Industrial Engineering and Operations Research Department at the University of California at Berkeley. She also traveled to Santiago, Chile to visit the Industrial Engineering and Mining Engineering Departments at the University of Chile.

**John E. Tilton** returned from Chile where he now teaches one semester a year in the Mining Centre of the Catholic University of Chile. Here at CSM he has been enjoying team teaching the Metal Industries and Markets graduate course with Professor John Cuddington. In addition, he has found time to travel to a variety of destinations that included:

- \* Davos, Switzerland, to participate in a workshop on Scarce Resources organized by the Swiss Federal Institute of Technology.
- \* Arequipa, Peru, to give a talk on the Resource Curse at the 28<sup>th</sup> Mining Convention organized by the Institute of Mining Engineers of Peru.
- \* Santiago, Chile, to speak on China and Metal Prices at the public workshop organized by the Catholic University on the Copper Industry at the Peak of the Cycle.
- \* Stockholm, Sweden, to participate in a conference on the Globalization of Primary Commodity Markets.

(Faculty News—continued from page 4)

Coulter Professor of Mineral Economics, **John Cuddington**, continued his work on measuring long-term trends and cycles in metals prices. His recent paper with Ph.D. candidate Daniel Jerrett, “Super Cycles in Metals Prices?,” was presented at the 2007 Annual General Meeting of the International Molybdenum Association meetings in Denver. The paper was well received by participants as it provided a positive outlook for future metal prices. John also presented the paper in October to the economic analysis group of Rio Tinto in London, where he visited the trading ring at the London metal exchange.

**Cigdem Gurgur** and Tom Morley have their paper, “Lockheed Martin Space Systems Company Optimizes Infrastructure Project Portfolio Selection”

accepted to be published in *Interfaces*. This paper presents a solution which ensures that high-value projects are selected to maximize the financial performance subject to the constraints that the portfolio does not exceed the available budget and that the carryover of the unspent funds to the next fiscal year does not exceed predetermined limits. Gurgur is continuing her research in “Risk in Business” and was invited to give talks in Turkey, Canada and other universities in the U.S. last year. One notable presentation was given at the Annual Conference of Production and Operations Management Society (2007-Dallas, Texas). In 2007 Gurgur published two papers from her research in stochastic analysis and optimum design of market-driven production systems, one in the *Naval Research Logistics* and the other in the *IIE Transactions*.

## New Faculty Members

**Dr. Daniel Kaffine** joined the CSM faculty as Assistant Professor of Economics and Business. He received a B.S. in Physics and a B.A. in Applied Mathematics from the University of Saint Thomas (Saint Paul, MN). He earned his M.A. in Economics and Ph.D. in Environmental Science and Management with an Environmental Economics focus from the University of California, Santa Barbara (2007). His dissertation work examined incomplete property rights and their impact on natural resource use. Dr. Kaffine has also been involved in research that has considered the impact of gasoline taxes on urban sprawl and urban spatial structure, and the impact of gasoline prices on freeway speeds and traffic in Los Angeles. His areas of interest include environmental and resource economics, property rights theory, and urban and transportation economics.



**Dr. Scott Houser** joined the CSM faculty as Lecturer of Economics and Director of our undergraduate program. After earning his B.S. in economics from Colorado State University, he helped start and direct Posada, a shelter and service center for homeless persons in Pueblo, Colorado. He received his M.S. and Ph.D. in economics from the University of Wisconsin-Madison where he was a Research Associate at the Institute for Research on Poverty. Dr. Houser was an associate professor at California State University, Fresno and comes to CSM after serving a special appointment at Colorado State University. His main teaching areas are public finance, regional economics and microeconomics. Dr. Houser’s research focuses on the effects of federal tax and transfer policy on low-income families, tax preferences for homeownership, and economics education.

## Undergraduate Student Award Winners

Our undergraduate Economics and Business program continues to grow and attract outstanding young men and women. Along with a plaque hung on the wall in the Division of Economics and Business, the Outstanding Senior receives a monetary award.

Winners of the Outstanding  
Senior Awards:

Fall 2006— **Lindsay Auble**

Spring 2007— **Daniel Steele**

We recognize these students for their accomplishments and wish them a bright future.

Kevin Mabe, a graduate of Colorado School of Mines, Mineral Economics Program, MS , 1997 has established an Econometrics Competition and Award. Students in the Econometrics class were to research a project and submit a paper. Our 1st place winner was Abdulaziz Alfakhri. 2nd place winner was Charles Larkin. Each received a monetary gift award and plaque.

Dr. Michael Heeley, congratulates Abdulaziz Alfakhri on his fine work.



Charles Larkin receives his award from Dr. Heeley.



### Published in Oil & Gas Journal / September 3, 10, 2007

Professor Carol Dahl along with undergraduate students Tony Scott and Rachel Hackney recently published an article in the Oil and Gas Journal. The article analyzes the causes of gasoline price run-ups since 2002. They concluded that increased environmental regulation, hurricanes, and a strong world economy account for the rise in gasoline prices. The research for this article was supported by the American Petroleum Institute.



Tony Scott graduated with his BS in economics in 2007 and is continuing in graduate school in the CSM-IFP joint degree program. He plans to receive his MS in mineral economics and petroleum economic management.



Rachel Hackney graduated with her BS in economics in 2007. She is continuing her education in Paris at the Sorbonne in preparation for her MSc in international finance.

## Graduate Student Awards and Celebrations

**David Iverson** was the winner of the Broussard Award given for outstanding academic achievement in ETM.



**Joe Dumesnil** was the recipient of the Hubert and Sarah Risser Award in the Mineral Economics Program for all around performance.

**John Tyler Hodge** received the William Jesse Coulter Award for outstanding academic achievement in the Mineral Economics Program.



## Congratulations 2006-2007 Graduates

### Ph.D., Mineral Economics

Roberto Federico Aguilera  
John Tyler Hodge

### MS, Mineral Economics

Matthew Adkins  
Sharkhuu Amarjargal  
Emmanuel Barrois  
Mark Chung  
Hendro Fujiono  
Jeannette McGill  
Lawrence Nemetz  
Kelsey O'Connor  
Anna Pechatnikov  
Elodie Renaud  
Lindsay Rothfelder  
Jason Rurup  
Tanner Trimble  
Jodi Tveitmoe  
Diane Wingle  
Woo-Jin Yoon

### MS, Engineering and Technology Management

James Allred

Dustin Bashford  
Fuat Bilgin  
Patrick Carroll  
Charles Cooper  
Matthew Duncan  
Mitchell Farnik  
Andrew Scott Harrison  
David Iverson  
Ingo Kabirschke  
Dmitriy Kamenetskiy  
Garrett Mehl  
Renee Menton  
Charles Thomas Morley  
Jordan Riebel  
Alexander Schroeder  
Melody Shum  
Lauren Stankewicz  
Jared Wageman

### BS, Economics

Lindsay Auble  
Joel Bebo  
Devon Clark  
Scott DeWitt  
Lauren Doyle

Jennifer Finley  
Aaron Forehand  
Jonathan Fuchs  
Ashley Gronewoller  
Rachel Hackney  
Zachary Kreider  
Ryan Kulp  
Steven Kuhmichel  
Anthony Makowski IV  
Bernadette Molinar  
Kelsey O'Connor  
Christopher Olsen  
Russell Overman  
Amanda Romine  
Anthony Scott  
Daniel Steele  
Anthony Sweet  
Kevin Weems  
Kyle Wille  
Joel Zehr

## Internship Experiences for Graduate Students

**Ben MacFarlane**, Mineral Economics, student interned with PA Consulting Group's Global Energy Practice in Denver during the summer of 2007. While there he helped update the assumptions of the firm's complicated fundamental forecasting model by doing research on recent changes in nuclear capacity in N. America. Ben was allowed time and encouraged to use Visual Basic to write a macro that they can use monthly to compare runs of their volatility model. He helped with contract valuations for clients and assisted on a project that analyzed the expected effects of stringent CO2 policies on the 10 largest power generating companies in the US. This was done for a client that expected to benefit from more stringent regulations and wanted to approach

companies that could expect similar benefits and invite them to lobby together.

**Mark Helms**, Mineral Economics student, served as an intern for Denver-based Resource Capital Funds, (RCF). RCF manages private equity funds focusing exclusively on mineral and mining projects. During his time there, Mark conducted market research for RCF. He compiled a database of comparables useful for assessing current equity market conditions and for predicting future conditions. This database is sometimes used when determining an exit strategy for an investment. Mark also conducted some cash flow modeling for RCF. Mark says "it opened up a whole new world to me."

## Graduate Students Excelling in Life



Marty Gaupp and Daniel Jerrett

Each year at its annual meeting, the Mineral Economics and Management Society (MEMS) holds a student paper competition. The 2007 competition received entries from universities in Canada, China, South Africa, and the United States.

Our own Marty Gaupp submitted the winning paper, "Efficiently Sequencing the Extraction of Ore from an Open Pit Mine," which he presented at the 2007 annual meeting in Golden. Working with Professor Alexandra Newman, he developed a mixed integer programming model for the sequencing of block extraction at an open-pit mine, incorporating a number of important constraints, including mine-production

and mineral-processing capacities and ore-grade requirements.

Daniel Jarrett also presented his entry "Estimating Economies of Scale in the Copper Industry."



During a recent visit to Aramco Services Company corporate headquarters, two Mineral Economics PhD scholars met with members of the company's senior management and Career Development Division. From left are Industrial Relations manager Abdulwahab M. Al-Abbas, **Ayed S. Al-Qahtani**, Dawood M. Al-Dawood, **Nasser A. Al-Dossary** and Saudi Development Unit adviser Hazim R. Al-Jaafar. Al-Qahtani and Al-Dossary each received Certificates of Achievement in Saudi Aramco's "Road to Success" program.

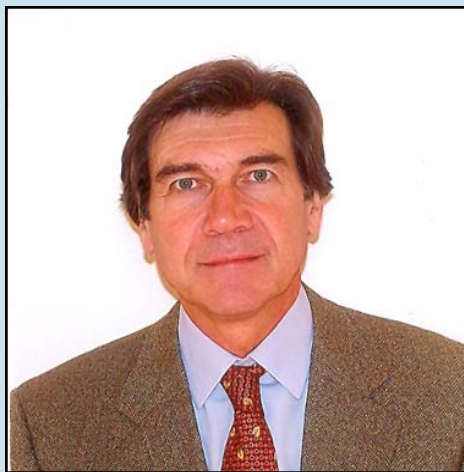


## Visitors to Economics and Business Learning from one Another



**Phillip Maxwell**, Professor in Mineral Economics at the Curtin University of Technology, Perth, Western Australia. Dr. Maxwell reviewed the successes and failures of an earlier market assessment predicting development in the nickel market. He titled his presentation “Was There a Nickel Shakeout?”

**Marian Radetzki**, President of SNS Energy, Professor of Economics, Lulea University of Technology, Sweden, and former senior researcher at the Institute for International Economic Studies, Stockholm University. Dr. Radetzki presented a seminar titled “The Anatomy of Three Commodity Booms.” Dr. Radetzki identified and analyzed three major commodity booms since WWII.



We welcomed back **Jose Luis Rebollo** to participate in our Distinguished Lecture Series. Mr. Rebollo is the retired Chairman of the Board for Metaleurop SA. He presented three distinguished lectures open to the campus. In these seminars he examined mergers and acquisitions, the use of derivatives, investment decisions, exploration, research and development, and other critical elements of corporate leadership strategies. He also emphasized the issue of how to effectively create sustainable competitive advantage.

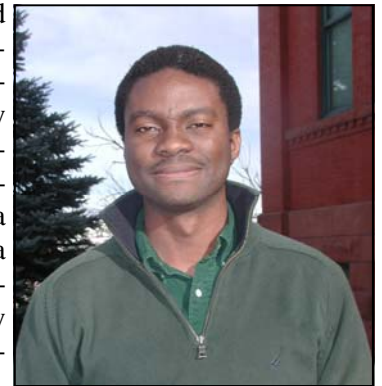
## The Road to Golden

### What brings our International Students to CSM?



**Arturo Vasquez Cordano** has just begun the Ph.D. program in Mineral Economics and believes it provides the right balance of applied business learning and economic theory. He believes courses such as operations research, energy economics, and natural resources economics deliver “real world insight” into managing the practical problems that exist in the world of business. Prior to his arrival at Mines, Arturo served as a Senior Economist at the Energy and Mining Supervisory Agency of Peru. This agency regulates the petroleum, electricity, mining, and natural gas industries for the country. He plans on returning to the agency for at least two more years at the conclusion of the program. Arturo’s future career may include service as a researcher at a top oil company or possibly conducting economic research at the World Bank. Arturo remains convinced that the Mineral Economics program at Mines was his best choice for a balanced program of applied business and economic theory.

**Babtunde (Babs) Egunjobi** comes from Lagos, Nigeria. For Babs the totality of the Mineral Economics program represents the body of knowledge for his future career in energy and mineral resource consulting. He considers the specialization courses within the program to be where the real and genuine intuitive knowledge of the energy industry and natural resource markets occur. Babs is enthusiastic about utilizing this knowledge in his future corporate strategic work in the energy field. He thinks a corporation must identify its competitive and comparative advantages within the marketplace so as to solidify its superior corporate position. He believes an understanding of the broadest possible picture of the energy and natural resources environment from a global perspective goes a long way toward helping a corporation achieve such a competitive advantage. He encourages the Division to continue the development of corporate partnerships so as to increase the visibility of the uniquely specialized Mineral Economics program at CSM. Babs graduates from the program in



**Gregory Bosunga** comes from Kisangani—the fifth largest city in the Democratic Republic of Congo. Greg believes the Mineral Economics program at Mines best meets his own educational needs because of the global perspective the program brings to the study of energy. He feels that one has to have an international viewpoint when studying energy economics. He has his sights on a doctorate degree and hopes to take his qualifiers next year. It is his ambition and dream to one day impart his knowledge regarding the field of energy to college freshmen in the sub-Saharan region of Africa. Greg feels the more young minds learn to harness the energy industry (minerals, oil, gas, and electricity) the better their standard of living will be. Such energy development education is the key to the development of emerging “third-world countries” in Africa. No doubt Greg’s experience as a miner, head of a hydroelectric power plant, new project manager at Shell Oil, and researcher in the bio-medical manufacturing industry will help this dream become a reality.



## Alumni Corner

**Clare E. Shemeta, MS Min Ec 1983**, owns her own company, MedWare, Inc.

**Gregory Stone, MS Min Ec 1997**, earned a PhD from the University of Hawaii and is now a Finance Professor at the University of Nevada, Reno.

**Luis Galarraga, MS Min Ec 1999**, joined the Business Development Team—Middle East, Asia, North Africa—located in Abu Dhabi, UAE.

**John Gregg, BS Economics 2000**, is a Six Sigma Belt completing his Master Black Belt certification for Bank of America in Farmington, Connecticut.

**Eva Maria Gomez, MS Min Ec 2002**, joined Occidental Oil and Gas Corporation in July 2006 as a Planning Engineer for the Worldwide Exploration Group.

**Chonnakarn Leeraphan, MS ETM 2003**, is the Assistant Vice President of Strategic Planning for Standard Chartered Bank in Thailand.

**Mason Wallick, MS Min Ec 2004**, has joined DA Capital in Singapore.

**Nicolas Jonard, MS Min Ec 2005** works as a commercial analyst for Statoil International Exploration and Acquisition in Stavanger, Norway.

**Matthieu Delaby, MS Min Ec 2005**, is a corporate trainee in project control at Statoil in Stavanger, Norway.

**Jason Rurup, MS Min Ec 2007**, is an Associate Generation Modeling Analyst for Xcel Energy in Denver.

### Share your news!

Thank you for keeping us informed. We will include your update in the next issue of [EB Newsletter](#). E-mail me at [kmartin@mines.edu](mailto:kmartin@mines.edu).

## EB Thanks Its Supporters

*We gratefully acknowledge contributions made directly to the Division by the following individuals. Without this support, we would not be able to provide the level of excellence and opportunities to students that we feel is so vital to their learning experience.*

Vikram Balasubramanian—2005  
Rita Beale—1987  
Mr. and Mrs. Stephen Blackwell  
Dr. Carol Carlson—2001  
Jinbok Cho—2006  
James Coldwell—1988  
Dr. Carol Dahl  
Matthieu Delaby—2005  
Ikenna Ugbonu—2005  
Dr. Rod Eggert & Ms. Ruthann Moomy  
Leonard Gardner III—2006  
Gregory Handke—1986  
Commander Tony Hahn—2004  
Dr. Roger Hutchison—1989  
Nicolas Jonard—2005

Harald Jordan—1990  
Mary Beth Kirven  
Kevin Mabe—1997  
A. Scott Moore—1988  
Vladimir Morakhovsky—1999  
Dr. R. Craig Murphy—1985  
Miriam Pauli  
Ruth Pauli  
Kenji Sawada—1982  
Joel Schneyer—1968  
David Schramm—1987  
Dr. and Mrs. John Tilton  
Thomas Toole—1996  
Willa Dee Van Zandt  
Dr. and Mrs. Michael Wilson—1984  
Linda Good Wilson—1982

For almost four decades, the Economic and Business Programs at the Colorado School of Mines have prepared students to become leaders in Industry and government.



**Graduating Class  
Spring 2007**

**Graduating Class  
Fall 2006**

