



COLORADO SCHOOL OF MINES
EARTH • ENERGY • ENVIRONMENT



Commencement

MAY 2017



Graduate Commencement

May 11, 2017 | Lockridge Arena, Golden, Colorado

BOARD OF TRUSTEES

Thomas Jorden '80, MS '87 *Chairman*
Timothy Haddon '70 *Vice Chairman*
Stewart Bliss
Charles McNeil '71
Jesus Salazar '01, MS '02
Patty Starzer '83
Richard Truly
Terri Hogue *Faculty Trustee*
Sarah Steers *Student Trustee*

CEREMONY

Processional

National Anthem

Colorado School of Mines Natural Miners

Welcome

Dr. Paul C. Johnson, President

Student Address

Mr. Nathan Switzner

Keynote Address

Dr. John M. Poate, Senior Vice President Emeritus, Colorado School of Mines

Presentation of the Dr. Bhakta Rath and Sushama Rath Research Award

Dr. Anthony M. Dean, Senior Vice President for Research and Tech Transfer

Announcement and Hooding of Doctoral Degree Recipients

Announcement of Master's Degree Recipients

Presentation of Candidates for Graduate Degrees

Dr. Bettina Voelker, Interim Dean of Graduate Studies

Presentation of the Class of 2017 to the Board of Trustees

Dr. Paul C. Johnson

Acceptance of Class

Mr. Thomas Jorden

Conferral of Graduate Degrees

Dr. Paul C. Johnson

Closing Remarks

Dr. Paul C. Johnson

Alma Mater

Colorado School of Mines Natural Miners

Recessional

Audience is requested to stand and remain in place until graduates have exited the arena. Please join us for a new alumni reception immediately following the ceremony at Ben Parker Student Center.

All graduates will be photographed by a professional photographer after receiving their diplomas. Proofs will be sent to each graduate; copies may be ordered directly from the photographer.

College of Earth Resource Sciences and Engineering

Dr. Ramona M. Graves, Dean

MINING ENGINEERING

Dr. Priscilla P. Nelson, Department Head

Mining and Earth Systems Engineering, Master of Science

Michael David Burkhardt	Avon, Colorado
Christopher Alan Enright	Cupertino, California
Benjamin J. Goertz	San Antonio, Texas
Aditya Juganda	Bandung, Indonesia

GEOLOGY AND GEOLOGICAL ENGINEERING

Dr. M. Stephen Enders, Interim Department Head

Mineral Exploration, Professional Master

Caleb Engle	Muncie, Indiana
Mark Daniel Raimo	Concord, New Hampshire

Petroleum Reservoir Systems, Professional Master

Michael Lee Peffer	Fremont, California
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Geological Engineering, Master of Engineering

Jenny Lin Wolicki	Parker, Colorado
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Geological Engineering, Master of Science

Alvaro Puente Querejazu	Santa Cruz, Bolivia
Caroline Rebecca Scheevel	Austin, Texas

Geology, Master of Science

Evan Stanley Allred	Bakersfield, California
Elvan Aydin	Kircaali, Bulgaria
Daniel Norman Brugioni	Greenwood Village, Colorado
Grainne Moira Byrne	Kildare, Ireland
Steven Combes Crouch	Lakewood, Colorado
James Everett Friedrich	Broomfield, Colorado
Michael J. Harty III	Henderson, Nevada
Sarah E. King	Aspen, Colorado
Johana Margaret Pedraza Rojas	Bogota, Colombia
Andrew Ryan Reisdorf	Spring, Texas
Julia Bellamy Wood	Tulsa, Oklahoma

Hydrology, Master of Science

Amelia May Hayes	Carlsbad, New Mexico
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PETROLEUM ENGINEERING

Dr. Erdal Ozkan, Department Head

Petroleum Engineering, Master of Engineering

Abdullateef Ahmed Alomair	Dammam, Saudi Arabia
Ahmed Alsaleh^	Dammam, Saudi Arabia
Nabeel Khalid Sheikh	Parker, Colorado
Nathan F. Skitt	Westminster, Colorado
Logan Allen Wilkerson	Humble, Texas

Petroleum Engineering, Master of Science

Tugce Calisgan	Izmir, Turkey
Dina Hegazy	Cairo, Egypt
Jamila Huseynova	Baku, Azerbaijan
Jessica Graciela Iriarte Lopez	Maracaibo, Venezuela
Omar Tariq Khaleel	Abu Dhabi, United Arab Emirates

GEOFYSICS

Dr. Roelof K. Snieder, Interim Department Head

Petroleum Reservoir Systems, Professional Master

Piyanan Chanchompoo	Khon Kaen, Thailand
Abigail Rose Michel	Colorado Springs, Colorado

Geophysical Engineering, Master of Science

Paula Andrea Carolina Barbosa Murillo	Caracas, Venezuela
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Geophysics, Master of Science

Karla Cecilia Avila Vizuet	State of Mexico, Mexico
Austin Ross Bailey	Denton, Texas
Andrea Balza	Caracas, Venezuela
Benjamin Robert Bloss	Montrose, Colorado
Prat Boonyasatphan	Khon Kaen City, Thailand
Carlos Eduardo Convers Gomez	Santander, Colombia
James Ronald Johnson	Colorado Springs, Colorado
Colton James Kohnke	Bremerton, Washington
Jacob William Utle	Lakewood, Colorado

ECONOMICS AND BUSINESS

Dr. Roderick G. Eggert, Interim Division Director

Engineering and Technology Management, Master of Science

Ahmed Al-Arfaj	Dhahran, Saudi Arabia
Ahmed Alsaleh^	Dammam, Saudi Arabia
Chris Page Brockman	Richmond, Texas
Caleb Alexander Courkamp	Parker, Colorado
Justin P. Dearden	Colorado Springs, Colorado
Sean David Dolfinger	Highlands Ranch, Colorado
David Russell Galbreath	Street, Maryland
Robert Newton Killion III	The Woodlands, Texas
Timothy York Lancaster	The Woodlands, Texas
Rebeka Danielle Locricchio	Northglenn, Colorado
Colter James Lund	Manti, Utah
Kylen Kearns McClintock	Madison, Wisconsin
Zachary D. McMullen	Littleton, Colorado
Kendra Jane Meeker	Houston, Texas
James Robert Meyer	Seattle, Washington
Frank Worthington Musick	Buena Vista, Colorado
Dilan Anthony Orrino	Broomfield, Colorado
Marco Alan Povis Rosales	Lima, Peru
Sampson Alec Ramsay	Littleton, Colorado
Zachary Harrison Richter	San Antonio, Texas
Sydney Elizabeth Rogers	Colorado Springs, Colorado
Abhishek Kumar Sahay	Dehri-on-Sone, India
Paul R. Schauer	Houston, Texas
Alexander Hasan Shaar	Castle Rock, Colorado
Elizabeth Ann Starbuck McMillan	Williamsburg, Virginia
Gabrielle Yolawn Stuckenschneider	Roxborough Park, Colorado
Fred Yantao Zhu	Longmont, Colorado

Mineral and Energy Economics, Master of Science

Mohammed AlHusseini	Al-Khobar, Saudi Arabia
Lucas Taylor Cala	Albuquerque, New Mexico
Steven Dahlke	Saint Louis Park, Minnesota
Jose Raul Dapello Vizcarra	Lima, Peru
Eugenio Luis Dominguez De Urruticoechea	Santiago, Chile
Seth David Fredrick	Salt Lake City, Utah
Sadie Ruth Fulton	Denver, Colorado
Michael Heath Hanley	Rapid City, South Dakota
Tsililile Igogo	Dar Es Salaam, Tanzania
Martin Kohn	Denver, Colorado
David Thomas Manning	Acton, Massachusetts

Babatunde Obinna Onwukeme Lagos, Nigeria
Dov Eliezer Quint Brooklyn, New York
Teresa Viviana Ramos Lima, Peru
Ryan John Riebau Milwaukee, Wisconsin
Rebecca Diane Schauer Houston, Texas
Jaime Esteban Ruben Sepulveda Zamorano Quillota, Chile
Ensieh Shojaeddini Tehran, Iran
Joshua Aaron Strassburger Stamford, Connecticut

HUMANITIES, ARTS AND SOCIAL SCIENCES

Dr. Hussein A. Amery, Interim Division Director

International Political Economy of Resources, Master's
Eros Bazebizonza Mizidy Pointe-Noire, Republic of Congo
Cass Whaley DeRidder, Louisiana

College of Applied Science and Engineering

Dr. Michael J. Kaufman, Dean

GEORGE S. ANSELL DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

Dr. Angus A. Rockett, Department Head

Materials Science, Master of Science
Ashcon Hossein Akhavan Castle Rock, Colorado
Dustin Ray Crouse Eugene, Missouri
Matthew Anthony Musselman Littleton, Colorado

Metallurgical and Materials Engineering, Master of Science
Jarred Justin Froman Boone, Colorado
Virginia Katherine Judge McAlester, Oklahoma

CHEMICAL AND BIOLOGICAL ENGINEERING

Dr. Colin A. Wolden, Interim Department Head

Chemical Engineering, Master of Science
Michelle Anne Carlson Niwot, Colorado
Vinh The Nguyen Westminster, Colorado
Michael Stephen Riederer Juneau, Alaska
Brittany Ann Schreiner Greenwood Village, Colorado
Vishal Kumar Srivastava Kanpur, India

CHEMISTRY

Dr. David T. Wu, Department Head

Nuclear Engineering, Master of Engineering
Francesca Victoria Mallett Pearland, Texas

Chemistry, Master of Science
Kyle Thompson Kluherz Loveland, Colorado

PHYSICS

Dr. Jeff Squier, Department Head

Applied Physics, Master of Science
Austin Lee Cummings Parker, Colorado
Brian Alexander Steward Lakewood, Colorado

Materials Science, Master of Science
Derek Michael Fogel Kernersville, North Carolina

College of Engineering and Computational Sciences

Dr. Kevin L. Moore, Dean

APPLIED MATHEMATICS AND STATISTICS

Dr. Gregory E. Fasshauer, Department Head

Applied Mathematics and Statistics, Master of Science
Computational and Applied Mathematics Specialty
Rebecca Paige Conrad Papillion, Nebraska

Applied Mathematics and Statistics, Master of Science
Statistics Specialty
Rachel Justine Penning Granville, Iowa

CIVIL AND ENVIRONMENTAL ENGINEERING

Dr. John E. McCray, Department Head

Civil and Environmental Engineering, Master of Science
Heather Ann Barnes Satellite Beach, Florida
Jared Anthony Coleman West Palm Beach, Florida
Logan Frederick Forsythe Columbia, Missouri
Chad Walker George Gunnison, Colorado
Teigan Ann Gulliver Minneapolis, Minnesota
Dena Michelle Hout Mission Viejo, California
Sarah Catherine Hurley Highlands Ranch, Colorado
Ryan William Lanham Chicago, Illinois
Nicholas John Martin Burlingame, California
Luis Carlos Mauricio-Perez Chihuahua, Mexico
Stephanie Sasha Ng Highlands Ranch, Colorado
Susan P. Paret Thornton, Colorado
Katie Lynne Schumacher Murphy, Texas
Jason Wyatt Wiggins Boulder, Colorado
Zeena Clair Williss Yerington, Nevada
Mengyuan Yu Thornton, Colorado
Kun Zhang Tangshan City, China

Environmental Engineering Science, Master of Science
Kevin Edward Chan Highlands Ranch, Colorado
Amber Lynn Parmet Idaho Springs, Colorado
Amanda Setsuko Yoshino Boulder, Colorado

Hydrology, Master of Science
Jared Matthew Clark Monterey, California
Elizabeth Marie Gallo Atlanta, Georgia
Caroline Harper Ike Stamford, Connecticut
Abbye Elisabeth Neel Denver, Colorado
Alan Wilson Tipton Mandeville, Louisiana

Class of 2017

COMPUTER SCIENCE

Dr. Tracy K. Camp, Department Head

Computer Science, Master of Science

Michael Harrison Adkins	Lincoln, Massachusetts
Matthew Scott Bailey	Denton, Texas
Matthew Daniel Berntson	Edina, Minnesota
Aruna Chen	Tongliao, China
William John Kelly	Fort Collins, Colorado
Kento Okamoto	Davis, California
Jennifer Lynn Ryan	Lyme, New Hampshire
Alan VanderMeer	Lakewood Colorado
Zachary T. Webb	Boerne, Texas

ELECTRICAL ENGINEERING

Dr. Atef Z. Elsherbeni, Department Head

Electrical Engineering, Master of Science

Gilchrist Hoshiaki Day	Roswell, New Mexico
Xuliang Hou	Harbin, China
Jamison Alan Olsten	Evergreen, Colorado
Daniel James Rosen	Colorado Springs, Colorado
Hossein Sartipizadeh^	Dezful, Iran
Daniel Ervin Schemmel	Colorado Springs, Colorado

MECHANICAL ENGINEERING

Dr. Gregory S. Jackson, Department Head

Mechanical Engineering, Master of Science

Amir Ahmady	Tehran, Iran
Elizabeth Ann Appelhans	Fort Collins, Colorado
Carly Marie Blaes	Thornton, Colorado
Samuel Timothy Brown	Colorado Springs, Colorado
Ashley N. Bucsek	Howell, New Jersey
Joshua Kurt Burmeister	Littleton, Colorado
Ian Dahl Cairns	Mercer Island, Washington
Travis Jerome Canney	Barrington, New Hampshire
Tyler Lindo Faoro	Penrose, Colorado
Benjamin E. Long	Albuquerque, New Mexico
Vincent Evan Pane	Longmont, Colorado
Abhishek Saurin Parikh	Ahmedabad, India
Andres Xavier Ramirez	Pflugerville, Texas
David Joseph Schack	The Woodlands, Texas
Ryan Lee Thorpe	Aurora, Colorado
Sajith Indika Wijesuriya	Colombo, Sri Lanka



DOCTOR OF PHILOSOPHY

Class of 2017

College of Earth Resource Sciences and Engineering

Dr. Ramona M. Graves, Dean

MINING ENGINEERING

Dr. Priscilla P. Nelson, Department Head

Mining and Earth Systems Engineering, Doctor of Philosophy

Samuel AttaOLON
Makassar, Indonesia
ADVISOR: Juergen O. Brune | CO-ADVISOR: Gregory E. Bogin
Computational Modeling of Barometric Pressure Fluctuation Effects on Explosive Methane-Air Mixtures in a Longwall Mine GOB

Kirk Haley McDaniel
Denver, Colorado
ADVISOR: Juergen O. Brune
A New Methodology to Evaluate Critical Fire Life Safety and Emergency Preparedness in Vehicular Road Tunnels

GEOLOGY AND GEOLOGICAL ENGINEERING

Dr. M. Stephen Enders, Interim Department Head

Geological Engineering, Doctor of Philosophy

Judith Ann Schenk
Peabody, Massachusetts
ADVISOR: Eileen P. Poeter
Criteria for Evaluating Model Deficiency for Groundwater Models and the Effects of Eliminating Deficient Models on Multi-Model Analysis Using AICc, KIC, AIC and BIC

Geology, Doctor of Philosophy

Evan Rhys Jones
Santa Monica, California
ADVISOR: Piret Plink-Bjorklund
Probabilistic Source-To-Sink Analysis of the Provenance of the California Paleoriver: Implications for the Early Eocene Paleogeography of Western North America

Mohammad H. Naqi
Kuwait City, Kuwait
ADVISOR: Bruce D. Trudgill
Salt-Influenced Normal Faulting Related to Salt-Dissolution and Extensional Tectonics: 3-D Seismic Analysis and 2-D Numerical Modeling of the Salt Valley Salt Wall, Utah and Danish Central Graben, North Sea

Kenya Ono
Osaka, Japan
ADVISOR: Piret Plink-Bjorklund
Deepwater Slope Channels on Active Continental Margins, Eocene Forearc Basin, California: Architecture and Froude Supercritical Flow Channel Fills

Hydrology, Doctor of Philosophy

Timothy James Fry
St. George, Utah
ADVISOR: Reed M. Maxwell
High Resolution Modeling For Water Quantity and Quality, Understanding the Role of Green Infrastructure Best Management Practices In Ultra Urban Environments: Connections, Feedbacks and Interactions

PETROLEUM ENGINEERING

Dr. Erdal Ozkan, Department Head

Petroleum Engineering, Doctor of Philosophy

Wisam Jamal Assiri
Jeddah, Saudi Arabia
ADVISOR: Erdal Ozkan
Interpretation of Pseudotransient Linear Flow in Production Data Analysis Of Tight, Naturally Fractured Reservoirs

Seyedeh Elham Parsa
Bojnord, Iran
ADVISOR: Erdal Ozkan | CO-ADVISOR: Xiaolong Yin
Experimental Study on the Effect of Confinement on Propane Phase Behavior

ECONOMICS AND BUSINESS

Dr. Roderick G. Eggert, Interim Division Director

Mineral and Energy Economics, Doctor of Philosophy

Muhammad Imam Akimaya
Pekanbaru, Indonesia
ADVISOR: Michael B. Heeley | CO-ADVISOR: Carol Dahl
The Economics of Gasoline Subsidy Cost Reduction Policy: Case Study of Indonesia

Brett Watson Jordan
Tomball, Texas
ADVISOR: Roderick G. Eggert
Three Essays in Resource Economics and Availability

College of Applied Science and Engineering

Dr. Michael J. Kaufman, Dean

GEORGE S. ANSELL DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

Dr. Angus A. Rockett, Department Head

Materials Science, Doctor of Philosophy

Jesse Aaron Miller
Pagosa Springs, Colorado
ADVISOR: Ivar Reimanis
Non-Stoichiometric Magnesium Aluminate Spinel: Microstructure Evolution and its Effect on Properties

Taylor Marie Wilkinson
Rio Rancho, New Mexico
ADVISOR: Corinne E. Packard
Characterization of Ferroelasticity in Rare-Earth Orthophosphates by Nanoindentation

Metallurgical and Materials Engineering, Doctor of Philosophy

Nathan T. Switzner
Plattsburg, Missouri
ADVISOR: Zhenzhen Yu
Friction Welding for Cladding Applications: Processing, Microstructure and Mechanical Properties of Inertia Friction Welds of Stainless Steel to Low Carbon Steel and Evaluation

Kristin Elizabeth Tippey
Tuscaloosa, Alabama
ADVISOR: Kip O. Findley
Effects of Alloying and Processing Modifications on Precipitation and Strength in 9% Cr Ferritic/Martensitic Steels for Fast Reactor Cladding

Nuclear Engineering, Doctor of Philosophy

Nicolas Evan Shugart
Colorado Springs, Colorado
ADVISOR: Jeffrey C. King
Development of a Safeguards Process Simulation for Open and Closed Nuclear Fuel Cycles

CHEMICAL AND BIOLOGICAL ENGINEERING

Dr. Colin A. Wolden, Interim Department Head

Chemical Engineering, Doctor of Philosophy

Vinh The Nguyen^
Westminster, Colorado
ADVISOR: Andrew M. Herring
Development of Direct-Methane Proton Exchange Membrane Fuel Cells at Low and Elevated Temperatures

Timothy Christopher Schutt
Fort Collins, Colorado
ADVISOR: Christopher M. Maupin
Investigations of Ionic-Liquid-Mediated Hydrolysis of Cellulosic Compounds With and Without Cellulase Enzymes

Zhaowang Zong
Tianchang, China
ADVISOR: Moises A. Carreon
Synthesis of Small Pore Zeolite Membranes for Nitrogen/Methane Separation

^Double Degree Recipient

CHEMISTRY

Dr. David T. Wu, Department Head

Applied Chemistry, Doctor of Philosophy

Jingjing Wang Shishou, China

ADVISOR: James F. Ranville

Investigation of Manufactured Carbon in the Environment

Henok Adem Yemam Dilla, Ethiopia

ADVISOR: Alan S. Sellinger

Novel Small Molecules for Detection of Sensitive Nuclear Materials

PHYSICS

Dr. Jeff Squier, Department Head

Applied Physics, Doctor of Philosophy

Jeremy Justin Bundgaard Colorado Springs, Colorado

ADVISOR: Uwe Greife

Developments Toward Understanding and Improving the Low Energy Measurement Capabilities of a Fission Time Projection Chamber

Michael David LaCount Fort Collins, Colorado

ADVISOR: Mark T. Lusk

Energy Pooling Upconversion in Free Space and Optical Cavities

Carlos Francisco Medina Hernandez Bogota, Colombia

ADVISOR: Lawrence R. Wiencke

The Central Laser Facility at the Pierre Auger Observatory. Studies of the Atmospheric Vertical Aerosol Optical Depth and Other Applications to Cosmic Ray Measurements

Xiaoning Zang Yantai, China

ADVISOR: Mark T. Lusk

Energy and Information Transfer Via Coherent Exciton Wave Packets

Doritha Field Ramey

Ferguson, Missouri

ADVISOR: Tzahi Y. Cath | CO-ADVISOR: Junko Munakata Marr

Tailored Water Treatment in Distributed Wastewater Reclamation: Investigation of Biological Stability, and Energy and Nutrient Recovery

COMPUTER SCIENCE

Dr. Tracy K. Camp, Department Head

Computer Science, Doctor of Philosophy

Wendy Denise Fisher

Dayton, Ohio

ADVISOR: Tracy K. Camp

Machine Learning for the Automatic Detection of Anomalous Events

ELECTRICAL ENGINEERING

Dr. Atef Z. Elsherbeni, Department Head

Electrical Engineering, Doctor of Philosophy

Bananeh Ansari

Hamedan, Iran

ADVISOR: Marcelo G. Simoes

Energy Management of Smart Distribution Systems

Mohammad Babakmehr

Shiraz, Iran

ADVISOR: Marcelo G. Simoes

Compressive Power Systems: Applications of Compressive Sensing and Sparse Recovery in the Analysis of Smart Power Grids

Hossein Sartipizadeh^

Dezful, Iran

ADVISOR: Tyrone L. Vincent | CO-ADVISOR: Robert J. Kee

Uncertainty Characterization in Robust MPC using an Approximate Convex Hull

MECHANICAL ENGINEERING

Dr. Gregory S. Jackson, Department Head

Operations Research with Engineering,

Doctor of Philosophy Interdisciplinary

Benjamin Lloyd Johnson Colorado Springs, Colorado

ADVISOR: Alexandra M. Newman | CO-ADVISOR: Jeffrey C. King

Operations Research Applications in Nuclear Energy

Mojtaba Rezakhah

Tehran, Iran

ADVISOR: Alexandra M. Newman

Open Pit Mine Planning with Stockpiling

Mechanical Engineering, Doctor of Philosophy

Gladys Anyango Anyenya

Nairobi, Kenya

ADVISOR: Neal P. Sullivan | CO-ADVISOR: Alexandra M. Newman

Solid-Oxide Fuel Cells for Unconventional Oil and Gas Production

Songpo Li

Zhao County, China

ADVISOR: Xiaoli Zhang

Novel Intuitive Human-Robot Interaction using 3-D Gaze

Michael Jonathan Wagner

Highlands Ranch, Colorado

ADVISOR: Robert J. Braun | CO-ADVISOR: Alexandra M. Newman

Optimization of Stored Energy Dispatch for Concentrating Solar Power Systems

College of Engineering and Computational Sciences

Dr. Kevin L. Moore, Dean

APPLIED MATHEMATICS AND STATISTICS

Dr. Gregory E. Fasshauer, Department Head

Applied Mathematics and Statistics, Doctor of Philosophy Computational and Applied Mathematics Specialty

Deborah Anne Shutt West Chester, Ohio

ADVISOR: Stephen D. Pankavich | CO-ADVISOR: Aaron T. Porter

Modeling, Analysis and Simulation of Complex Disease Dynamics for HIV, Ebola and Zika Virus

CIVIL AND ENVIRONMENTAL ENGINEERING

Dr. John E. McCray, Department Head

Civil and Environmental Engineering, Doctor of Philosophy

Brent Mark Brouillard Loveland, Colorado

ADVISOR: Jonathan O. Sharp | CO-ADVISOR: Eric R. Dickenson

Biogeochemical and Ecological Impacts Resulting From Beetle-Induced Forest Mortality

Peng Deng Changsha, China

ADVISOR: Shiling Pei

Quantitative Approaches For Assessing Ground Motion Impact in Performance Based Earthquake Engineering

Simon Heru Prassetyo Bandung, Indonesia

ADVISOR: Marte S. Gutierrez

Hydro-Mechanical Analysis of Tunneling in Saturated Ground Using a Novel and Efficient Sequential Coupling Technique

DOUBLE DEGREE RECIPIENTS

Ahmed Alsaleh

Master of Engineering, Petroleum Engineering

Master of Science, Engineering and Technology Management

Vinh The Nguyen

Master of Science, Chemical Engineering

Doctor of Philosophy, Chemical Engineering

Hossein Sartipizadeh

Master of Science, Electrical Engineering

Doctor of Philosophy, Electrical Engineering

Undergraduate Commencement

May 12, 2017 | Marv Kay Stadium, Golden, Colorado

BOARD OF TRUSTEES

Thomas Jorden '80, MS '87 *Chairman*
Timothy Haddon '70 *Vice Chairman*
Stewart Bliss
Charles McNeil '71
Jesus Salazar '01, MS '02
Patty Starzer '83
Richard Truly
Terri Hogue *Faculty Trustee*
Sarah Steers *Student Trustee*

CEREMONY

Processional

National Anthem

Colorado School of Mines Natural Miners

Welcome

Dr. Paul C. Johnson, President

Student Address

Ms. Claire Mahoney

Distinguished Speaker

Dr. John Coors

Recognition of Retiring Faculty

Dr. Thomas Boyd, Provost and Executive Vice President

Presentation of Trustees Outstanding Faculty Award

Mr. Thomas Jorden, Chairman, Board of Trustees

Recognition of Commissioned Cadets

Colonel John T. Cairney, United States Air Force

Announcement of Baccalaureate Degree Recipients

Presentation of Candidates for Baccalaureate Degrees

Dr. Thomas Boyd, Provost and Executive Vice President

Presentation of the Class of 2017 to the Board of Trustees

Dr. Paul C. Johnson

Acceptance of Class

Mr. Thomas Jorden

Conferral of Degrees

Dr. Paul C. Johnson

Closing Remarks

Dr. Paul C. Johnson

Alma Mater

Colorado School of Mines Natural Miners

Recessional

Audience is requested to stand and remain in place until graduates have exited the stadium. Please join us for a new alumni reception immediately following the ceremony at Stermole Track & Field Complex.

All graduates will be photographed by a professional photographer after receiving their diplomas. Proofs will be sent to each graduate; copies may be ordered directly from the photographer.

BACHELOR OF SCIENCE

Class of 2017

COLLEGE OF EARTH RESOURCE SCIENCES AND ENGINEERING

Dr. Ramona M. Graves, Dean

MINING ENGINEERING

Dr. Priscilla P. Nelson, Department Head

Mining Engineering, Bachelor of Science

Vassil Ivanov Boasherliev	Arvada, Colorado
Ryan Timothy Burkholder	Parker, Colorado
Adam Lyle Chapman	Lakewood, Colorado
Jean-Luc Des Rivieres	Golden, Colorado
Lizeth Ernestina Diaz**	Aurora, Colorado
Christopher A. Drury	Katy, Texas
Samuel Leo Egelhoff	Lakewood, Colorado
Scott Andrew Evans	Windsor, Colorado
Scott J. Fedel	Ouray, Colorado
Kellen John Flanders	Lakewood, Colorado
Mathieu Gauthier-Cote**	Broomfield, Colorado
Spencer Matthew Gil	Castle Rock, Colorado
Michael Tyler Gross	Lakewood, Colorado
John Rex Huston Hewitt, Jr.	Lakewood, Colorado
Jason William LaForest	Lakewood, Colorado
Kwun-Yurn Consunji Lock	Pleasant Hill, Colorado
Clark Ryan McCune	Arlington, Virginia
Sean Julius McDonald	Manhattan, Illinois
Liam O'Donovan Gabriel McGrail	Denver, Colorado
Jacob Albers Milleville**	Littleton, Colorado
Eric Arthur Mohr	Canon City, Colorado
Kevin Sean Mulcare	Fort Collins, Colorado
Elmer Renardi Prasetyo	Lakewood, Colorado
Linnea Marie Roth	Fairbanks, Alaska
Ryan Christopher Simus	Redlands, California
Logan J. Stout	Pueblo, Colorado
Dulguun Tsend Ayush**	Darkhan, Mongolia
Brayden M. Wickam	Billings, Montana
Michael Shane Wrona**	Lake Havasu City, Arizona
Justin Michael Zandt	Berthoud, Colorado

GEOLOGY AND GEOLOGICAL ENGINEERING

Dr. M. Stephen Enders, Interim Department Head

Geological Engineering, Bachelor of Science

Jacob Thomas Adamson*	Salida, Colorado
Ethan Edward Bacon	Lake Tomahawk, Wisconsin
Alex Robert Badgett	Golden, Colorado
Rachel Elizabeth Becker**	Coppell, Texas
Paul Andreas Bertsch	Larkspur, Colorado
Rachel Christine Bierma	Viera, Florida
Amber Georgette Brusak	Pueblo West, Colorado
Isabel Nicole Chaltas	Dallas, Texas
Emmanuel Corral	Arvada, Colorado
Joseph Thomas Dellenbach	Gilcrest, Colorado
Megan J. Doughty	Colorado Springs, Colorado
Joseph James Edelen	Lakewood, Colorado
Alexander Charles Fong	Parker, Colorado
Allan William Foster, III	Walnut Creek, California
Anna Marie Gallagher*	Chesterfield, Missouri
John Joseph Lunzer	Bainbridge Island, Washington
Halle Madeleine Nicholas	Edina, Minnesota
Andrew Michael Potter	Yardley, Pennsylvania
Maximilian F. Pranchk	Dublin, Ohio

Anna Augusta Ristuccia-Glancy	Woodstock, Georgia
Matthew Christopher Rossi	Highlands Ranch, Colorado
Carla J. Sanchez	Denver, Colorado
Zachary Peter Souvall	Highlands Ranch, Colorado
James Alan Touchberry	Colorado Springs, Colorado
Ashlyn Marie Wenger	Watsonville, California
Peter Wethington	Arvada, Colorado
Samantha Leigh Zumbro*	Anchorage, Alaska

PETROLEUM ENGINEERING

Dr. Erdal Ozkan, Department Head

Petroleum Engineering, Bachelor of Science

Mohamad Syaza Abd Shukur	Johor, Malaysia
Ehab Abdallah	Golden, Colorado
Dania Habib Abualhamayel	Dhahran, Saudi Arabia
Ahmed Kamel Al Shubbar	Safwa, Saudi Arabia
Brett Christopher Allison***	Cypress, Texas
Omar Abdulaziz A. Almulhim***	Dammam, Saudi Arabia
Ala'a Abdrabalnabi Alsalman	Sayhat, Saudi Arabia
Anwar Mahmoud Altous	Lakewood, Colorado
Hisham Hussein Amery	Denver, Colorado
Arun Kaashyap Arunachalam	Chennai, India
Sarkis Bagramyan*	Aurora, Colorado
Garrett Reeves Baily	Highlands Ranch, Colorado
Nirmesh Balan***	Tangkak, Malaysia
Matthew Ryan Balderston**	Westminster, Colorado
Mizafirzana Binti Basir**	Sham Alam, Selango, Malaysia
August William Bauer*	Sugar Grove, Pennsylvania
Kyler Shayne Beasley-Rose**	Grand Junction, Colorado
Thomas Grier Beaty*	Winston-Salem, North Carolina
Gaston Cedric Etouke Behle	Englewood, Colorado
Laura Jane Besler	Colorado Springs, Colorado
Muhammad Zharfan Bin Azhari	Kuala Lumpur, Malaysia
James Woestman Blaney***	Houston, Texas
Joshua Michael Bolling, Sr.	Montrose, Colorado
Brandon L. Boucher	Littleton, Colorado
Jacob Horace Boucher	Buena Vista, Colorado
Joe Edwin Brandenburg	Grandfalls, Texas
Nicholas Matthew Brown	Littleton, Colorado
Eric Wayne Bryan*	Larkspur, Colorado
Thao Thi Bui	Lakewood, Colorado
Jace Patrick Bullinger	Boerne, Texas
Sean Michael Burroughs	Strasburg, Colorado
Yuanjun Cai	Shandong, China
Taylor Jacob Carlson	Colorado Springs, Colorado
Jason C. Cateora*	Golden, Colorado
David Jungwook Choi	Lakewood, Colorado
Jared Scott Cooper	Lincoln, Nebraska
Patrick Cordes	Highlands Ranch, Colorado
Matthew Tyler Countryman	Myrtle Beach, South Carolina
Christopher R. Dalrymple	Prairie Grove, Arkansas
Menghao Dan	Leshan, China
Trevor Scott De Young	Colorado Springs, Colorado
James Scott DeBartolomeis	Greenwood Village, Colorado
Gregory Neil DeRonde	Pine, Colorado
Alexander William Deseau	Littleton, Colorado
Ruben Diaz	Wichita, Kansas
Edith Dimboaki Difima	Democratic Republic of Congo
Eric Tang Dong	Sugar Land, Texas
Bradley Thomas Elliott	Westminster, Colorado
Jacob Daniel Elliott*	Bakersfield, California
Dania Yousef Elmadhun	Aurora, Colorado
Rand Fetyan*	Baghdad, Iraq
John Charles Forrest	Rawlins, Wyoming
Sara Frances Foster	Bellaire, Texas

Katrin Jeanne Gallup*	The Woodlands, Texas	Alexander Revaz Narsia*	Aurora, Colorado
Nicholas Rohde Garland	Galveston, Texas	Christian Miller Newendorp	Estes Park, Colorado
Ryan David Gray	Grand Junction, Colorado	Sarah Kathleen Noel*	Anchorage, Alaska
Ryan Warren Griffith	Bulverde, Texas	Christopher Chimere Ogbonna	Denver, Colorado
Zachary Michael Haegner	Bellaire, Texas	Henry W. Olson	Lakewood, Colorado
Shaun David Hamlin	Wheat Ridge, Colorado	Mohammad Osama	Lakewood, Colorado
Seth Jay Hansen	Pagosa Springs, Colorado	Christopher Jacob Overstreet**	Austin, Texas
Zakary J. Hartman	Littleton, Colorado	George William Palmer, III	Highlands Ranch, Colorado
Christian Clayton Haun*	Evergreen, Colorado	Phillip Dwayne Parker	Powhatan, Virginia
Chaoshan He	Golden, Colorado	William Martin Phillips	Eden Prairie, Minnesota
Andrew Burns Heft*	San Antonio, Texas	Maurice Anak Polycarp***	Miri, Malaysia
William Carl Helm, Jr.	Tomball, Texas	Michael Albert Poole	Rockville, Maryland
Thomas Urban Hendrix	Richardson, Texas	Hamad Eqbal Raheem**	Ajman, United Arab Emirates
Krista Elizabeth Hickey**	Castle Rock, Colorado	Zharfan Razali*	Kuala Lumpur, Malaysia
Asher James Hirshberg	Flint, Michigan	Devin James Reaves	Omaha, Nebraska
Alec Maurice Huval	Breaux Bridge, Louisiana	Cory Wyatt Richard***	Larkspur, Colorado
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Mohamad Moussa Jamil	Omaha, Nebraska	Kacey Ann Ruona	Canon City, Colorado
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Matthew Hylan Kade**	Parker, Colorado	John Erwin Scott, Jr.	Evergreen, Colorado
Adam Bennett Kester**	Highlands Ranch, Colorado	Sara A. Shumaker	Franktown, Colorado
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Denny Kim	West Des Moines, Iowa	Logan Matthew Smith	Littleton, Colorado
Hyung Jin Kim**	Thornton, Colorado	Anssar Soussi Tamli	Tangier, Morocco
William Garrett Kintzele*	Katy, Texas	Christopher Michael Spotts	Indianapolis, Indiana
Emily Elizabeth Knott	Gretna, Nebraska	Brandon August Springer***	Mt. Pleasant, Pennsylvania
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Keegan Walker Lambe	Anchorage, Alaska	Gabriel Thomas Stuntz	Golden, Colorado
Connor Coleman Lambert	Littleton, Colorado	Pribadi Agung Sulistyawan	Jakarta, Indonesia
Calvin Alfares Lamdasaputra	Jakarta, Indonesia	Zairin Zulaika Takruddin	Sham Alam, Malaysia
Luna Sharon Lee	Thornton, Colorado	Michael Thomas Tanner	Aurora, Colorado
Samantha Lauren Lee	Fountain, Colorado	Andrew Clayton Thedinger***	The Woodlands, Texas
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James Arthur Miller	Littleton, Colorado		
Kathryn Purnell Mills	Golden, Colorado		
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Mohammad Nujaid Ijaz Mohd Nadzri*	Kuala Lumpur, Malaysia		
Muhammad Naquib Amin Mohd Nasir*	Ampang, Malaysia		
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Lucas Bradford Morse***	Fort Collins, Colorado		
Ilyssa Danielle Mueller	Katy, Texas		
Muhammad Syamil Bin Muhammad Adib***	Kuala Lumpur, Malaysia		
Sean Patrick Murphy	Stanton, Michigan		
Manju Pharkavi Murugesu***	Tanjong Malim, Malaysia		

GEOPHYSICS

Dr. Roelof K. Snieder, Interim Department Head

Geophysical Engineering, Bachelor of Science

Katherine Mary Biegel**	Loveland, Colorado
William Anthony Boni	Livingston, New Jersey
Luke Isaac Brown	Papillion, Nebraska
Eric Kurt Bunzli	Lakewood, Colorado
Patrick Joseph Carabello	Leewood, Kansas
Jalen Gerard Champagne	Houston, Texas
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Logan Christopher Copass	Richmond, Texas
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Glenna Anne Crookston	Littleton, Colorado
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Hanna Elizabeth Flamme***	Lincoln, Nebraska
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Travis Tyler Hastings	Cypress, Texas

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Diana Ip Tamayo** Humble, Texas
Lorena Tello Castle Rock, Colorado
Zucheng Victor Zhang Houston, Texas

ECONOMICS AND BUSINESS

Dr. Roderick G. Eggert, Interim Division Director

Economics, Bachelor of Science

Connor Bo Kukla Seabrook, Texas
Wilson Clark Martin, IV Fort Worth, Texas
Michael Thomas Tanner Aurora, Colorado
William Alexander Thieme Greenwood Village, Colorado
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COLLEGE OF APPLIED SCIENCE AND ENGINEERING

Dr. Michael J. Kaufman, Dean

GEORGE S. ANSELL DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

Dr. Angus A. Rockett, Department Head

Metallurgical and Materials Engineering, Bachelor of Science

Andrew Phillip Allen Henderson, Colorado
Trevor James Ballard** Arvada, Colorado
Matthew Henry Blake Ardsley, New York
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Jordan Charles Carson Pueblo, Colorado
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Abigail Laurie Miklas** Franklin, Massachusetts
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Haley Rae Whalen Las Vegas, Nevada
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CHEMICAL AND BIOLOGICAL ENGINEERING

Dr. Colin A. Wolden, Interim Department Head

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Mark Charles Allen Parker, Colorado
Benjamin S. Auttonson Arvada, Colorado
Katherina May Cheng Commerce City, Colorado
Michael Theodore Colucci, IV Boulder, Colorado
Jacob Hamilton Cooper Santa Maria, California
Amanda Lynne Davis Evergreen, Colorado
Kori Nicolle Densberger Fort Collins, Colorado
Benjamin Albert Eigner** Niwot, Colorado
Haley Marie Fedor Colorado Springs, Colorado
Samantha S. Fischer Mililani, Hawaii
Devon William Fish Littleton, Colorado
Kylie Cyrielle Ford** Parker, Colorado
Elizabeth Anne Gabel Granville, Ohio
Jonathan Francis Garton Littleton, Colorado
Alexis B. Gavora Fairbanks, Alaska
Lisa Montana Gay** Spokane, Washington
Melodie Peecheng Glasser* Magalia, California
Molly Frances Groom Parker, Colorado
Zachary Michael Guy Parker, Colorado
Eric Alan Hale*** Colorado Springs, Colorado
Kaylie Marie Haynes** Littleton, Colorado
Andrew Preston Henry Port Matilda, Pennsylvania
Katelyn Michelle Hesse*** Larkspur, Colorado
Iris Estelle Hill Denton, Texas
Robert Michael Hoffman Littleton, Colorado
Alex Haruo Honke Mililani, Hawaii
Astin Reid Housley Arvada, Colorado
Taryn Lily Huber*** Austin, Texas

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 Plano, Texas
 Littleton, Colorado
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 California, Maryland
 Calgary, Alberta
 Belton, Texas
 Quakertown, Pennsylvania
 Denver, Colorado
 Highlands Ranch, Colorado
 Fort Collins, Colorado
 Green Oaks, Illinois
 Caracas, Venezuela
 Cypress, Texas
 Littleton, Colorado
 Highlands Ranch, Colorado
 Thornton, Colorado
 Evergreen, Colorado
 Poway, California

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 Bachelor of Science**

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 Castle Rock, Colorado
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 Alexandria, Virginia
 Colorado Springs, Colorado
 Prescott, Arizona
 Pueblo, Colorado
 Littleton, Colorado
 Kalispell, Montana
 Thornton, Colorado
 Longmont, Colorado
 Lakewood, Colorado
 Longmont, Colorado
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 Fort Morgan, Colorado
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 Morgana Kathleen Kellogg
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 Alexander James Nguyen
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 Micaela Corinne Nieczkoski
 Alexandra Kate Noble
 Terence Alan O'Neill
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 Aurora, Colorado
 Corvallis, Oregon
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 Golden, Colorado
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 Argyle, Texas
 Enid, Oklahoma
 Thornton, Colorado
 Aurora, Colorado
 Omaha, Nebraska
 Lakewood, Colorado
 Aurora, Colorado
 Tulsa, Oklahoma
 The Woodlands, Texas
 Aurora, Colorado
 Chanute, Kansas
 Wheat Ridge, Colorado
 Fort Collins, Colorado
 Santa Cruz, California
 El Macero, California
 Golden, Colorado
 Windsor, Colorado
 Thornton, Colorado

CHEMISTRY

Dr. David T. Wu, Department Head

Chemistry, Bachelor of Science

Lyndsey Rae Babcock**
 Kevin Peter Bierbaum
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 Katherine Rose Hislop
 Kristie Chandalar Kent
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 Houston, Texas
 Elizabeth, Colorado
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 Spokane, Washington
 El Dorado Hills, California
 Evergreen, Colorado
 Girdwood, Alaska
 Evans, Colorado
 Dolores, Colorado
 Arvada, Colorado
 Centennial, Colorado
 Littleton, Colorado

PHYSICS

Dr. Jeff Squier, Department Head

Engineering Physics, Bachelor of Science

Robert G. Abbott
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 David Michael Aungst
 Bixler R. Baker
 Andrew M. Bales
 Hanna C. Barringer*
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 Magnolia, Texas
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 Centennial, Colorado
 Southlakes, Texas
 Lakewood, Colorado
 Aurora, Colorado

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 Zachary Owen Mimplitz Park City, Utah
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 Matthew Van North Jacksonville, Oregon
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 Josiah Matthew Pohl*** Denver, Colorado
 Zachary Alex Polonsky** Littleton, Colorado
 Jared David Popelar* Colorado Springs, Colorado
 Parker Alston Prescott Littleton, Colorado
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 Blake William Shiparski Findlay, Ohio
 Zachary Jacob Simons Colorado Springs, Colorado
 Nicklaus Gable Smith Kansas City, Missouri
 Mitchell Chase Waibel* Pine, Colorado
 Jacob Thomas Wikowsky* Centennial, Colorado

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 Nicholas Daniel Koprowicz*** Golden, Colorado
 Carrie Jean Kralovec* Canby, Oregon
 Andre Raphael Lesartre Fort Collins, Colorado
 Colin Frederick Lythgoe*** Columbine Valley, Colorado
 Stephen Mitchell Melot Tecumseh, Oklahoma
 Emily Nicole Morrison Fort Collins, Colorado
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 Bianca Francesca Verlangieri Eitwanda, California

Mathematics and Computer Science, Bachelor of Science
 Sarah Ann De Nardis Golden, Colorado

CIVIL AND ENVIRONMENTAL ENGINEERING

Dr. John E. McCray, Department Head

Civil Engineering, Bachelor of Science

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 Angus Alistair Campbell* Colorado Springs, Colorado
 Nicholas Alexander Chavez Highlands Ranch, Colorado
 Jonathan Maurice Chestnut Greeley, Colorado
 Emily Jo Echelberger Frederick, Colorado
 Angela Marie Eickelman Pueblo, Colorado
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 Jacqueline Alice English Chesterfield, Missouri
 Caleb Bennett Fiebig* Longmont, Colorado
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 Levi Davis Gottsponer Fayetteville, Arkansas
 Aaron Walker Graham** Denver, Colorado
 Amy Lauren Jensen Cypress, Texas
 Nicholas T. Johnson Saint Ignatius, Montana
 Brent Toshio Kehoe* San Leandro, California
 Kianna Mae Lee Aurora, Colorado
 Claire Ellen Mahoney* Washington, D.C.
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 Marissa L. Padgett Norwood, Colorado
 Trevor Gong Parent Lafayette, Colorado
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 Kali Elaine Randall Thornton, Colorado
 Jorge Rodriguez Denver, Colorado
 Tyler Lee Shafer Lakewood, Colorado
 Melanie Marie Stephenson** Newhall, California
 Cohen Merrel Turner Grand Junction, Colorado
 Nicholas David Withers Westminster, Colorado

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 Parker Garrett Anderson Tulsa, Oklahoma
 Paige Sheridan Becker Broomfield, Colorado
 Kaitlyn J. Bullock Eagle River, Alaska
 Olivia Brooke Cain* Sarasota, Florida
 Mason William Hekili Haycock Colorado Springs, Colorado
 Kristina Linn Johnson Elbert, Colorado
 Macy Jo Kiel Sterling, Colorado
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 Stephanie Michelle Panza* Littleton, Colorado
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 Mary GERALYN Weiss Elgin, Illinois

COLLEGE OF ENGINEERING AND COMPUTATIONAL SCIENCES

Dr. Kevin L. Moore, Dean

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Dr. Gregory E. Fasshauer, Department Head

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Izabel Pirimai Aguiar** Golden, Colorado
 Alexander Laurence Bieman Fort Collins, Colorado
 Jessica R. Deters* Grand Junction, Colorado
 Jacqueline C. Feuerborn Harrogate, United Kingdom
 Grace Elizabeth Forrey Broomfield, Colorado

COMPUTER SCIENCE

Dr. Tracy K. Camp, Department Head

Computer Science, Bachelor of Science

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Ryan Steckler Bailey	Corvallis, Oregon
Rachael Blue Barnett**	Houston, Texas
Claire Jiangyan Collier	Carbondale, Colorado
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Jesse John DeMott	Westminster, Colorado
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Colten Zane Gruchow	Pine, Colorado
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Brandon Wu Her*	Henderson, Colorado
Kelton J. Hislop	Longmont, Colorado
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Harrison Ryan Krantz*	Durango, Colorado
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Aidan Michael Miller	Conifer, Colorado
James Thomas Miller	Lakewood, Colorado
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Zoe Elizabeth Nacol	Houston, Texas
Corbin Taylor Olds	Parker, Colorado
Peter Francis Palumbo	Saratoga Springs, New York
Nicholas Rees Pampe	Jackson, Wyoming
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Robert Keith Rippetoe	Rancho Mirage, California
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Paul Taylor Sattizahn**	Centennial, Colorado
Samuel Robert Schilling***	Littleton, Colorado
Zachary Ray Smialek	Arvada, Colorado
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Kyle Joseph Thistlewood**	Golden, Colorado
Stephen Patrick Tracy***	Golden, Colorado
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Brittany Lee Kelly	Roseville, Minnesota
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Khoa Dang Le	Northglenn, Colorado
Xiaoyang Liu	Donging, China
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Matthew Joseph McFadden	Colorado Springs, Colorado
Adam James Nadolsky**	Golden, Colorado
James Ardys Neal	Englewood, Colorado
Joshua C. Nelson	Lakewood, Colorado
Andrew Jay Petersen**	Evergreen, Colorado
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Matthew Michael Renwick	Arvada, Colorado
Dustin Theo Rhodes***	Lakewood, Colorado
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Grayson McKennon Sander Olhoeft	Golden, Colorado
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Jacob Raymond Shonka	Longmont, Colorado
Adam L. Shreck*	Arvada, Colorado
John Paul Skeath***	Durango, Colorado
Patrick Sobolewski**	Fort Collins, Colorado
Craig William Steinke**	The Woodlands, Texas
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Nicolas Luke Van Kooten	Parker, Colorado
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Matthew David Wilson	Houston, Texas
Reno LaGrand Wood	Santa Barbara, California
Aaron Boone Zahn	Syracuse, Nebraska

ELECTRICAL ENGINEERING

Dr. Atef Z. Elsherbeni, Department Head

Electrical Engineering, Bachelor of Science

Christopher Mikhail Bishara	Longmont, Colorado
Samuel Mordechai-chai Bismuth	Denver, Colorado
Bradley David Bond	Commerce City, Colorado
Aaron Michael Bonenberger	Fort Collins, Colorado
Michael Stanley Bowman	Las Vegas, Nevada
Evan Collin Boynton	Arvada, Colorado
Cody Ray Clayton***	Englewood, Colorado
Peter Andrew Contreras	Lakewood, Colorado
Patrick David Council**	Westminster, Colorado
Vu Phong Dang*	Littleton, Colorado
Nicholas Robert Daskalakis	Oceanside, New York
Henry Alan Dau**	Golden, Colorado
Sean Michael Dempsey	Thornton, Colorado
Alberto Dominguez*	Wray, Colorado
Briana Mae Farris	Arvada, Colorado
Curt Jacob Feinberg***	Westminster, Colorado
Samuel Elliot Friedman***	Denver, Colorado

MECHANICAL ENGINEERING

Dr. Gregory S. Jackson, Department Head

Mechanical Engineering, Bachelor of Science

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Wassam Abdurrahim Alqahtani***	Golden, Colorado
Ali Mohammed Alsudairi, Sr.**	Alkhubar, Saudi Arabia
Kekahu Christopher Aluli	Hauula, Hawaii
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Marcus Richard Banister	Brighton, Colorado
Nicholas William Bean	Blaine, Washington
Ryan Taylor Belanger	Spring, Texas
Kacey Christina Bennett	Superior, Colorado
Jeremy Michael Benson	Greeley, Colorado
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Alec Michael Bogenschutz**	Woodlands, Texas

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Rachel Shannon Bruce	Centennial, Colorado	Christian Michael Grundfor	Littleton, Colorado
Jessica Fenwick Burckel	Colorado Springs, Colorado	Baxter James Gully*	Centennial, Colorado
Dakota Alan Burgerhoff	Bloomfield, Nebraska	Ryan Charles Gyorkos**	Westminster, Colorado
Adam Lucas Cameron***	Lakewood, Colorado	Adam Kenji Hall**	Centennial, Colorado
Evan Bradley Campbell	Fort Collins, Colorado	Robert Collin Hall	Flower Mound, Texas
Gordon Stapp Campbell*	Golden, Colorado	Benjamin Robert Harju*	New Castle, Colorado
Thomas Anthony Caracena	Colorado Springs, Colorado	John Greer Kuhl Hefner	Parker, Colorado
Russell Lee Carlson-Stadler	Sugar Land, Texas	Jonathan Taylor Henderson	Omaha, Nebraska
Molly Grace Clark	Centennial, Colorado	Charles Coleman Henry*	Scottsdale, Arizona
Nicholas Paul Collins***	Highlands Ranch, Colorado	James Paladin Henry	Frederick, Colorado
Cameron Timothy Commerford	Colorado Springs, Colorado	Christopher Michael Hollwedel	Roanoke, Texas
Graham Corcoran*	Golden, Colorado	Robin Dorothy Hoover	Montrose, Colorado
Zachary Joe Cospier	Montrose, Colorado	Patrick Wade Hritz	New Hope, Pennsylvania
Brian Anthony Cox	Denver, Colorado	Mark Edward Lovett Huber	Seattle, Washington
Kyle O'Neal Cramsey	Morrison, Colorado	Nolan Abijah Hurd*	Katy, Texas
Edgar J. Crockett	Thornton, Colorado	Ruben Edward Jackson	Las Vegas, Nevada
Joshua Reagan Cunningham	Bellaire, Texas	Grant Thomas Jacobsen	The Woodlands, Texas
Cody Michael Danaher	Thornton, Colorado	Adam Thomas Jensen	Littleton, Colorado
James Ryan Davenport	Willow, Alaska	Caleb John Kimball	Lakewood, Colorado
David Robert Delgado	Boerne, Texas	Jaclyn Ann Knott	Golden, Colorado
Curt Frederick Dennis	Castle Rock, Colorado	Vincent Alexander Koch	The Colony, Texas
Casey Robert DeRosa	Colorado Springs, Colorado	Jonathan David Kohl	Colorado Springs, Colorado
Mark Sumner Doolin	Hayden, Colorado	James Jiaping Kor	Olathe, Kansas
Samuel Keil Drescher**	Cheshire, Connecticut	Kaan Korkmaz	Istanbul, Turkey
Matthew Phillip Drotar	Thornton, Colorado	McKyler Shane Korth***	Eaton, Colorado
Andrew Laurence Duty	Evergreen, Colorado	Cassandra Nicole Kraft*	Windsor, Colorado
Austin Tyler Ellis	Windsor, Colorado	Michael Lewis Lanahan*	Corvallis, Oregon
Rebecca Jayne Fallon	Arvada, Colorado	Drew Alexander Lange*	Sedalia, Colorado
Briana Mae Farris	Arvada, Colorado	Hayley Rose Lansing**	Denver, Colorado
Keegan David Favill	Brookfield, Wisconsin	Jesaja Thorwald Lemke*	Loveland, Colorado
Alex Marie Flanagan	Brighton, Colorado	Abigail Barbara Lestina	College Station, Texas
Adam William Fox	Sandy, Utah	Alber Romilo Lima Flores	Denver, Colorado
Ryan Matthew France	Topeka, Kansas	Junquan Lin*	Nanning, China
Jibreel Omar Frawan*	Aurora, Colorado	Kougar Michael Lott**	Glenwood Springs, Colorado
Casey Wilson French***	Thornton, Colorado	Ashley Jane Macumber	Thornton, Colorado
Alejandro Jose Galvan	Houston, Texas	Brittany Paige Marshall***	Katy, Texas
William Daniel Garland**	Firestone, Colorado	Nicholas A. Martinez	Littleton, Colorado



Roman Andrew Martinez	Parker, Colorado	Rebecca Reanne Reeve	La Salle, Colorado
Benjamin James Marum	Windsor, Colorado	Stephen Louis Rocheleau, Jr.	Golden, Colorado
Cody Joseph Marvel	Lakewood, Colorado	Brayton John Sanders	Evanston, Wyoming
David Mboko	Lakewood, Colorado	Logan Taylor Schuelke*	Butte, Montana
Jacob Edward McClean	Spring, Texas	Jeffrey Allen Shapiro	Pueblo, Colorado
Dallas C. McCoy	Lakewood, Colorado	Evan Kinichi Shigaya***	Denver, Colorado
Thomas Warren McWhirter	Tucson, Arizona	Riley Jacob Sloan	Tulsa, Oklahoma
Zachery Vincent Melphy	Littleton, Colorado	Benjamin Thomas Smiley	Denver, Colorado
Gavin Welz Meyer*	Boulder, Colorado	Carolyn Grace Smith*	Westfield, Indiana
Madison Leigh Millard	Elbert, Colorado	Cameron Washington Stebral	Wichita, Kansas
Peter Andrew Mladinich	Lakewood, Colorado	Dominick Austin Steel***	Peyton, Colorado
Mohd Zaharim Bin Mohd Hashim	Petaling Jaya, Malaysia	Joseph Taylor Stewart	Greeley, Colorado
Mitchell Brian Moore	Littleton, Colorado	Gouthami Usha Sunku	Pueblo, Colorado
Joshua Mitchell Morand***	Lakewood, Colorado	Jacob Alan Suter	Sterling, Colorado
Skyler Austin Morris*	Centennial, Colorado	Zachary Michael Swanson**	Westminster, Colorado
Joshua V. Morsicato	Aurora, Colorado	Daniil V. Tashlykov*	Arvada, Colorado
Joshua C. Nelson	Lakewood, Colorado	Nicholas Daniel Schwaninger Taylor***	Fort Collins, Colorado
Caitlin Elizabeth Neuheardt	Littleton, Colorado	Michelle Akiko Teramura	Wilsonville, Oregon
Stephen Joseph Newton	McKinney, Texas	Brandt Garin Theander	Golden, Colorado
Duc Anh Nguyen**	Lakewood, Colorado	Tanner Nicholas Thompson	Owasso, Oklahoma
Tailor Paige Noehring	Boise, Idaho	Colby Michael Towle	Highlands Ranch, Colorado
Ariel Ruth Nolte	Highlands Ranch, Colorado	Xuan Kim Thi Tran	Arvada, Colorado
Madison Shea Northrup	Litchfield Park, Arizona	Laura Elizabeth Tyree	Lakewood, Colorado
Nicholas J. Novack**	Aurora, Illinois	Ryan Craig Unruh	Bakersfield, California
Taishiro Okazaki	Houston, Texas	David Robert Vadnais	Colorado Springs, Colorado
Braiden Talbot Olds	Parker, Colorado	Jacqueline Taylor Vasquez, Sr.	Greeley, Colorado
Jacob Austin Oppenheim	Englewood, Colorado	Cameron Glenn Vogel	Evergreen, Colorado
Edward Scott Pancost, Jr.	Boulder, Colorado	Erin Marie Wadekamper	Lonsdale, Minnesota
Clinton Parapat	Aurora, Colorado	Luke Nolan Waguespack***	Conifer, Colorado
Jenevieve Katherine Parker*	Katy, Texas	William Caleb Waitsman	Fayetteville, Arkansas
Joseph George Pauza, V*	Albuquerque, New Mexico	Ryan Joseph Walter	Sugar Land, Texas
Evan Douglas Person	Aurora, Colorado	Graham Michael Weeks**	Fort Collins, Colorado
Adam David Peszek***	Parker, Colorado	Yilin Wei	Beijing, China
Colin Garrett Peter***	Windsor, Colorado	Joshua Sten Westerlind	New Castle, Colorado
Emma Lee Petton Counelis	Albuquerque, New Mexico	Jessica Noelie Weyand***	Wylie, Texas
Christopher Jacob Pftzner	Houston, Texas	Alanna Michelle Winfield	Houston, Texas
Marie Lillian Pisciotta	Highlands Ranch, Colorado	Dylan Marin Wollett	Seattle, Washington
Evan Atkinson Powell	Centennial, Colorado	Jeffrey Paul Wood	Denver, Colorado
Gary Channing Powers	Denver, Colorado	Amy Marie Young	Westminster, Colorado
Tait Dillon Priser	Centennial, Colorado	Abigail Louise Zimmerman**	Windsor, Colorado
Justin Charles Ray*	Grand Junction, Colorado		



SENIOR AWARDS

Class of 2017

The American Institute of Chemists Award

Jacob Wilson

The **Robert A. Baxter Award** is presented for meritorious work in chemistry.

Lisa Gay

The **Charles N. Bell, 1906, Award**, provided for by Mr. Bell, is a Brunton transit, awarded in mining for completing a course in mining and showing the most progress in schoolwork during the entire period for which the course is given.

Ryan Burkholder

The **Honorable D. W. Brunton Award**, provided for by Mr. Brunton, is awarded for meritorious work in mining.

Mathieu Gauthier-Cote

The **Brunton Award in Geology** is awarded in recognition of the highest scholastic achievement and interest in and enthusiasm for the science of geology.

Jacob Adamson

Rachel Bierma

The **Clark B. Carpenter Award** is presented to the graduating senior in mining or metallurgy who, in the opinion of the senior students in mining and metallurgy and the professors in charge of the respective departments, is the most deserving of this award.

Paige Stock

Justin Zandt

The **Mary & Charles Cavanaugh Award**, presented in metallurgy, is determined by scholarship, professional activity and participation in school activities.

Kerry McQuaid

The **Colorado Engineering Council Awards** are presented for excellence in scholarship, high integrity and general engineering ability.

Taryn Huber

Michelle Pedrazas

Micaela Pedrazas

The **Professor Everett Award**, provided for by Frank Ausanka '42, in honor of James R. Everett, an outstanding former faculty member in mathematics at Mines, is presented to a graduating senior in mathematics who demonstrates scholarship, leadership, community service and the potential for the innovative application of mathematics to mineral engineering.

Jessica Deters

The **Outstanding Senior Research Award in Chemistry** is awarded to a student who demonstrates superior performance and creativity in undergraduate research.

Kevin Bierbaum

The **Chemistry Faculty Award** is given yearly to the student exhibiting superior performance as chosen by the faculty.

Lyndsey Babcock

The **Outstanding Chemistry Service Award** is presented to the graduating senior exhibiting superior performance in academics and service to the department.

Jana Starks

The **Faculty Choice Award in Computer Science** is given to a top graduating senior who helped improve computer science at Mines.

Rachael Barnett

The **Cecil H. Green Award** is given to the graduating senior in geophysical engineering who, in the opinion of the Department of Geophysics, has the highest attainment in the combination of scholastic achievement, personality and integrity.

Hanna E. Flamme

The **John P. Hager Award Endowed Scholarship Fund in Metallurgy** is given as a needs-based scholarship to students specializing in extractive metallurgy of base materials or other areas of extractive metallurgy.

Sara Viau

The **Neal J. Harr Memorial Outstanding Student Award**, provided by the Rocky Mountain Association of Geologists, is presented for scholastic excellence in the study of geology with the aim of encouraging future endeavors in the earth sciences.

Anna Gallagher

The **Harrison L. Hays, 1931, Award** is presented in chemical and petroleum refining for demonstrating scholarship, personality and integrity of character and the general potentialities of a successful industrial career.

Carley Lauer

The **H. L. Hazen Prize in Process Metallurgy** is presented to the graduating senior who shows exceptional potential for a career in process metallurgy based upon demonstrated interest, academic achievement and extracurricular activities.

Giselle Krebs

The **John C. Hollister Award** is presented to the most deserving students in geophysics and is not based solely on academic performance.

Hubbell W. Rowe

Eric K. Bunzli

The **Henry W. Kaanta, 1915, Award** is presented for the outstanding paper on a laboratory procedure or experimental process written by a graduating senior majoring in extractive metallurgy or mineral processing.

Marshall Boyton

The **Maryanna Bell Kafadar Award** is presented to the graduating senior who has excelled in humanities courses and humanities-related activities.

Jessica Deters

The **Guy T. McBride Jr. Honors Program in Public Affairs for Engineers Award** is presented to the senior in the McBride Honors Program whose scholarship, character and personality best exemplify the ideals of the program as determined by the committee of tutors.

Trinity Wilson

The **McBride Honors Program Award for Campus Citizenship** is presented to a student who has made a significant and positive impact on the campus community.

Jessica Deters

The **McIver-Metallurgical and Materials Engineering Faculty Award** is presented by the faculty of the department to the graduating senior who, by participation in and contribution to campus life and by academic achievement, has demonstrated those characteristics of a well-rounded graduate that Mines aspires to develop in its students.

Abby Miklas

The **George T. Merideth Award**, established in 2012 by Keith A. '52 and Mary Ann Kvenvolden to carry forward the legacy of former Mines Geophysics Professor George T. Merideth, is presented to outstanding graduating geophysics students who have demonstrated academic excellence, community involvement and potential for leadership in earth science engineering.

Iker A. Madera

The **Old Timers' Club Award** is presented to the graduating senior who, in the opinion of the Department of Mining Engineering, has shown high academic standing in coal mining engineering and potential for the coal industry.

Dulguun Tsend Ayush

The **Outstanding International Undergraduate Award** is presented to the international student who has demonstrated scholastic achievement.

Omar Almulhim

The **Outstanding Student Service Award** is presented by the Division of Student Life to the student(s) who, during their tenure at Mines, outside and above their academic role, vigorously participated in activities or projects for the greater benefit of their peers and community to promote excellence and well-being.

**Edgar Crockett
Dana Steiner**

The **Pearson Potential Award** is given to students in the Department of Chemical and Biological Engineering who have shown emerging leadership and engineering potential in hands-on challenges such as Summer Field Session.

**Chase Li
Genevieve Trowbridge**

The **Thomas Philipose Outstanding Senior Award** is awarded to the senior in the Guy T. McBride Jr. Honors Program in Public Affairs whose intellectual development, scholarship, leadership and character best exemplify the ideals of the program.

Manju Murugesu

The **Physics Faculty Distinguished Graduate Award** is presented by the faculty of the department to graduating seniors with exceptionally high academic achievement in physics.

**Ian Kramer
Connor Natzke**

The **George R. Pickett Memorial Award** is presented on the basis of demonstrated interest and accomplishments in the study of borehole geophysics.

Whitney H. Schultz

The **Phillip R. Romig Award** is presented to the graduate who best exemplifies excellence in the acquisition of field geophysical observations.

Ashton Krajnovich

The **Arthur B. Sacks Award for Excellence in Environmental Sustainability** recognizes graduate or undergraduate students who have excelled in studying and raising awareness of environmental sustainability.

Katie Schumacher

The **Ryan Sayers Memorial Award** recognizes the outstanding academic achievements of a graduating student, majoring in engineering physics and/or applied mathematics and statistics, who has performed significant undergraduate research.

Anastasia Gladkina

The **Selim Memorial Scholarship** is presented by the faculty of the Department of Chemical and Biological Engineering to a graduating student who promises great success in graduate school.

Kelsey Hopkins

The **John Steele Award**
Samuel Drescher

The **William D. Waltman Award** is presented to the graduating seniors who have consistently demonstrated the utmost integrity, scholarship and citizenship in and outside of the classroom throughout their collegiate career.

**Brittany Marshall
Colton Witherell**

OUTSTANDING GRADUATING SENIOR AWARDS

Applied Mathematics and Statistics

Nicholas Koprowicz

Computational and Applied Mathematics

Carrie Kralovec

Civil Engineering

Melanie Stephenson

Environmental Engineering

Michelle Schwartz

Chemistry

Jana Starks

Chemical and Biochemical Engineering

Katherine Decker

Chemical Engineering

Eric Hale

Computer Science

Stephen Tracy

Economics and Business

William Thieme

Electrical Engineering

Cody Clayton

Geological Engineering

Rachel Becker

Geophysics

Samuel W. Courville

Mechanical Engineering

Brittany Marshall

Metallurgical and Materials Engineering

Ian Brummel

Mining Engineering

Lizeth Diaz

Petroleum Engineering

Krista Hickey

Physics

Martin Ritter

DUAL DEGREE RECIPIENTS

Michael Stanley Bowman
Electrical Engineering and Mechanical Engineering

Henry Alan Dau
Electrical Engineering and Computer Science

Briana Mae Farris
Electrical Engineering and Mechanical Engineering

Lisa Montana Gay
Chemical Engineering and Chemistry

Harrison Ryan Krantz
Computer Science and Physics

Wilson Clark Martin, IV
Economics and Petroleum Engineering

Joshua C. Nelson
Electrical Engineering and Mechanical Engineering

Michael Thomas Tanner
Economics and Petroleum Engineering

Nicholas J. Zustak
Chemical Engineering and Computer Science

ACADEMIC HONORS, SCHOLARS AND HONOR SOCIETIES

Class of 2017

Mines awards the academic honors designations of summa cum laude, magna cum laude and cum laude. The honor cords worn by students earning the highest designation, summa cum laude, are royal blue and orange. Magna cum laude is represented by light blue and orange. Cum laude is represented by silver and orange. Honor cords and stoles are also worn to signify involvement in honor societies and scholars programs and recognition of international students.

SCHOLARS AND SPECIAL PROGRAMS

HARVEY SCHOLARS

Many Mines students benefit from scholarships provided by our generous alumni and friends. The Harvey Scholars program provides full tuition for four years.

Katherine Biegel	Kylen McClintock
Katie Gann	Santana Sanchez
Rachel Gregg	Logan Schuelke
Iris Hill	Katie Schumacher
Nolan Hurd	Christopher Spotts
Emily Knott	Travis Terrell Ramos
Michael Kossyrev	

BOETTCHER SCHOLARS

Jacob Adamson
Liam McGrail

MCBRIDE HONORS PROGRAM

The Guy T. McBride Honors Program in Public Affairs allows students to explore the interfaces between their areas of technical expertise and the humanities and social sciences, resulting in a minor in public affairs with the honors distinction.

Katherine Biegel	Manju Murugesu
Jessica Deters	Madison Northrup
Melodie Glasser	Logan Schuelke
Emily Knott	Trinity Wilson
Chase Li	

BLUE KEY HONOR SOCIETY

Recognizes students with achievements in service, scholarship and activities.

Matt Balderston	Faith Oehlerking
Peter Consalvi	Taishrio Okazaki
Amanda Davis	Micaela Pedrazas
Eric Hale	Michelle Pedrazas
Grant Jacobsen	Sam Ramsay
Lydia Kellogg	Logan Schuelke
Chase Li	Nabeel Sheikh
Brittany Marshall	Travis Terrell Ramos
Stephanie Martella	Thomas Wagener
Brennah McVey	Colton Witherell
Ryan Morningstar	

ORDER OF OMEGA

Recognizes outstanding leadership in fraternity and sorority systems.

Amy Young	Kacey Bennett
Stephanie Panza	Peyton Gibson
Kacey Ruona	Lindsey Hart
Molly Clark	Nichole Pisierra
Kristen Smith	Jennifer Tippetts
Grant Jacobsen	Carley Lauer
Katherine Decker	Jenna Parker

TAU BETA PI

National Honor Society of Engineers

Nirmesh Balan	Skyler Morris
Matt Balderston	Connor Natzke
Trevor Ballard	Robert Nelson
Kyler Beasley-Rose	Jacob Overstreet
Thomas Beaty	Jenevieve Parker
Rachel Becker	Micaela Pedrazas
Cody Clayton	Michelle Pedrazas
Patrick Council	Adam Peszek
Samuel Courville	Maurice Polycarp
Blake Cross	Dustin Rhodes
Katherine Decker	Martin Ritter
Anna Deleray	Michael Schneider
Hanna Flamme	Logan Schuelke
Kylie Ford	Michelle Schwartz
Connor Groeneweg	Grant Sheridan
Eric Hale	Even Shigaya
Christian Haun	Brandon Springer
Kaylie Haynes	Gabe Stuntz
Katelyn Hesse	Zachary Swanson
Krista Hickey	Nicholas Taylor
Kelsey Hopkins	Marcus Turner
Grant Jacobsen	Jesse van der Vorst
Ryan Koenig	Evelyn Von Nieda
Carley Lauer	Thomas Wagener
Ryan Yi Kai Lo	Luke Waguespack
Ben Long	Jerred Wassgren
Kougar Lott	Michael Wrona
Claire Mahoney	Abigail Zimmerman
Abby Mattern	Jason Ziolo
Brennah McVey	Muhammad Hazwan
Muhammad Syahmi	Afiq Zulhaimi
Mohd Adnan	

MILITARY COMMISSIONS

The following students will be commissioned in the United States Air Force:

Jacob A. Neumann
Gary S. North

The following student will be commissioned in the United States Army:

Luke I. Brown

SENIOR GIFT

Thank you, Class of 2017, for embracing the tradition of a senior gift, and supporting and inspiring the next generation of Orediggers. This year's Senior Gift program totaled about \$12,000 to support student organizations and activities for which they are passionate.

Seniors supported Blue Key Honor Society, the ASCE Student Chapter, Club Water Polo, the Mines Philanthropy Council, The Mines Fund and Mines Without Borders. Leadership-level donors included Matthew Balderston, Peyton Gibson, Jon Paz, Teresa Pilato and Logan Schuelke.

GRADUATE AWARDS

MENDENHALL PRIZE

The Mendenhall Prize is awarded by the Department of Geophysics to the department's outstanding graduate student.

Andrea Balza

THE DR. BHAKTA RATH AND SUSHAMA RATH RESEARCH AWARD recognizes a Colorado School of Mines doctoral graduate whose thesis demonstrates the greatest potential for societal impact.

Vinh Nguyen (*Chemical Engineering*)

Michael Wagner (*Mechanical Engineering*)

RATH AWARD FINALISTS

Benjamin Lloyd Johnson (*Operations Research*)

Nicolas Shugart (*Nuclear Engineering*)

Henok Yemam (*Chemistry*)

Evan R. Jones (*Geology*)

FACULTY AWARDS

THE DEAN'S EXCELLENCE AWARD

Recognizes a full-time tenured or tenure-track academic faculty member who has demonstrated significant and meritorious achievement in teaching and scholarship.

Dr. Kamini Singha

Professor of Geology and Geological Engineering

Dr. Singha joined the Department of Geology and Geological Engineering in 2012. Since joining Mines, Kamini has excelled in both teaching and scholarship. She is an accomplished professor, averaging a score of 4.8 out of 5 faculty evaluation, well above the departmental average. In her previous position at Pennsylvania State University, Dr. Singha received teaching evaluations of 6.5 out of 7. These efforts have earned Dr. Singha a number of teaching recognitions both at Penn State and Mines. At Mines, she teaches courses in groundwater engineering, hydrogeology, Matlab for earth science applications and geostatistics. Along with Dr. Sarah Hitt, Dr. Singha has also team-taught a McBride course, "Water, Energy and the West." She is an expert in theorizing hydrologic processes by integrating geophysical techniques, hydrologic tools and mathematical simulation to improve predictive models. She has participated in numerous successful grants, including a prestigious NSF CAREER Award. She has published over 41 peer-reviewed articles, 18 with her students as first authors, showing exemplary mentorship of graduate students. Dr. Singha is nationally and internationally known in her field, as demonstrated by the number of invitations to speak, review and serve in high-profile venues, journals and committees, including the Board of Directors for the Consortium for the Advancement of Hydrologic Sciences (funded by NSF).

THE MINES TEACHING AWARD

Presented to recognize superior teaching at the undergraduate level over a period of several years and to provide encouragement and incentive for teaching achievement.

Dr. Kristine Callan

Teaching Professor of Physics

Dr. Callan has assumed a leadership role in "Introductory Mechanics," one of the cornerstone courses for any Mines student. This is a course that serves the entire university and requires meticulous stewardship and thoughtful consideration in terms of the pedagogy that is used in the course. Such careful consideration helps to ensure that all students launch effective careers across all disciplines that Mines offers. Significantly, it is a key course that helps set the stage in

terms of building each student's critical thinking skills.

Dr. Callan provides significant service to the institution and students by leading efforts to provide a pathway for Mines students to pursue careers in secondary education. To date, this program has enrolled about 40 Mines students in courses taught at Mines by University of Northern Colorado faculty. In addition, Dr. Callan has been involved in two NSF grants, including one for \$1.2 million, on which she is the principal investigator. The Mines share of her fundraising activities is just over \$1 million and includes awarding \$640,000 in scholarships to Mines undergraduates committed to pursuing a career in secondary STEM teaching.

Dr. Stephen Pankavich

Associate Professor of Applied Mathematics and Statistics

Since joining Mines in Fall 2012, Dr. Pankavich has taught eight different courses in the Department of Applied Mathematics and Statistics, including six undergraduate courses and two graduate courses. Dr. Pankavich has developed two new courses, including "Introduction to Scientific Computing" and "Applied Numerical Methods." He consistently earns teaching evaluations above the department and college averages, with a score of 4.57 out of 5 across all courses.

BOARD OF TRUSTEES OUTSTANDING FACULTY AWARD

This award recognizes a faculty member who has made a significant positive impact on student learning with special emphasis on teaching outside the classroom.

EMERITUS FACULTY

Distinguished faculty members announced their retirement during the past academic year and have been awarded Emeritus Status. Mines' University Emeritus faculty have demonstrated exemplary service through a distinguished teaching career and achievement of national and international recognition through outstanding scholarship.

Dr. Graham A. Davis, *Professor of Mineral Economics*

Dr. Murray W. Hitzman, *Professor of Geology and Geological Engineering*

Dr. Frank V. Kowalski, *Professor of Physics*

Dr. P. Craig Taylor, *Professor of Physics*

Dr. J. Douglas Way, *Professor of Chemical and Biological Engineering*

GRADUATE CEREMONY KEYNOTE

May 11, 2017 | Lockridge Arena, Golden, Colorado



John M. Poate, PhD

Senior Vice President Emeritus, Colorado School of Mines

John M. Poate (PhD – Australian National University, 1967) is emeritus senior vice president of research at Colorado School of Mines and editor-in-chief of Applied Physics Reviews. He previously served as a Harwell Fellow of the United Kingdom Atomic Energy Authority, head of the Silicon Processing and Interface Physics Research Departments at Bell Laboratories, dean of the New Jersey Institute of Technology and chief technology officer of Axcelis Technologies.

Dr. Poate's research and management interests reflect his 50-year career in the physical and materials sciences. He has published extensively in several areas of nuclear and solid-state physics, materials science and engineering with over 300 published papers, and is editor of four books and seven conference proceedings. He has 12 patents. In the policy arena, his interests involve renewable energy, sustainability and the implications of climate change.

Professional Activities and Awards

Dr. Poate is a Fellow of the American Physical Society (APS), the Materials Research Society (MRS) and the National Academy of Inventors. He served as president of the MRS and chair of the APS Division of Materials Physics. He has served on advisory councils for NATO, U.S. and overseas universities, the National Science Foundation, National Research Council and Department of Energy and the board of the National Renewable Energy Laboratory. He currently serves as chair of the Director's Review Committee for Physical and Life Sciences at Lawrence Livermore National Laboratory, the board of the Energy Change Institute of the Australian National University, the South Dakota School of Mines Advisory Board, the CSU Energy Institute External Advisory Board and the Purdue University Strategic Research Advisory Council.

His awards include the John Bardeen Award of The Minerals, Metals and Materials Society and an honorary doctorate of engineering from Colorado School of Mines.

UNDERGRADUATE CEREMONY KEYNOTE

May 12, 2017 | Marv Kay Stadium, Golden, Colorado



John Coors, PhD **Director and Chairman of the Board, CoorsTek**

Dr. John Coors has served as director and chairman of the board of CoorsTek since January 2000, and began as president in October 1998. During his tenure, CoorsTek has grown to become the world's largest engineered ceramics manufacturer—serving more than 10,000 customers worldwide.

Dr. Coors began his career with Coors Brewing Company in 1979, holding a variety of R&D, engineering, human resources, project management and plant manager roles—ultimately serving as vice president of global brewing operations until he departed the company in 1992.

He then ventured into the emerging solar industry as president of Golden Photon, a developer and manufacturer of photovoltaic solar modules. He became CEO of Golden Genesis Company, an integrator of remote solar power systems—growing the company from a small start-up to the largest public solar electric integrator in the country before selling the business in 1998.

Dr. Coors holds a bachelor's degree in chemical engineering from Colorado School of Mines, a master's degree in biochemistry from the University of Texas and a doctorate in engineering from the Technical University of Munich.

Dr. Coors currently serves as a member of the Colorado School of Mines Foundation Board of Governors. Dr. Coors is also a founding member of One Thousand & One Voices, a private capital fund focused on sub-Saharan Africa. He and his wife, Sharna, have ten children, including six adopted children of diverse nationalities. Five of their children currently work at CoorsTek.



Colorado School of Mines

A public research university with a global reach, engaging innovative thinkers to create solutions for today's earth, energy and environmental challenges.

A historic public research university with a specialized STEM mission, known globally for producing top scientists and engineers and for its unparalleled expertise in subjects related to earth, energy and the environment.

Colorado School of Mines is a highly selective institution, having the highest admissions standards of any public university in Colorado and among the highest of any public university in the nation. It seeks students who are academically accomplished, enjoy challenges, are team players and who will be engaged members of the Mines community.

Throughout its history, Mines has delivered a unique brand of practical and professional education. Its programs combine rigor, hands-on experiences, collaborative problem-solving and professional work experience. Additional professional development and exploration occur through the 200-plus clubs and organizations on campus.

Students and faculty work together at Mines to innovate and advance the frontiers of knowledge in areas that are critical to society, including unconventional natural gas, solar materials, fuel cells, biofuels, advanced water treatment, gas hydrates, critical minerals, geothermal energy, subsurface hydrology, ferrous metallurgy, subsurface characterization, intelligent geosystems and high-performance computing.

Mines students graduate with a strong sense of integrity, resilience, confidence in tackling new problems, the ability to work in collaborative environments, an enhanced sense of responsibility to promote positive change in the world and pride in their Mines degree.

Home of the Mines campus since 1874, the picturesque town of Golden offers Colorado's famous outdoor adventures as well as access to the many attractions of nearby Denver.



ACADEMIC REGALIA: CAPS, GOWNS AND HOODS

The academic dress worn by today's graduates reflects a tradition begun in the late 12th century, when universities were taking form, and codified in the U.S. in 1895 under the Academic Costume Code. Originally the dress may have had a practical purpose—to keep the student warm in unheated buildings—but today it is ceremonial and divided into three parts: caps, gowns and hoods.

The traditional cap is the mortarboard with colored tassels to identify the graduate's discipline or field of study. Doctors of Philosophy wear a gold tassel, Masters of Science a yellow tassel, Masters of Engineering an orange tassel and Bachelors of Science a navy and silver commemorative tassel.

Bachelor's and master's gowns are untrimmed (though women may wear white colors with a bachelor's gown), but doctor's gowns are faced down the front with velvet and trimmed with three velvet bars across the sleeves. The velvet facing and bars are black or the color of the field of study. Hoods are also black. The doctor's hood is four feet in length, and the master's 3 and 1/2 feet. Colorado School of Mines hoods are lined with silver and blue, the official school colors. The velvet border on the hood, which is three and five inches wide for the master's and doctor's degree, respectively, identifies the field of study to which the degree pertains. Colorado School of Mines hoods have yellow velvet borders for Master of Science, orange velvet borders for Master of Engineering and blue velvet borders for Doctor of Philosophy.

CONFERRED DEGREES

Departmental degrees are awarded at Colorado School of Mines according to the order in which the department or program originally conferred a degree, dating back to the first Mines commencement in 1883, at which two mining degrees were awarded. The College of Engineering and Computational Sciences, established in 2011, offers the newest degrees.

SILVER DIPLOMAS

While the degrees granted by Colorado School of Mines are valuable and unique, so are the diplomas themselves. The Mines silver diploma is a long-standing tradition dating back to 1933, when Charles A. Hull engraved a silver diploma as a gift for his son, a recent graduate. The diploma caught the eye of then-President Melville F. Coolbaugh, who asked that silver diplomas be made for all Mines graduates.

Starting with the commencement of 1934, Mines began issuing silver diplomas, measuring 5 by 6 inches and etched in pure sterling silver. Creating these diplomas required two workers spending six weeks (or 500 hours) making 19 delicate etchings in each diploma.

Today the tradition of metal diplomas continues, with all students receiving a silver/nickel-plated diploma upon graduation from Mines.

Colorado School of Mines

THE BOOK: *DE RE METALLICA*

Colorado School of Mines Faculty Senate President Dinesh Mehta leads the academic portion of the commencement procession, carrying a replica of the 16th century treatise *De Re Metallica*. Widely regarded as the seminal text on mining and the science of metallurgy, this historic volume serves as a symbol of the body of knowledge shared by Mines' faculty and students.

The book is placed on a stand at the front of the stage. Its opening marks the start of the commencement ceremony and also recalls the beginning of the students' education at the school. The ceremony's end is signified by the closing of the book.

A first edition of *De Re Metallica*, written by Georg Bauer under the pseudonym Agricola and printed in 1556, resides in the vault of Mines' Arthur Lakes Library, as does a subsequent edition printed in 1621. In addition to these original texts, the library also houses several copies of Herbert Hoover's 1912 translation from Latin, including one signed by the nation's 31st president and his wife, Lou. Hoover contributed the introduction and lengthy footnotes. He visited mine sites and carried out Agricola's formulas in laboratories to check the translations. Issued in a limited edition, it quickly became a collector's item. Of the 3,000 copies printed, more than half were given free to mining engineers and students.

UNIVERSITY MACE

The Colorado School of Mines Faculty Senate Distinguished Lecturer, Dr. Tracy Camp, carries the mace, which has a rich history as a symbol of authority going back to the 13th century. In commencement processions, the mace is carried before the president and the dignitaries composing the platform party. The Mines Mace stands 4 feet 8 inches high and weighs 16 pounds. The core is a rosewood staff, covered by fitted brass and cast bronze, silver-plated and topped by Mines' mascot, Blaster. Mines Professor Emeritus Robert Taylor executed the design and Mr. Emil Dangreau produced the finished standard with the official school seal photoengraved on the base of the staff.

PRESIDENTIAL MEDALLION

The silver medallion, worn only by the Colorado School of Mines president, was designed by Rex Bull, an emeritus professor in the George S. Ansell Metallurgical and Materials Engineering Department and cast by students using silver donated by the Colorado School of Mines Alumni Association. It was first used at the inauguration of George S. Ansell as the 13th president of the school on February 8, 1985.



Mines Alma Mater



The Mines Alma Mater, to the tune of “Aura Lee,” is played during the Commencement Recessional to acknowledge graduates’ transition from Mines students to Mines alumni.

Lyrics for the Mines Alma Mater were written by Lois Moessner Leonard, wife of Weldon I. Leonard, Engineer of Mines, 1949.

*Raise your voices engineers, your devotion sing
To the greatest School of Mines, let the chorus ring
Hail to thee, C.S.M. to our hearts most dear
Ev’ry miner lauds name and ev’ry engineer.*

*Honor, glory to thy name, these we pledge anew
While we live to sing thy fame, Alma Mater true
Hail to thee School of Mines, silver and blue
Ev’ry Miner sings thy praise, Alma Mater true.*

Thank you to Swire and Coca-Cola for donating water for Commencement!

Aerial photos by Billy Ciccone, Class of 2018



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