Colgate School of Mines
Mid-Year December Convocation
December 12, 1969
# Marching List for Faculty for December 1984 Commencement

**December 14, 1984 | 3:00 P.M. | Bunker Auditorium, Green Center**

Academic attire may be obtained beginning at 1:30 P.M. in Room 268 in the Green Center.

The procession will form at 2:30 P.M. on the West Porch or in the lobby, depending on the weather, and the ceremony will begin at 3:00 P.M.

Please return your academic attire to Room 268 in the Green Center.

**Marshall:** Warren Spaulding

## Emeritus
- Mueller

## Associate Professors
- Sakakura
- Edwards
- Kalal
- Stapp
- Astle
- Hogan
- Groves
- Mueller
- Kay
- Mc Grath
- MacCarthy
- Mccandless
- Williamson
- Neunzert
- Pavelich
- Weber
- King
- Hansen
- Hundhausen

## Assistant Professors
- Pearson
- Giulianelli
- Kowalski
- Ochs
- Wiley
- Kroll
- Aldrich
- Bunge
- Graves
- Bell
- Fulmer
- Gesumaria
- Olds
- Riggins

## Administrative Faculty
- Raese
- Fawcett
- Young
- Fasching
- Capra
- Doyle

- **(6)**

- **(14)**

- **(32)**

- **(32)**
Colorado School of Mines
MID-YEAR DEGREE CONVOCATION
3:00 p.m., Friday, December 14, 1984
Green Center
Golden, Colorado

Board of Trustees
W.K. Coors
Fred R. Schwartzberg, President
Don K. Henderson
J.N. Warren
Cheryl A. Lebock
James C. Wilson
Monte Pascoe
Russell L. Wood

Program

*Processional
Wayne Richmond
Assistant Professor
Humanities and Social Sciences

Star Spangled Banner
Wayne Richmond

Invocation
Dr. James R. Serviss
First Presbyterian Church of Golden

Address
Dr. Henry A. Babcock
Emeritus Professor
Civil Engineering

Presentation of the December Class of 1985 to the Board of Trustees
Dr. George S. Ansell
President

Acceptance of Class
Mr. Fred R. Schwartzberg
President, Board of Trustees

Presentation of Candidates for Engineering Degrees
Dr. Donald W. Gentry
Dean of Engineering and Undergraduate Studies

Confering of Engineering Degrees
President George S. Ansell

Presentation of Engineering Degrees
Dr. Michael S. Nyikos
Vice President for Student Affairs and Dean of Students

Presentation of Candidates for Graduate Degrees

Confering of Graduate Degrees
President George S. Ansell

Presentation of Graduate Degrees
Dr. Samuel B. Romberger
Dean of Graduate Studies and Research

Recognition of Commissioned Cadets
LTC Richard W. Andierschat
Military Science Department

Presentation of Mines Medals
Mr. Fred R. Schwartzberg

Benediction
Dr. James R. Serviss

*Recessional
Wayne Richmond

* The audience will be seated.

Members of the audience are requested not to leave their seats to take pictures.

Graduation is a solemn occasion at which only applause is appropriate. The audience is asked to refrain from any other form of expression and to reserve celebrations until after the program is concluded.

Reception for graduates, their families and friends, Friedhoff Hall, Green Center immediately following Commencement.
CLASS OF 1985
December 14, 1984

Bachelor of Science
(Mining Engineering)
Dr. Thys B. Johnson, Department Head

Stephen Burkett Batman
James Peter Blackwell
Kevin Nelson Brown
†Joseph Michael Culkin
Michael James De Nicola
James Edward Endsley
†Gerald Frank Froese
Craig Alan Fulton
William Lee Gann, Jr.
Michael Scott Home
John Charles La Sala
Atahualpa Boscan Leon
Daniel De Narvaez
McAllister
Kirk Haley McDaniel
Thomas Knight Moffett
William Carter Myrick
Kirk Allen Primavera
†Michael J. Read
Cleeve Alan Simpson, Jr.
Gregory Norman
Smallwood
Robert Scott Tracy
Brent Jerome Truskowski

Dr. William D. Copeland, Department Head

Golden, Colorado
San Diego, California
Grand Junction, Colorado
Dolores, Colorado
Glen Head, New York
Denver, Colorado
Lakewood, Colorado
Terrace, British Columbia, Canada
Westfield, Connecticut
Rye, Colorado
Arvada, Colorado
Ringwood, New Jersey
Los Teques, Miranda, Venezuela
Bogota, Colombia
Denver, Colorado
Garland, Texas
Castle Rock, Colorado
Arvada, Colorado
Bennett, Colorado
Alamosa, Colorado
Golden, Colorado

Bachelor of Science
(Metallurgical Engineering)
Dr. William D. Copeland, Department Head

Jonathan Richard
Freeman
Jeffrey Alan Frim
Wendi Lynn Halverson
Jeffrey C. Haughton
†Leonard Nathan Hill
‡Michael Christopher Maguire
†Loretta Antoinette Piper

†Kevin Lee Stansbury
Stephen Gregory
Swinney
*Jonathan Forrest Wade
Robert Rodney
Yorgason, Ill

Dr. William D. Copeland, Department Head

Monument, Colorado

Bartow Richard
Brookman, Jr.
*Kelly Ernest Cook
Brdawberry
Christine Ann Foley
John Russell Guffey
Daniel August Harms
Scott Gerald Jones
Larry Dean Kennedy, Jr.
†Thomas Edwin Konrad
Charles Edgar Lane, III
Brian Douglas Law
Thanh Duc Le
Kevin Spencer Moody
Joseph Tobias Nelson
Mark Steven Nelson
Peter Gregory O'Donnell
Andrew Michael Ondish
Karen G. Ostrander-Krug

‡Completed Work August 11, 1984
‡Completed Work August 18, 1984

Bachelor of Science
(Petroleum Engineering)
Dr. Craig W. Van Kirk, Department Head

Barton Richard
Brookman, Jr.
*Kelly Ernest Cook
Brdawberry
Christine Ann Foley
John Russell Guffey
Daniel August Harms
Scott Gerald Jones
Larry Dean Kennedy, Jr.
†Thomas Edwin Konrad
Charles Edgar Lane, III
Brian Douglas Law
Thanh Duc Le
Kevin Spencer Moody
Joseph Tobias Nelson
Mark Steven Nelson
Peter Gregory O'Donnell
Andrew Michael Ondish
Karen G. Ostrander-Krug

‡Completed Work August 11, 1984
‡Completed Work August 18, 1984

Metallurgical Engineer
Dr. William D. Copeland, Department Head

Bartow Richard
Brookman, Jr.
*Kelly Ernest Cook
Brdawberry
Christine Ann Foley
John Russell Guffey
Daniel August Harms
Scott Gerald Jones
Larry Dean Kennedy, Jr.
†Thomas Edwin Konrad
Charles Edgar Lane, III
Brian Douglas Law
Thanh Duc Le
Kevin Spencer Moody
Joseph Tobias Nelson
Mark Steven Nelson
Peter Gregory O'Donnell
Andrew Michael Ondish
Karen G. Ostrander-Krug

‡Completed Work August 11, 1984
‡Completed Work August 18, 1984

Metallurgical Engineer
Dr. William D. Copeland, Department Head

John Marshall Patterson
Pueblo, Colorado

West Ridge, Colorado
Golden, Colorado
Littleton, Colorado
Evergreen, Colorado
Potomac, Maryland
Golden, Colorado
Lakewood, Colorado
Toronto, Ontario, Canada

‡Completed Work August 11, 1984
‡Completed Work August 18, 1984

Metallurgical Engineer
Dr. William D. Copeland, Department Head

Wheat Ridge, Colorado
Golden, Colorado
Littleton, Colorado
Evergreen, Colorado
Potomac, Maryland
Golden, Colorado
Lakewood, Colorado

‡Completed Work August 11, 1984
‡Completed Work August 18, 1984

Metallurgical Engineer
Dr. William D. Copeland, Department Head

*With High School Academic Honors
†Completed Work August 11, 1984
‡Completed Work August 18, 1984

†Completed Work August 11, 1984
‡Completed Work August 18, 1984

Metallurgical Engineer
Dr. William D. Copeland, Department Head

Russell Stewart Acheson
James Andrew Ashe
Peter Ragnar Berglund
John James Boyle, Jr.
†James Bennett Kowalsky
‡Christopher George Olson
‡Susan Ann Peet
‡David Andrew Roth
‡John Charles Skinner
‡Steven Thomas Studiha
‡BBrian G. Tilton
‡John Loyd Wheeler

‡Completed Work August 11, 1984
‡Completed Work August 18, 1984

‡Completed Work August 11, 1984
‡Completed Work August 18, 1984

‡Completed Work August 11, 1984
‡Completed Work August 18, 1984

‡Completed Work August 11, 1984
‡Completed Work August 18, 1984

‡Completed Work August 11, 1984
‡Completed Work August 18, 1984
<table>
<thead>
<tr>
<th>Name</th>
<th>State/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Howard Mark Parish</td>
<td>Golden, Colorado</td>
</tr>
<tr>
<td>Mark Thomas Plummer</td>
<td>Manhattan, Kansas</td>
</tr>
<tr>
<td>Gregory A. Pawl</td>
<td>West, Connecticut</td>
</tr>
<tr>
<td>Michelle Prosier</td>
<td>Woodland, California</td>
</tr>
<tr>
<td>Brian James Rathbone</td>
<td>Portland, Connecticut</td>
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<tr>
<td>William Carl Sanstrom</td>
<td>Lakewood, Colorado</td>
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<tr>
<td>Michael LeRoy Stewart</td>
<td>Hesperus, Colorado</td>
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<tr>
<td>Matthew Paul Strever</td>
<td>Doha, Saudi Arabia</td>
</tr>
<tr>
<td>Gregory David Thomas</td>
<td>Grand Junction, Colorado</td>
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<tr>
<td>Dean William Thurston</td>
<td>Broomfield, Colorado</td>
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<tr>
<td>Paul Hamilton Wolfe</td>
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</tbody>
</table>

**Bachelor of Science (Chemical and Petroleum-Refining Engineering)**

Dr. Arthur J. Kidney, Department Head

<table>
<thead>
<tr>
<th>Name</th>
<th>State/Location</th>
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</thead>
<tbody>
<tr>
<td>Julie Ann Berg</td>
<td>Denver, Colorado</td>
</tr>
<tr>
<td>Peter Howes Carson</td>
<td>Littleton, Colorado</td>
</tr>
<tr>
<td>Leslie Carrie Church</td>
<td>Belleview, Nebraska</td>
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<tr>
<td>Brenda Jean Crumb</td>
<td>Colorado Springs, Colorado</td>
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<tr>
<td>Scott John Dorsey</td>
<td>Denver, Colorado</td>
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<tr>
<td>Glenn Evan Emery</td>
<td>West Mifflin, Pennsylvania</td>
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<tr>
<td>Daniel Patrick Flannery</td>
<td>South Plainfield, New Jersey</td>
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<tr>
<td>Robert Joseph Hardin</td>
<td>Littleton, Colorado</td>
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<tr>
<td>Daniel Grady Henderson</td>
<td>Broomfield, Colorado</td>
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<td>Robert William Knight</td>
<td>Littleton, Colorado</td>
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<tr>
<td>Jeanne Maria Kosselk</td>
<td>Monument, Colorado</td>
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<tr>
<td>Michael Francis Kraeski</td>
<td>Denver, Colorado</td>
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<tr>
<td>Robert A. Masiely</td>
<td>Colorado Springs, Colorado</td>
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<tr>
<td>Ronald William Mohr</td>
<td>Lakewood, Colorado</td>
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<td>Thomas James Myers</td>
<td>Denver, Colorado</td>
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<tr>
<td>Myron Keith Nealey</td>
<td>Denver, Colorado</td>
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<tr>
<td>Kathleen Ann O'Brien</td>
<td>Golden, Colorado</td>
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<tr>
<td>*Jennifer Anne Powny</td>
<td>Colorado Springs, Colorado</td>
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<tr>
<td>Gregory Clemens Reiger</td>
<td>Parker, Colorado</td>
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<tr>
<td>*Arnold Edward Sanchez</td>
<td>Colorado Springs, Colorado</td>
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<tr>
<td>James Jay Schauer</td>
<td>Englewood, Colorado</td>
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<td>Scott Michael Simpson</td>
<td>Arvada, Colorado</td>
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<tr>
<td>Andrew John Stifka, III</td>
<td>Littleton, Colorado</td>
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<tr>
<td>Patricia Lee Vickers</td>
<td>Gasport, New York</td>
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<tr>
<td>Thomas Raymond Strong</td>
<td>Littleton, Colorado</td>
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<tr>
<td>Ronald Wayne VanZandt</td>
<td>Broomfield, Colorado</td>
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<tr>
<td>Jeffrey Keith Warrmann</td>
<td>Odessa, Texas</td>
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<tr>
<td>David Jerome Weller</td>
<td>Palmer Lake, Colorado</td>
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<td>Steven Charles Wilson</td>
<td>Durango, Colorado</td>
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<td>Daniel Patrick</td>
<td>Lakewood, Colorado</td>
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<td>Wollenhaupt</td>
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<tr>
<td>Anne Elizabeth Young</td>
<td>Golden, Colorado</td>
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</tbody>
</table>

**Bachelor of Science (Geophysical Engineering)**

Dr. Phillip R. Romig, Jr., Department Head

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>William Chapel Allen</td>
<td>Golden, Colorado</td>
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<tr>
<td>Daniel Elliott Barron</td>
<td>Bonita, California</td>
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<tr>
<td>*Jean-Pierre Dominique</td>
<td>Pau, France</td>
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<tr>
<td>Karen Elaine Larson</td>
<td>San Clemente, California</td>
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<tr>
<td>Brandt</td>
<td>Arvada, Colorado</td>
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<tbody>
<tr>
<td>Carol Nancy Clark</td>
<td>Denver, Colorado</td>
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<tr>
<td>George Ryan Clough</td>
<td>Englewood, Colorado</td>
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<tr>
<td>Timothy Patrick Dalton</td>
<td>Denver, Colorado</td>
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<tr>
<td>Danie Charles Elsas</td>
<td>Golden, Colorado</td>
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<tr>
<td>Kevin Lenoy Goosman</td>
<td>Englewood, Colorado</td>
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<tr>
<td>Rachel Susan Grynyberg</td>
<td>Denver, Colorado</td>
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<tr>
<td>Gary Dean Harris</td>
<td>Aurora, Colorado</td>
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<tr>
<td>Bart Gerard Hoekstra</td>
<td>Denver, Alberta, Canada</td>
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<tr>
<td>David Ernest Hull</td>
<td>Glenwood Springs, Colorado</td>
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<tr>
<td>*Jamie Lynn Hunziker</td>
<td>Westminster, Colorado</td>
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<tr>
<td>David Foster Lust</td>
<td>Cortez, Colorado</td>
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<tr>
<td>John Randall Losche</td>
<td>Lakewood, Colorado</td>
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<td>Christopher Daniel</td>
<td>Broomfield, Colorado</td>
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<tr>
<td>Mac Leod</td>
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<td>Nina Louise Mallet</td>
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<td>John Freeman</td>
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<tr>
<td>Mueller, Jr.</td>
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<td>Deborah Karen Neev</td>
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<td>Eric John Newman</td>
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<td>Michael James O'Brien</td>
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<td>David Rex Phillips</td>
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<td>Jennifer Sue Riefenberg</td>
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<tr>
<td>*William Aeppli</td>
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<td>Schneider, Jr.</td>
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<td>Eric Dunham Smith</td>
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<td>*James Stephen Smith</td>
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<td>Mark Elliott Weber</td>
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<tr>
<td>David Neil Wilson</td>
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</tbody>
</table>

**Geophysical Engineer**

Dr. Philip R. Romig, Jr., Department Head

Douglas Harold Carlson                                    Denver, Colorado

**Bachelor of Science (Mineral Engineering Chemistry)**

Dr. George H. Kennedy, Department Head

Carolyn Lynne Crosson                                     Pueblo, Colorado

**Bachelor of Science (Mineral Engineering Mathematics)**

Dr. Ardell Boes, Department Head

Julie Jirkovicic Bercovic                                 Golden, Colorado
| Ty Scott McKercher                                | Golden, Colorado |
| Robert Karl Miller                                | Golden, Colorado |
| Douglas Craig Peterson                            | Denver, Colorado |
| Matthew Adam Telles                                | East Rockaway, New York |

**Bachelor of Science (Mineral Engineering Physics)**

Dr. Franklin D. Schowengerdt, Department Head

Paul Michael Bast                                        Wheat Ridge, Colorado
| Kevin Roger Berger                                   | Louisville, Colorado |
| Marianne Conway                                      | Omaha, Nebraska |
| Kenneth Scott Ruksates                               | Zion, Illinois |
| Mark Ivan Vleck                                      | Fort Collins, Colorado |
Bachelor of Science
(Engineering)
Dr. Harry W. Emrick, Department Head
Dennis Edwin Arbogast
Scott Howard Deits
Karl Lee Egbert
David McMurray
Garrison
Denver, Colorado
Broomfield, Colorado
Littleton, Colorado

Master of Science
December 1984

Mining Engineering Department
Dr. Thys B. Johnson, Department Head
Master of Engineering
(Engineer of Mines)
Juan Roberto Sturio
Santiago, Dominican Republic
Master of Science
(Mining Engineering)
Gang Chen
Fuzhou, Fujian, People’s Republic of China
Oscar Marreros
Iquitos, Peru

Metallurgical Engineering Department
Dr. William D. Copeland, Department Head
Master of Science
(Metallurgical Engineering)
Fredric A. Woldow
San Jose, California

Geology Department
Dr. Joseph J. Finney, Department Head
Master of Science
(Geology)
Scott Andrew Bowman
Kalamazoo, Michigan

Chemical and Petroleum-Refining Engineering Department
Dr. Arthur J. Kidnay, Department Head
Master of Science
(Chemical and Petroleum-Refining Engineering)
Patricia Gabriella
Durango, Colorado
Benjamin Li
Colorado Springs, Colorado

Geophysics Department
Dr. Phillip R. Romig, Department Head
Master of Science
(Geophysical Engineering)
James Campbell Graham
Ottawa, Ontario, Canada

Petroleum Engineering Department
Dr. Craig W. Van Kirk, Department Head
Master of Engineering
(Petroleum Engineer)
Barbara Cecilia Bruce
Alexandria, Virginia
Roger Michael Flahive
Denver, Colorado
Robert L. Zahn
Little Rock, Arkansas
Master of Science
(Petroleum Engineering)
John Harry Benton
Littleton, Colorado
Mamdouh M. El agawany
Golden, Colorado
Laurie Ann Swanson
Burns, Colorado

Geology Department
Dr. Joseph J. Finney, Department Head
Master of Science
(Geology)
Scott Andrew Bowman
Kalamazoo, Michigan

Chemical and Petroleum-Refining Engineering Department
Dr. Arthur J. Kidnay, Department Head
Master of Science
(Chemical and Petroleum-Refining Engineering)
Patricia Gabriella
Canon City, Colorado
D. Scott Robinson
White Rock, British Columbia, Canada
Jamal Allyn Sanadarsui
Arvada, Colorado
Steven Paul Sherwood
Colorado Springs, Colorado

Geophysics Department
Dr. Phillip R. Romig, Department Head
Master of Science
(Geophysical Engineering)
James Campbell Graham
Ottawa, Ontario, Canada

Master of Science
(Geophysics)
Mark Edward Baker
Beverly, Massachusetts
Geoffrey M. Jackson
Johannesburg, South Africa
Farrokh Jalinoos
Tehran, Iran
David Michael Johns
Littleton, Colorado
Edward Christopher Kilduff
Darrell Lawrence Kramer
Brett S. Smith
Kingsley Lawrence Smith
Georgia Rae Snyder
Freyr Thorarinsson
Cheryl Muzyl Weitzel

Master of Science
(Geophysical Engineering)
Gregory Mark Henningsen
Lakewood, Colorado

Chemistry and Geochemistry Department
Dr. George H. Kennedy, Department Head

Master of Science
(Chemistry)
Scott Rickbeil Frerichs
Rochester, Minnesota

Master of Science
(Geochromy)
Robert C. Bartlett
Colorado Springs, Colorado
Munehiro Fukuda
Japan

Physics Department
Dr. Franklin Schowengerdt, Department Head

Master of Science
(Physics)
Timothy Arthur Gessert
Sheboygan, Wisconsin
Joseph Nevy
Jerusalem
Rick C. Powell
Englewood, Colorado

Mineral Economics Department
Dr. John A. Cordes, Department Head

Master of Science
(Mineral Economics)
Judith Ann Barlow
Granville, Illinois
Porter B. Bennett
Denver, Colorado
Thomas S. Glanville
Darien, Connecticut
Gary Warren Hamilton
Denver, Colorado
Pascal Karorero
Bujumbura, Burundi
Juan Ricardo Montalvo Forero
Cali, Colombia
Gary Lee Moreland
Boulder, Colorado
Henry William Poos, Jr.
Windsor, Colorado
Kazuhisa Tanaka
Osaka, Japan
Jason Evan Trow
Denver, Colorado
Thomas Wayne Wall
Golden, Colorado
James Steven Whisler
Colorado Springs, Colorado
Michael H. Wilson
Golden, Colorado

Doctor of Philosophy

Metallurgical Engineering Department
Dr. William D. Copeland, Department Head

Doctor of Philosophy
(Metallurgical Engineering)
Stephen Liu Kwong Chuen
Belo Horizonte, Brazil
Javier Ramirez Castro
Morelia, Michoacan, Mexico

Geology Department
Dr. Joseph J. Finney, Department Head

Doctor of Philosophy
(Geology)
Pedro Victor Zalan
Rio de Janeiro, Brazil

Petroleum Engineering Department
Dr. Craig W. Van Kirk, Department Head

Doctor of Philosophy
(Petroleum Engineering)
Stuart Evans Snow
Los Angeles, California

Geophysics Department
Dr. Phillip R. Romig, Department Head

Doctor of Philosophy
(Geophysics)
James Jackson Reeves
Midland, Texas
Akira Saito
Tokyo, Japan

Chemistry and Geochemistry Department
Dr. George H. Kennedy, Department Head

Doctor of Philosophy
(Geochromy)
Jeffrey A. Jaacks
Anchorage, Alaska
Daniel C. Melchior III
Ironia, New Jersey
Awards

THE ROBERT F. ALDRIDGE MEMORIAL AWARD is a cash award presented to the graduating senior in Geophysics who has the highest scholastic average in Geophysics courses. (JEAN-PIERRE BLANGY)

• • •

THE HOLLISTER AWARD is a cash award for the most deserving student in the Department of Geophysics and is not based solely on academic performance. (WILLIAM A. SCHNEIDER, JR.)

• • •

THE OUTSTANDING GRADUATING SENIOR AWARD, a suitably engraved plaque, is presented by each degree-granting department to its outstanding graduating senior.

Mining Engineering
Metallurgical Engineering
Geological Engineering
Petroleum Engineering
Chemical and Petroleum-Refining Engineering
Geophysical Engineering
Mineral Engineering Mathematics
Engineering

KIRK HALEY MCDANIEL
MICHAEL CHRISTOPHER MAGUIRE
MATTHEW GEORGE GARBER
KELLY ERNEST COOK
JENNIFER ANNE FOYNER
JEAN-PIERRE BLANGY
TY SCOTT MCKERCHER
DAVID MCMURRAY GARRISON

• • •

THE PRESIDENT'S SENIOR SCHOLAR ATHLETE AWARD is a plaque presented to the graduating senior who has the highest academic average and lettered in a sport in the senior year. (KELLY ERNEST COOK)

• • •

The Mines Medal

The Mines Medal, established in 1979 by the Board of Trustees and given for the first time at Commencement in 1980, is awarded to those persons, whether or not alumni and whether or not members of the university community, who have rendered unusual and exemplary service to Colorado School of Mines. Previous recipients are:

*Baxter, Robert A., M.S., '23, 1980 (posthumously)
*Burger, William V., 1980
Vanderwilt, John W., 1980
Brennecke, Fritz S., 1981
Hazan, Wayne C., 1981
*Morgan, Jesse R., 1981 (posthumously)
Steinhauer, Gurnett, 1981

*Babcock, Henry A., 1982
Conrey, Bernetta, 1982
Dinkmeyer, Elvera, 1982
Reeves, John A., 1982
Fred A. Anderson, 1983
*Clark B. Carpenter, 1983 (posthumously)
Bruce M. Rockwell, 1983
Robert J. Weimer, 1983

*Deceased.

CLAUBE L. "LINDY" BARKER

"Lindy" Barker is chairman of the Colorado Mining Association Education Foundation. He has long served the mining industry and Colorado School of Mines by directing the "Total Concept of Mining," a program that has exposed hundreds of high school science teachers to the mining industry. Barker earned his Engineer of Mines degree in 1931 and received the Distinguished Achievement Medal in 1970. He is a retired independent consulting mineral investment engineer. Barker has had a successful career spanning almost four decades in Colorado with the E.I. DuPont Company. He is a member of, and has held several chairmanships in, the American Institute of Mining, Metallurgical, and Petroleum Engineers; Society of Exploration Geophysicists; Rocky Mountain Coal Mining Institute; Colorado Mining Association; Colorado Engineering Council; Colorado School of Mines Research Institute; Colorado School of Mines Alumni Association; and Colorado Chamber of Commerce.
A. RAYMOND JORDAN

Dr. A. Raymond Jordan, research physicist, is the Dean Emeritus of the Graduate School (1957-72) at Colorado School of Mines. He is widely credited with building up the graduate program at Mines—attracting quality graduate students and increasing research activity for both faculty and graduate students. A graduate of the University of Colorado, Jordan earned his B.A. in 1929, his M.A. in 1933, and his Ph.D. in 1940. Prior to his service at Mines, Jordan was the head of the physics division of the Denver Research Institute and served as a research physicist at the Air Force Cambridge Research Center, the Curtis-Wright Research Laboratory, and the Naval Ordnance Laboratory. He taught physics at the University of Colorado, Colorado State University, and Montana State University. Since leaving Mines, Jordan has done consulting and research for the National Oceanographic and Atmospheric Administration.

THOMAS A. MANHART

Thomas A. Manhart has been a leader in the field of geophysical exploration, based on his Colorado School of Mines degrees of Geological Engineer (1930) and Master of Science in geophysics (1932). His contribution to the School started upon graduation, serving as agent for the Class of 1930. He served as a faculty instructor in 1932, before his career took him around the world, exploring for petroleum and minerals in Canada, Mexico, South America, Iran, Iraq, Egypt, and the United Kingdom. In addition to geophysical services, companies he has directed as chairman of the board have provided manufactured products to oil and mining industries. These companies have also provided control, monitoring, and alarm systems for power companies. His geophysics activities have expanded into extensive oil and gas operations in Oklahoma, Texas, and Kansas. Manhart holds professional memberships in the American Association of Petroleum Geologists, the Society of Exploration Geophysicists, and the American Geophysical Union. A regular and generous donor to the School, Manhart served as International Chairman of the Alumni Student Assistance Program—precursor to today’s Mines Annual Fund donation program. Manhart was a recipient of the Distinguished Achievement Medal in 1961.
Academic Regalia

The academic costume, processional, and the program of ceremony are all tied into an ancient tradition of learning; it underlines a oneness and the ceremony marks a beginning for the new professional. It is a solemn occasion at which only applause is appropriate. The audience is asked to refrain from any other form of expression and to reserve celebrations until after the program is concluded.

In the United States, the great majority of the academic costumes now worn are in accordance with the general provisions of the Intercollegiate Code of 1895. Under the code, bachelors’ gowns are made with pointed sleeves; masters’ gowns are made with long closed sleeves with an arc near the bottom; doctors’ gowns are made with round open sleeves. Usually gowns are black, although some American and many foreign universities use colors. Bachelors’ and masters’ gowns are untrimmed. Doctors’ gowns are faced down the front with velvet with three velvet bars across the sleeves. The velvet facing and bars may be black or they may be the color of the field of study. Women may wear white collars with a bachelor’s gown.

Hoods are also black. The doctor’s hood is four feet in length, the master’s three and one-half feet. Colorado School of Mines hoods are lined with silver and blue, the official School colors. The velvet border of the hood, which is three and five inches wide for the master’s and the 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.

The black mortarboard cap is standard in the United States. Doctors wear a gold tassel; Masters of Science a yellow tassel; Masters of Engineering an orange tassel; and Bachelors of Science a black tassel. Caps are customarily removed only during prayers, and then by men only.

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Colorado School of Mines expresses gratitude to ASARCO Incorporated for generous contribution of the silver for the production of professional and graduate diplomas.

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Commencement music is performed on the Four Manual Allen Digital Organ. Comparable in range to the major pipe organs in the nation, the Allen Organ uses ten digital computers in the production of musical notes and sounds. The organ was made possible by a gift from Dr. Cecil H. and Ida Green.