



UNIVERSITY OF  
COLORADO  
at COLORADO SPRINGS

Commencement

May Twenty-Fourth  
Nineteen Hundred and Eighty-Eight

**THE REGENTS  
OF THE  
UNIVERSITY OF COLORADO**

Chairman  
Mr. Hugh C. Fowler  
Denver

Dr. Charles M. Abernathy, Jr.  
Montrose

Mr. Richard J. Bernick  
Denver

Mr. Robert E. Caldwell  
Colorado Springs

Mr. Peter C. Dietze  
Boulder

Mr. Lynn J. Ellins  
Longmont

Mr. Sandy F. Kraemer  
Colorado Springs

Mr. Norwood L. Robb  
Littleton

Dr. Roy H. Shore  
Greeley

*PROJECTIONS*

To the Class of 1988:

On behalf of the University of Colorado, I am pleased to extend congratulations upon your achievement. Your graduation is a special milestone in your life, and in the life of the University.

It is customary on these occasions to speak of the opportunities in your future. At this commencement, however, I prefer to dwell, however briefly, upon the University's educational task and the problems you will face in the coming decades.

The University is committed to missions in education, research, and public service. Of these, education is generally most visible through classroom teaching. Much more is involved in the pedagogical process, however. During the past several years, the University has endeavored to equip you with the knowledge and skills required to lead intelligent, productive lives in the coming decades. That is a basic component in our mission, but it is only the beginning. It is more important that you also have a sense of those societal and ethical values which have guided humankind in its noblest hours. Courage in the face of adversity, perseverance in times of difficulty, creativity under limits of constraint these are some of the traits you must learn in confronting the problems and challenges of the future. They are functions of personality and experience, and cannot be taught in a classroom. You can, on the other hand, bring to these challenges the knowledge of human experience, and inherent in that experience is the accumulated wisdom of civilization. This is, and should be, your most influential source of learning. Once filtered through your own experience, consideration, and values, this knowledge may guide you in directing the future.

It is your obligation, of course, to consider all appropriate factors in any decision. I urge you to temper knowledge with compassion, to balance immediate gain with farseeing wisdom, and to promote at all times the common good, not self-interest. These are your true obligations to your society, your fellow-citizens, and the future.

The University of Colorado has, I trust, imparted to you an important quantity of knowledge and an appreciation of certain societal and ethical values. It is now your obligation to extend and develop your knowledge and values, and to direct these toward the common good, toward creating a better future. You will face unprecedented challenges requiring heroic efforts. Society's hopes rest with you.



E. Gordon Gee  
President

**ORDER OF EXERCISES**

Dr. Jerry D. Flack, Commencement Marshall  
(1987 UCCS Outstanding Teacher)

Processional (audience will please remain seated)

Posting of the Colors

UCCS ROTC Color Guard

Invocation

Dr. Joan Fairchild

America the Beautiful<sup>1</sup>

Dr. Paul Ballantyne

Welcome

Chancellor Dwayne C. Nuzum

Address

President E. Gordon Gee

Conferring of Honorary Degree  
James M. Beggs

Doctor of Science,  
*honoris causa*

University of Colorado Medal  
David W. Enoch

Distinguished Service Award  
Keith LaRue Grove

Legislative Award  
Michael C. Bird

Conferring of Baccalaureate Degrees  
Recognition of Outstanding Graduates

College of Letters, Arts and Sciences  
Natural Sciences  
Social Sciences  
Humanities

Elizabeth A. Loudon  
Janice C. Munzke-Deal  
Bruce J. Kuhns

College of Business and Administration

Barbara A. Schnathorst

College of Engineering and Applied Science

Paul J. Kitaj

Conferring of Advanced Degrees

Initiation of Graduates into Alumni and  
Friends Association

James P. Easton

Charge to Graduates

School of Education Dean Margaret Bacon

Alma Mater<sup>2</sup>

Dr. Paul Ballantyne

Recessional (audience will please remain seated)

<sup>1</sup>O beautiful for spacious skies,  
For amber waves of grain,  
For purple mountain majesties  
Above the fruited plain!  
America! America!  
God shed His grace on thee  
And crown thy good with brotherhood  
From sea to shining sea!

<sup>2</sup>Hail, all Hail our Alma Mater!  
Ever will our hearts be true  
You will live with us forever  
Loyal we will be to you.  
We will sing forever your praises,  
Ever more our love renew,  
Pledge our whole devotion to you,  
Dear Old C.U.!

**CANDIDATES FOR DEGREES**  
**COLLEGE OF LETTERS, ARTS AND SCIENCES**

James A. Null, Dean

The Degrees Bachelor of Arts and Bachelor of Science

Anthony M. Aragon, Psychology\*\*  
James L. Arthurs, Communication  
Margaret D. Avery, History\*  
Jeri L. Avila, Psychology\*  
*Magna Cum Laude*  
Gregory K. Bain, Geography and Environmental Studies  
*Magna Cum Laude*  
Daniel J. Balsamo, Communication  
Phyllis K. Barron, Psychology  
Diana C. Barta, Psychology\*\*  
Patricia R. Bastin, History  
*Cum Laude*  
Susan G. Bateman-Jordan, Communication  
*Cum Laude*  
Cynthia K. Batey, Distributed Studies\*\*  
Tamara K. Bauer, Psychology\*  
Brian K. Beamer, Physics and Energy Science (B.S.)  
*Magna Cum Laude*, with highest distinction  
Joyce L. Bean, Psychology\*  
Cynthia L. Bee, English\*  
Laurel H. Bennett, Political Science  
Manfred A. Bereuter, History  
Mary R. Blattspieler, Communication  
Susan K. Borrer, Psychology  
Susan T. Boyle, Psychology/Sociology  
*Cum Laude*  
Traci A. Bradley, Psychology  
Cynthia M. Brown, Psychology\*\*  
Lee A. Brown, Communication  
*Cum Laude*  
Suzanne M. Brown, Psychology\*\*  
William J. Brown, Anthropology\*\*  
Cynthia J. Bryden, Mathematics  
Karin L. Butterworth, Psychology  
Colleen A. Calvin, Political Science  
Cynthia A. Camerlo, Psychology\*\*  
Jennifer L. Campbell, Communication  
Kathryn D. E. Carl, Communication\*\*  
Julie K. Carnevale, Political Science  
Dawn J. Cassel, Communication/Psychology  
Dana L. Clark-Molden, English  
Alice M. Cole, English\*\*  
*Magna Cum Laude*, with highest distinction  
Deborah M. Coultrip, English  
Bobbie J. Crosley, Psychology  
Mary D. Crowley-Weigel, Psychology  
Joseph D. Cuchiaro, Physics and Energy Science (B.S.)\*  
James F. Cunningham, III, Mathematics  
Christopher M. Curcio, Communication  
Noel A. Currier, History  
Kimberly S. Curtis, Sociology  
Catherine M. Dailey, History/Anthropology  
Clark G. Dawson, Communication  
Mary L. Debelak, Political Science\*\*  
Martha J. Deitz, Biology\*  
Stephen G. DeMarrais, Distributed Studies  
*Cum Laude*  
James R. DeVault, Political Science  
Lourdes M. Diaz, Psychology  
Frank R. Dietz, Political Science  
Bettina L. Dillon, Political Science\*\*  
Regina T. Drexler, Sociology  
*Magna Cum Laude*, with highest distinction  
Barbie L. Dunnan, Mathematics\*\*  
Jimmie G. Durham, Communication  
Julie M. Eastham, Political Science  
Ruth R. Edwards, Psychology  
Margaret N. Ellis, Anthropology  
Rita M. Falsetto, Communication\*\*  
Theresa M. Favatella, Communication

Shila L. Fisher, Economics\*\*  
Susan D. Flannery, Communication\*  
Barbara M. Q. Foote, Psychology\*\*  
Kevin W. Frazier, Communication  
Marie E. Freymuth, Spanish\*  
with highest distinction  
Priscilla T. Fussman, Psychology  
Karla E. Galbraith, Distributed Studies  
*Cum Laude*  
Ann M. Gallegos, Political Science\*\*  
Paul H. Gallogly, Economics  
Terrie D. Gardner, Psychology\*  
Abdul-Aziz S. Ghuloum, Communication  
Sharon A. Gibson, Fine Arts  
Laura L. Godshall, Psychology\*\*  
Sonja J. Goldinak, Distributed Studies  
Tamera L. Goldsmith, Fine Arts  
Susan I. Gorney, Psychology\*\*  
Lila J. G. Gracey, Psychology\*\*  
Joyce E. Green, Psychology\*  
Janet L. Gribben, Communication  
Barbara J. Guinther, English  
Dianna C. Hadden, Psychology\*\*  
Susan W. Hallahan, Biology\*\*  
Christopher P. Hamm, Political Science\*  
Suzanne G. Hanna, Psychology  
Richard A. Harrington, Psychology  
Steven L. Hartley, Communication\*  
Vickie L. Harvey, Communication  
Linda J. Hatridge, English  
Kerry J. Haug, Psychology\*  
Ruth A. Hein, Psychology/Communication\*\*  
*Cum Laude*  
Tamara S. Hicks, Distributed Studies  
Barbara J. Hill, Psychology  
*Cum Laude*  
Ellen F. Hodges, Psychology\*  
Leslie R. Holland-West, Sociology  
Martha J. Holmes, Communication/Psychology\*\*  
Ferris E. Hoover, Jr., Communication  
D. Lynn Hren, Sociology  
Ronald D. Huff, English  
*Cum Laude*  
Tracie T. Hunt, Psychology  
Andrea J. Johnson, Communication  
*Cum Laude*, with highest distinction  
Carol P. Johnson, Political Science  
Ruth A. H. Johnson, Communication/Psychology  
*Magna Cum Laude*  
Tom Jolstad, Psychology\*  
Jana R. Jones, Distributed Studies  
Lyndley D. Jordan, History  
Sharon M. Jordan, Communication\*  
Kiran Kanchanalal, Communication  
Jeanne M. Karschnia, Mathematics  
Barbara A. Kearns, Psychology  
*Cum Laude*  
Patricia S. Kircher, Communication  
Jonathan D. Kohr, Distributed Studies  
Kathryn A. Koterwas, Communication  
*Cum Laude*  
Bruce J. Kuhns, Spanish  
*Summa Cum Laude*, with highest distinction  
Paula B. Kuhns, Psychology\*\*  
*Magna Cum Laude*  
Mary A. Kunkel, Sociology\*  
Sheila F. Labrecque, Communication  
Ernest N. Lagasca, Jr., Biology  
Richard F. LaMountain, Political Science  
Margaret L. Lange, Chemistry (B.S.)\*\*

Rosa M. LaRiva, Geography and Environmental Studies  
Beth A. Larsen, Sociology  
Lisbeth Larsen, Sociology\*  
Stacie R. Lash, Distributed Studies  
Jeff O. Lawrence, Biology  
Margaret G. Lewis, Sociology  
Julia A. Lindenberger, Distributed Studies  
William D. Lohman, Biology  
John D. Lorch, Mathematics  
Elizabeth A. Loudon, Chemistry  
*Summa Cum Laude*  
Warren J. Lynch, II, Economics  
Mary J. Lytle-Davis, Psychology/Sociology\*\*  
Wanda M. Madrid, Mathematics\*  
Ruthai C. Manivat, English/Economics  
*Magna Cum Laude*, with highest distinction in Economics  
Heidi E. Marshall-Wagner, Fine Arts\*\*  
Cynthia A. Martin, Chemistry (B.S.)  
Nancy J. Martin, English  
Judith M. Martinez, English  
Junita Martinez, Political Science\*  
Robert A. McDonald, Anthropology  
*Magna Cum Laude*, with highest distinction  
Thomas J. McGee, Communication\*  
Teri J. McGrath, Communication  
Shannon M. McKeon, Psychology\*  
Bradley D. Mellen, History  
Pamela R. Middleton, Communication  
Madeline L. Millard, English  
*Magna Cum Laude*  
Steven W. Miller, Physics and Energy Science (B.S.)  
Terri A. Miller, Physics and Energy Science (B.S.)  
Cheryl M. Moats, Communication  
Joseph Monroe, Jr., Psychology  
Michael P. Moore, Communication  
Susan V. Moore, Communication  
Kent B. Morgan, Spanish  
with highest distinction  
Janet L. Morrison, Communication  
Donald G. Motzer, Jr., Biology\*\*  
Janice C. Munzke-Deal, Communication  
*Summa Cum Laude*, with high distinction in Communication  
Kristin V. Neel, Biology\*  
Brigitte P. Neus, Distributed Studies  
Richard J. Neville, Psychology\*  
with distinction  
Linda-Ann Newsome, English  
Carel A. Nolan, Political Science  
Susan L. O'Banion, Fine Arts  
Kathryn J. Oberle, Psychology  
Sean M. O'Brien, Political Science  
Maria E. Olivares, Sociology\*\*  
Julia M. Olson, Physics and Energy Science (B.S.)\*\*  
Margaret M. O'Neill, Chemistry (B.S.)\*  
Stephen R. Orr, Philosophy\*\*  
*Magna Cum Laude*, with highest distinction  
Linda J. Painter, Sociology  
*Magna Cum Laude*  
Sherry L. Paugh, Psychology\*  
Thomas D. Paul, Communication\*\*  
Sherian L. Pence, Sociology  
Richard F. Pericas, Communication  
Thomas E. Phillips, Psychology  
Sherri L. Phipps, Communication  
James M. Pierson, Chemistry (B.S.)  
*Magna Cum Laude*  
Lori A. Pollack, Sociology  
Donald T. Poole, Political Science  
*Magna Cum Laude*  
Gregory A. Pope, Distributed Studies\*\*  
Jean M. Price, History\*\*  
*Magna Cum Laude*  
Judith E. Price, History\*\*  
Cheryl C. Provence, English  
*Cum Laude*  
Melinda C. Quintana, Sociology  
Kristin A. Rager, Geography and Environmental Studies  
*Magna Cum Laude*

Margaret C. Rapkoch, Communication\*\*  
Robin A. Rector, Sociology  
Sharon E. Resetar-McAfee, English  
*Magna Cum Laude*  
Sharon C. Robbie, Communication  
Barbara F. Robinson, Psychology  
*Cum Laude*, with highest distinction  
Marjorie A. Rodman, Fine Arts  
Douglas J. Roman, Political Science  
Nancy L. Sacoman, Biology\*  
Connie A. Schanberger, Sociology  
*Magna Cum Laude*  
Andrea M. Schantz, Biology\*\*  
*Cum Laude*  
Robert M. Schroetke, II, Biology\*  
*Magna Cum Laude*, with highest distinction  
Blake G. Schwank, Geography and Environmental Studies  
Kathleen G. Seifert, History\*  
Elizabeth R. Seitz, Sociology  
John J. Selaya, Jr., History\*\*  
Larry V. Shaddy, Communication/Anthropology  
Elizabeth A. Sharp-Henricks, Communication\*\*  
*Magna Cum Laude*  
Lisa J. Sheagley, English  
Diane M. Sidebottom, Communication\*\*  
Lisa K. Sieben, Psychology  
*Cum Laude*  
William J. Simmons, Psychology  
Nadia P. Slusar, Physics and Energy Science (B.S.)  
Lechelle L. Smith, Psychology\*\*  
Michael E. Smith, Physics and Energy Science (B.S.)  
Robert A. Smith, Sociology  
*Cum Laude*  
Shirley J. Sredojevic, Psychology\*\*  
Andrea D. Staggs, Communication  
Roberta L. Sticka, Psychology\*  
Lindy G. Stone, Jr., Communication/Geography and Environmental Studies  
Katou J. Strand, Biology  
Richard E. Strock, Fine Arts  
Heidi M. Swanger, Psychology  
*Cum Laude*  
Sandra G. Teichmann, Fine Arts\*\*  
Julie A. Thomas, Psychology\*\*  
Angela M. Thompson, Psychology\*\*  
Joann Totoro, Psychology\*\*  
with distinction  
Cynthia M. Tourville, Sociology  
Robert B. Trimble, Political Science  
James F. Van Brocklin, Biology  
*Magna Cum Laude*  
Ellen P. Victoreen, Philosophy/Psychology\*\*  
Shelly A. Vorderlandwehr, Psychology  
Linda F. Wagener, Psychology/Communication  
Gregory P. Welch, Economics  
Rhondda K. Walker, Psychology\*\*  
Julie A. Welsh, English  
*Magna Cum Laude*  
Amanda S. Westrum, Psychology  
*Cum Laude*  
Laura L. Wetendorf, English  
Sharlyn K. Whigham, Psychology  
*Cum Laude*  
Kerry M. White, Sociology\*\*  
Debbie S. Wilkinson, Communication\*\*  
Karen M. Wilkinson, Biology  
Brenda M. Williams, Psychology  
Cheryl A. Williams, Communication  
Sharon D. Williams, Communication\*\*  
Catherine Wilson, Communication\*  
John C. Wilson, Anthropology  
Lynn L. Wilson, Psychology\*\*  
Betty J. Winter, Psychology  
Rosemary Wolfe, Anthropology  
Alison A. Wyckoff, Psychology  
Maryann M. Young, Communication  
*Magna Cum Laude*  
Anna M. Zendejas, Communication

## COLLEGE OF BUSINESS AND ADMINISTRATION

Dean Edward A. Johnson; Resident Dean James T. Rothe

### THE DEGREE BACHELOR OF SCIENCE (BUSINESS)

Vickie L. Akin  
Christine L. Alber  
Helene M. Anhalt  
*Magna Cum Laude*  
Tamrin Apaydin\*\*  
*Magna Cum Laude*  
Marlinda L. Ballard  
Julie A. Ballweber  
Karen J. Barcelon  
*Cum Laude*  
Amy E. Barnhill\*\*  
Robert S. Barrington  
Julianne S. Bieber  
*Magna Cum Laude*  
Deborah W. Bily  
Steven A. Bourgault\*  
*Cum Laude*  
Susan C. Boyer\*  
Charles V. Brenneman  
Susan A. Brown  
Timothy B. Brown  
Michael J. Bukowski  
Rebecca G. Burrigh  
Mary L. Buster  
Mary K. Cano  
John R. Carter\*\*  
Erika J. Castle\*\*  
Daniel S. Connerly\*\*  
Mark B. Cook  
Virginia A. Copeland\*\*

Cheryl A. Crow  
Amelita E. Cruz-Solano\*\*  
Bonniejean J. Curl\*\*  
Allyn C. Curtis\*  
Patricia Z. Derau\*  
*Magna Cum Laude*  
Michele P. Diamond\*\*  
Brenna C. Donoher  
Cynthia D. W. Dooley\*\*  
Eulalia M. Dory  
Donald C. Douglas, Jr.  
Robert L. Dunn, III  
Marcella L. Eschler  
Donna J. Ferderer\*\*  
Josepha A. Fiandaco\*\*  
R. Michael Foster  
Stephen W. Fry  
*Magna Cum Laude*  
Karen L. Garritano\*\*  
Kathleen M. Gue  
Brian D. Gurney\*\*  
Ruth R. Harris  
Jon J. Herman\*\*  
Rosemarie L. Herrera\*\*  
*Cum Laude*  
Terri L. Holcomb  
Michael D. Hollenbaugh\*  
*Cum Laude*  
Leland J. Holmes\*\*  
Daniel J. Huber

Kevin J. Hyland  
Stephen M. Jantz\*\*  
Elizabeth A. Jeffers\*\*  
*Cum Laude*  
Sharon M. Jenness\*\*  
*Magna Cum Laude*  
Brenda C. Judiscak\*\*  
David L. Junk\*\*  
Cynthia A. Kennedy  
Lisa R. S. Kennedy  
Elizabeth V. Kester  
Daniel E. Kiefer\*\*  
John K. Kimmick  
Shawna G. Legg  
Leslie D. Lindsay  
Patricia I. Long\*\*  
JoAnn Lund\*\*  
Patricia A. Marinski  
Franklin A. Markley  
Carol K. Martin  
Alexandre J. Maximiano\*\*  
Helen D. McNatt  
James F. McVeigh  
David D. Megilligan  
Stephen E. Mills  
Lynne A. Moran  
David E. Morin  
Michael J. Morrill\*\*  
Dagmar A. Movasagi\*  
Susan Mulligan\*\*

M. Denise Nations  
Bradley J. Naylor  
*Cum Laude*  
Deborah G. Newby\*\*  
*Magna Cum Laude*  
Susan M. S. Nusbaum\*  
Nancy S. Ott  
Marian Paglia  
David J. Payton\*  
Graham J. Pearce\*\*  
*Magna Cum Laude*  
John R. Plonsky  
John R. Pope  
David A. Poppie  
*Cum Laude*  
James D. Price\*\*  
Andrew J. Prudhomme  
Christine Ramirez  
Cynthia G. Raine\*  
Catherine L. Reaves  
Laura J. Ricketts  
Maureen G. Riter\*\*  
Richard S. Rockwell  
Marcia L. Roe\*  
Dianna M. Sanchez  
Barbara A. Schnathorst\*\*  
*Magna Cum Laude*  
Sandra P. Schrick  
Gayanne Scott\*\*  
Joseph V. Shafer\*

Tracy S. Sheldon\*\*  
*Cum Laude*  
Ina K. Shelton  
*Magna Cum Laude*  
Sandra L. Shockey  
Holly L. Siran\*\*  
Sandra L. Spahr\*\*  
*Magna Cum Laude*  
Peggy R. Stephens  
Sherri B. Stoltzfus\*\*  
Michael K. Streeter  
Neal K. Thompson\*\*  
Jeffrey M. Throne\*\*  
Julie A. Tosetti  
Jenny H. Trejo  
Lynda S. Trube-Strickland  
Susan M. Tully  
Carole L. Walker\*\*  
*Cum Laude*  
Maureen K. Walker  
Ed Wallis\*  
David V. Warhoe  
Charles G. Wasserott\*\*  
Leanne L. Waring  
Patricia C. Westfall\*\*  
James M. White  
Gwynne B. Whyte  
*Cum Laude*  
Randal N. Williams  
Virginia L. Witte  
Julia Wohr

Marci R. Actis  
John E. Alpeter  
Bryan Alvey\*\*  
Betsy R. Anderson  
Thomas C. Arata\*  
Gary W. Barnes\*\*  
Suzanne Belanger  
Richard T. Binder  
Bruce A. Blair  
Dana J. Braatz  
Donna J. Cambuzzi\*\*  
Robert J. Chroneos, Jr.\*\*  
Barry R. Davis\*\*

## GRADUATE SCHOOL OF BUSINESS ADMINISTRATION

Dean Edward A. Johnson; Resident Dean James T. Rothe

### THE DEGREE MASTER OF BUSINESS ADMINISTRATION

Ronald M. Dietrich  
Cheryl S. Everitt  
Lorrie L. Hunt\*\*  
Deborah P. Hunter  
Bobbi J. Johnson\*  
Kevin J. Kaan  
Laurie J. C. Kennedy\*\*  
George A. Lenz, II\*\*  
Anthony E. Lisula\*\*  
Michael C. Livengood  
Raymond S. T. Lomas  
James T. Majewski  
Sandra J. Malang\*\*

Mark D. May\*\*  
Joye L. McAnallen  
Morgan I. R. McCay  
Gerald P. McLaughlin  
Judith W. McLean\*\*  
Gary E. Megel  
Kimberly L. Megrath  
Karen R. Nauer  
Curtis J. O'Connell\*\*  
Donald E. Paulus  
Laura A. G. Payne  
Peter C. Perkins\*\*  
William M. Peterson\*\*

Emmett Price, Jr.  
Julie E. Reyna  
Glen W. Roberts\*\*  
Bruce B. Roeover  
Robert W. Smith\*  
Dana D. Spicer Bertrand  
Mary E. Stanfield\*\*  
Penny M. Tegen  
Dimas P. Vigil  
Jean A. Voights  
Diane B. Whitesell\*  
David C. Zimbrick

## GRADUATE SCHOOL OF PUBLIC AFFAIRS

Marshall Kaplan, Dean; Mark McConkie, Interim Resident Dean

### THE DEGREE MASTER OF PUBLIC ADMINISTRATION

Brenda Barton  
Barbara S. Cesar  
Jeannine M. Champlin  
Lee A. Costanzo\*\*  
Carol S. Emilio  
Scott Harrod  
Marcia K. Grundall

Lori Guziak  
Katherine Kolbeck  
Gloria P. Merrick\*\*  
Samuel K. Millet  
William Norkoli  
Jeannine M. Percy  
Kevin Segady

Hans D. Schalk  
Paula Simon\*\*  
Teresa A. Taylor  
Steven R. Weik  
Carol Wirrick  
Cynthia Whiteside

## COLLEGE OF ENGINEERING AND APPLIED SCIENCE

Dean Pieter A. Frick

### THE DEGREE BACHELOR OF SCIENCE

Farouk M. Abushaban, Electrical Engineering  
David B. Anderson, Computer Science\*\*  
Suzanne M. Angevine, Computer Science\*\*  
with special honors  
Facundo Aparicio, Electrical Engineering\*  
Charles F. Avila, Electrical Engineering  
Carl S. Ballenger, Computer Science\*  
Craig M. Barnhart, Electrical Engineering  
with honors  
Peter W. Bates, Electrical Engineering\*  
James A. Barrilleaux, Electrical Engineering  
Craig D. Beltrand, Electrical Engineering  
James L. Berg, Computer Science\*\*  
Chris Blomfield-Brown, Computer Science\*\*  
Deborah L. Borner, Computer Science  
Robert E. Bowker, Electrical Engineering\*\*  
Bruce W. Bullard, Electrical Engineering  
Edward A. Bush, Electrical Engineering\*\*  
Peter A. Closson, Electrical Engineering  
Daniel J. Cooke, Electrical Engineering  
Kevin J. Counihan, Electrical Engineering  
Gary M. Cuning, Electrical Engineering  
Michael J. D'Amico, Electrical Engineering  
Todd A. DiCesare, Electrical Engineering  
with honors  
Eugene S. Downen, Jr., Computer Science  
Brent D. Edwards, Computer Science  
William P. Flentje, Computer Science  
Ronald C. Flores, Electrical Engineering  
Angela J. Fowler, Electrical Engineering\*\*  
Paul M. Fuller, Electrical Engineering  
Carol S. L. Garcia, Applied Mathematics\*\*  
John D. Gardner, Electrical Engineering\*

Seyed M. Ghasemi, Electrical Engineering\*\*  
Charles J. Gruber, Electrical Engineering  
Steve L. Haehn, Electrical Engineering\*  
Jay T. Hamlin, Electrical Engineering\*\*  
Mark L. Hardy, Electrical Engineering\*\*  
Mark T. Harrop, Electrical Engineering\*\*  
Robert J. Helt, Applied Mathematics\*\*  
Keith D. Hemenway, Electrical Engineering  
with honors  
Alexander J. Herrera, Electrical Engineering  
David R. Hinton, Computer Science  
with honors  
Steven L. Hiskey, Computer Science  
William D. Hopkins, Jr., Electrical Engineering  
Matthew J. Horton, Electrical Engineering  
with honors  
John G. Jensen, Electrical Engineering\*\*  
Manhar Karsanbhai, Electrical Engineering\*\*  
Randolph E. Kath, Electrical Engineering\*  
Cynthia D. Kessler, Applied Mathematics  
with honors  
Edward M. Ketchum, Applied Mathematics  
Paul T. Kitaj, Electrical Engineering  
with special honors  
Michael D. Krenzin, Computer Science\*\*  
Daniel E. Lewis, Electrical Engineering\*\*  
Donald P. Lijana, Electrical Engineering\*  
Teri J. Lucero, Electrical Engineering  
with honors  
Douglas J. Marshall, Electrical Engineering\*\*  
with special honors  
Chad A. McAllister, Electrical Engineering\*\*  
Scott S. McKinsey, Electrical Engineering  
William M. McCrary, Electrical Engineering\*

James R. Monroe, Electrical Engineering  
with honors  
Robert L. Monroe, Electrical Engineering\*  
Peter R. Myers, Electrical Engineering  
Thanh-Thuy T. Nguyen, Electrical Engineering  
Sophia P. T. Nguyen, Electrical Engineering\*\*  
Daniel R. Olson, Computer Science\*\*  
Gary M. Owens, Electrical Engineering\*  
Loreen A. Ozolins, Electrical Engineering  
Christopher H. Pabst, Computer Science\*\*  
Russell J. Pence, Applied Mathematics  
Marc R. Polito, Electrical Engineering\*\*  
Jeanine M. Ponzini, Electrical Engineering\*  
Stephen R. Porter, Electrical Engineering\*  
Alexander L. Sapp, Electrical Engineering\*\*  
Mansour Shamsai, Computer Science  
Charles D. Short, Computer Science  
Greg F. Shumaker, Electrical Engineering  
Jay G. St. John, Electrical Engineering\*\*  
Richard J. Stein, Electrical Engineering  
Janet G. Straton, Electrical Engineering\*\*  
Pamela H. Thomas, Electrical Engineering  
Jerome L. Townsend, Electrical Engineering\*\*  
William T. Tully, Electrical Engineering\*\*  
Mark A. Watson, Electrical Engineering\*\*  
Roger W. Wild, Computer Science  
Andreas M. Wilfong, Electrical Engineering\*  
Michael E. Williams, Computer Science  
Robert B. Wood, Applied Mathematics\*\*  
Glen T. Yallaly, Electrical Engineering\*\*  
Donna L. Yowell, Applied Mathematics\*\*  
Gary A. Zallar, Computer Science\*  
Denise B. Zimmerman, Computer Science

Kay L. Amandt, Education\*\*  
Dennis R. Anderson, Education  
Emma D. Anderson, Education  
Guy F. Arseneau, Education\*  
Arlis R. Balzer, Education\*  
Deborah W. Ball, Education\*\*  
Ingrid Bibey, Education\*  
Eva M. Bjork, Education\*  
Kathleen A. Borrelli, Education\*  
Linda K. Brown, Education\*\*  
William E. Bustillos, Education\*  
Linda D. Cafiero, Education  
Ricardo A. Concha, Education\*\*  
Cathleen M. Cook, Education  
Janet L. Kerr, Education\*\*  
Betty J. Dearden, Education\*\*  
Karen A. DeCarlo, Education\*  
Edenna G. Detvay, Education\*  
Diana Doepken, Education\*  
Sara A. Douglass, Education\*  
Ann M. Eagan, Education  
Ruby I. Fink, Education  
Louella T. Flatland, Education  
Roger D. Fletcher, Education\*  
Susan K. Fraser, Education\*\*  
Eva S. Frazier, Education\*\*  
Jodie J. P. Garten, Education\*\*  
Margaret D. George, Education\*\*

George W. Getz, Education  
Lois P. Giardina, Education  
Jacqueline R. Gibson, Education\*\*  
Sarah E. Gitter, Education  
Beverly B. Goodier, Education\*  
Lourdes N. Goodnight, Education  
Linda C. Harinck, Education  
Dale S. Harper, Education  
Evelyn E. Harris, Education\*  
Sydney S. Hefflin, Education  
Christine C. Hubersberger, Education\*  
James V. Husch, Education\*\*  
Mary E. Jackson, Education  
Janis M. Kawamura, Education\*\*  
Janet L. Kerr, Education\*\*  
Susan M. Kessler, Education\*\*  
Janie A. Knickerbocker, Education\*  
Lynn G. Larivee, Education\*  
Barbara J. L. Lemke, Education  
Barbara E. Logan, Education\*  
Russell R. Lowell, Education\*\*  
Marla J. Lucero, Education\*  
Helen R. Massey, Education  
John S. Matthews, Education  
Cindy L. McBride, Education\*\*  
Kathryn McCarty, Education  
Margaret J. McKinley, Education\*  
Theresa M. Modlich, Education\*\*

Maureen L. Morris, Education  
Brian M. Naegely, Education  
Bonnie A. Ottmar, Education\*\*  
Lorenzo V. Padilla, Education\*  
Joan C. Phillips, Education\*  
Lynn D. Pine, Education  
Michelle D. Quaney, Education\*\*  
Nathan J. Quintana, Education\*  
Mary-Jeanne Raleigh-Downes, Education\*  
Marina J. Raye, Education  
Margaret Reistroffer-Hall, Education\*\*  
Sharon L. P. Roa, Education  
Diana K. Roberts, Education  
Minta L. Rodd, Education\*  
Rafael Rodriguez, Education  
Virginia S. Rodriguez, Education  
Michael Sansing, Education\*\*  
Margaret A. Schaefer, Education\*\*  
Mona B. M. Schroeder, Education  
Kristin J. Schumacher, Education  
John W. Simmons, Jr., Education  
Leroy D. Smith, Education  
Cynthia J. Sperra, Education\*\*  
Penelope S. Steadman, Education\*\*  
Tommie J. Tennison, Education\*  
Michael R. Theis, Education\*\*  
Joan H. Tieman, Education\*  
Jane E. Tuxhorn, Education

Martha D. Van Vactor, Education\*\*  
Trudie M. Walker, Education\*\*  
June V. Waltman, Education\*  
Patricia J. Withee, Education  
Mary L. Wright, Education  
Lois M. Zook, Education

Susan E. Becker, Psychology  
Melinda M. Braun, Psychology  
Anne M. Brown, History\*  
Cynthia Y. A. Chien, Sociology  
Jamie L. Childress, Psychology  
Gay N. Francis, Sociology\*  
Kathleen A. Hake, Psychology  
Shauna L. Heroux, Psychology  
Steven O. Kidd, Psychology\*  
Leslie A. Kingman, Psychology\*  
Sandra K. Kobzina, Sociology  
Samantha A. Meigs, History  
Wendy J. Minnigerode, Sociology  
Carmen L. Quenzer, Psychology  
Kimberly Sather, Psychology\*  
Anthony R. Tanner, Sociology  
Marie E. Taras, Psychology\*\*  
Mitchell N. Veeder, Psychology  
Mark Winslett, Psychology\*

## GRADUATE SCHOOL

Hunter R. Rawlings, Dean; Joan Fairchild, Resident Dean

### THE DEGREE MASTER OF ARTS



THE DEGREE MASTER OF BASIC SCIENCE

Warren G. Barta  
Ray H. Bernhardt  
Brad L. Johnson\*  
James L. Kretzschmar  
Garry R. Nielsen\*

David M. Rodvold\*\*  
Larry R. Scheinpflug  
Groff M. Schroeder  
Kristin M. Skoog

THE DEGREE MASTER OF SCIENCE

Cody A. Benkelman, Electrical Engineering\*\*  
William Beteille, Computer Science  
Terrance Brown, Computer Science  
Paul E. Bussey, Electrical Engineering\*\*  
Terry L. Cherne, Electrical Engineering  
Ronald W. Gallegos, Electrical Engineering  
Davia W. Gardner, Electrical Engineering\*\*  
Sudarshan N. Iyengar, Electrical Engineering\*\*  
Martin T. Kallighan, Electrical Engineering\*\*

Peter P. Kolodziejczyk, Electrical Engineering\*\*  
Alexis C. Krikos, Electrical Engineering  
Donald W. Metzger, Electrical Engineering  
Cary Millsap, Computer Science\*\*  
Brian K. Mueller, Electrical Engineering  
Hamid Noorian, Electrical Engineering  
Enrique F. Ortega, Electrical Engineering\*\*  
Michael C. Schrick, Electrical Engineering  
Mark B. Stephens, Electrical Engineering\*\*

THE DEGREE DOCTOR OF PHILOSOPHY IN ELECTRICAL ENGINEERING

Salvatore Alfano  
"Hypervelocity Orbital Intercept Guidance"

David E. Reed  
"The Performance of Rate-Line Generation  
Circuits for Determining the Symbol Rate of  
Weak and Bandlimited Digitally Modulated  
Signals"

CANDIDATES FOR COMMISSION

Second Lieutenant, United States Army

David B. Askew  
John P. Blay  
Pamela J. Cooper  
Ronald W. Dement  
Susie J. Henry

Sean M. O'Brien  
Timothy W. Quillin  
Blake G. Schwank  
Steven R. Weik

\*Graduated August 1987    \*\*Graduated December 1987

The preceding lists of candidates for degrees and honors are not an official record that such candidates have been awarded such degrees or honors.

HONORARY DEGREE

JAMES M. BEGGS

James M. Beggs is chairman of the board of Spacehab Inc., a privately funded commercial operation which is designing a manned laboratory to fit inside space shuttles, providing the capability of conducting in-space experiments.

As the former administrator of the National Aeronautics and Space Administration, Mr. Beggs continues to use his extensive knowledge of space science to further enhance the future of space exploration in this country — a mission he has pursued vigorously for much of his professional career.

Under his leadership from July 1981 through December 1985, NASA conducted a dynamic program of space exploration. Through the successful flights of Voyager II and the infrared astronomy satellite's discovery of new stars, astounding new information was obtained about our universe. In addition, the initial successful flights of the space shuttles Columbia and Challenger were accomplished, and

the European Space Agencies' Spacelab was launched. He remains today one of the free world's leading advocates and spokesmen for a permanent manned presence in space.

Mr. Beggs' achievements with NASA, however, constitute only a small part of his list of accomplishments. As Under Secretary of Transportation, he rescued NASA's Electronics Research Center and turned it into the Transportation Systems Center. Later, as head of aerospace operations for General Dynamics Corp., he had much to do with the successful completion of the project to build the F-16 aircraft.

Therefore, in recognition of his dedication, commitment and untiring efforts to support this nation's space program and the advancement of space science, the Board of Regents is pleased to present James M. Beggs with the degree of Doctor of Science, *honoris causa*.

UNIVERSITY OF COLORADO MEDAL

DAVID W. ENOCH

David W. Enoch has had a long and honorable career as one of Colorado's most distinguished jurists. He was one of the original members of the Colorado Court of Appeals, beginning his service in January 1970 on appointment by Governor John Love. He later served as chief judge from July 1979 until his retirement this past March.

In 1952, one year after earning his J.D. degree from the University of Colorado School of Law, Judge Enoch was admitted to practice in the Colorado courts. He practiced law in Colorado Springs for 10 years before being elected to the district court bench in the Fourth Judicial District, where he was a presiding judge until 1966. He joined the Court of Appeals following four more years in private practice.

During his years as an attorney and jurist, Judge Enoch has received numerous honors including admission to

practice in the United States Supreme Court, and election as president of the El Paso County Bar Association. In addition to his accomplishments as a jurist, his dedication to civic activities has become legend. Over the past two decades a number of organizations have benefited greatly from his sense of civic responsibility, including the YMCA, Colorado Springs Symphony, Community Chest, Family Service Agency, El Paso County Society for Crippled Children and Adults, Cheyenne Mountain School Board, Kiwanis Club, and churches in both Colorado Springs and Denver.

In recognition of his outstanding achievements in public service and his dedication to his community, the Board of Regents is pleased to present the University of Colorado Medal to Judge David W. Enoch.

## DISTINGUISHED SERVICE AWARD

KEITH L. GROVE

Keith Larue Grove is a highly respected and accomplished technical and fine arts photographer who, throughout his life and career, has dedicated himself to his country and America's youth.

As a photographer, he is the author of *Keith Grove — I*, a collection of black and white photographs, and has contributed photographs for numerous articles in a number of biological research journals. His most recent accomplishment came last summer when he led one of the largest photo projects ever undertaken by the U.S. Forest Service, producing 11,000 slides in a four-month period, covering nearly one-million acres of the Uinta National Forest in Utah.

In addition, he has judged more than 100 photography contests and given numerous one-person photography shows. A member of the Boy Scouts of America for 47 years, he was the photographer for the World Scout Jamboree in Calgary in 1983, and the 75th Anniversary Jamboree in 1985.

He won his first photo contest in 1942 at the age of 12, printing his prize-winning photo with an enlarger he made out of a coffee can fitted to the back of a Kodak bellows-style folding camera. He was encouraged and taught by his uncle, a member of the Pikes Peak Photo Club, and later began his career doing title-boards and special effects for the Alexander Film Company in Colorado Springs.

Mr. Grove also dedicated 27 years of his life to the U.S. Air Force, winning a number of decorations including the Bronze Star, the Presidential Unit Citation with two Oak Leaf Clusters, and the Viet Nam Service Medal with three Bronze Stars.

In recognition of his outstanding achievements as a photographer and his service to his country and the State of Colorado, the Board of Regents is pleased to present the University of Colorado Distinguished Service Award to Keith L. Grove.

## MICHAEL C. BIRD

1988 LEGISLATIVE AWARD

State Senator Mike Bird is currently serving his first term in the Colorado State Senate following four years in the Colorado House of Representatives. During his tenure as a state representative and senator from El Paso County, Mike Bird has worked vigorously on behalf of higher education and the University of Colorado at Colorado Springs.

He is a member of the Joint Budget Committee and is vice chairman of the Appropriations Committee. From 1984 to 1987, he served on the Finance and Health, Environment, Welfare and Institutions committees and was a legislative member of the Board of Directors for the Colorado Housing Finance Authority.

Of particular significance to the University of Colorado has been his role as a negotiator and arbitrator when critical

issues in the Senate have surfaced. His personal and professional talents and skills in analyzing issues and bringing them to closure are among the attributes that he has brought to Colorado government.

UCCS has benefited from Senator Bird's commitment to sound and equitable decision making, clarity in direction, and his ability to set forth alternatives on behalf of his constituents and all the citizens of Colorado.

It is appropriate, therefore, that Senator Michael C. Bird be the recipient of the University of Colorado at Colorado Springs Legislative Recognition Award for 1988.

## THE PRESIDENTIAL CHAIN OF OFFICE

The Presidential Chain of Office was created in 1980 by Mary Sartor, M.F.A., University of Colorado, Boulder, for the inauguration of President Arnold R. Weber. The Chain was a gift to the University by Mr. and Mrs. David G. Hawthorn, Class of '24.

Colorado gold and silver are used throughout the chain to symbolize the importance of those minerals to the history of the State. The gem stones chosen also consist entirely of minerals from Colorado.

Three pendants are suspended on the chain. The back pendant is the Seal of the State of Colorado surrounded by a golden ribbon representing the golden Circle of Knowledge. The top pendant in the front, the Seal of the University of Colorado surmounted by an arch set with diamond and topaz, signifies the necessary link between the search for knowledge and its practical application to the world outside the University. The Seal is supported at the bottom by the laurel wreaths found in the Seal, emblematic of honor and success.

The bottom pendant is centered with a golden topaz indicating man's quest for knowledge. The surrounding ring is paved with fragmented cubes and diamonds which suggest fragments of knowledge with brilliant breakthroughs of understanding.

The chain surrounding these pendants symbolizes the endless but ever-changing cycle of human knowledge.

## THE NORLIN CHARGE TO GRADUATES

*(From the baccalaureate address by President George Norlin, of the University of Colorado, June 1935.)*

"You are now certified to the world at large as alumni of the University. She is your kindly mother and you her cherished sons and daughters.

"This exercise denotes, not your severance from her, but your union with her. Commencement does not mean, as many wrongly think, the breaking of ties and the beginning of a life apart. Rather it marks your initiation in the fullest sense into fellowship of the University, as bearers of her torch, as centers of her influence, as promoters of her spirit.

"The University is not the campus, not the buildings on the campus, nor the faculties, not the students of any one time—not one of these or all of them. The University consists of all who come into and go forth from her

## THE UNIVERSITY SEAL

The University of Colorado has used three different seals in its lifetime.

The present seal, adopted in 1908, depicts a classical Greek male figure seated against a pillar and holding a scroll. A burning torch framed in laurel is placed beside him. The Greek inscription means "Let your light shine."

According to Denver designer Henry Read, the classical design was used because Greek civilization "stands as the criterion of culture." The laurel symbolizes honor or success, the youth of the figure suggests the "morning of life," and the scroll represents written language.

From 1893 to 1908, a seal was used which copies Wyon's medallion, "Science Trims the Lamp of Life." The classical figure of a kneeling Greek woman was flanked by mariposa lilies, which President Baker described as "a true Colorado flower."

Before 1893, a seal was used which essentially copies the Colorado state seal. It was never adopted by the Regents.

The official seal of the University of Colorado is used only by the Regents in transmitting official business.

halls, who are touched by her influence and who carry on her spirit. Wherever you go, the University goes with you. Wherever you are at work there is the University at work.

"What the University purposes to be, what it must always strive to be, is represented on its seal, which is stamped on your diplomas—a lamp in the hands of youth. If its light shine not in you and from you, how great is the darkness! But if it shine in you, today and in the thousands before you, who can measure its power?

"With hope and faith, I welcome you into the fellowship. I bid you farewell only in the sense that I pray you may fare well. You go forth, but not from us. We remain, but not severed from you. God go with you and be with you and us."

## ACADEMIC DRESS

The tradition of the academic costume apparently began during the twelfth or thirteenth century in the early European universities. Since the clergy composed the majority of the educated class, academic dress is an adaptation of the cope or mantle which was usually of silk or wool, and worn by church dignitaries in religious processions.

Through the years, great diversity in color and in style of cap, gown and hood developed. In 1896, the colleges and universities in the United States adopted a uniform code governing academic dress. Today, the black gown, hood, and mortar board worn by the graduates in most institutions follow this code.

While it is not apparent to the casual observer, the gowns worn by the recipients of the various degrees vary somewhat in design. The sleeves of the gown worn by the baccalaureate candidate are long and pointed, while the sleeves of the gown worn by the master's degree recipient are square at one end with a slit at the elbow. The doctor's gown has flowing sleeves with three bars of velvet, and a facing of velvet down the front of the gown.

Those who receive a master's or a doctor's degree from the University of Colorado wear hoods lined with the school colors, silver and gold. The hood worn by the doctor's candidate differs in design from that of the master's as it has side panels and is slightly longer. The velvet border of the hood indicated the degree and usually follows the same code as the color of the tassels.

The oxford cap, usually referred to as a mortar board, is black and has a long tassel which is fastened by a button on the top. Candidates for the baccalaureate degree wear the tassel pendant over the right front of the cap before the degree is conferred, then it is worn on the left side.

## ACKNOWLEDGEMENT

Music for the commencement ceremony is provided by the Colorado Springs Concert Band.

Please, no smoking