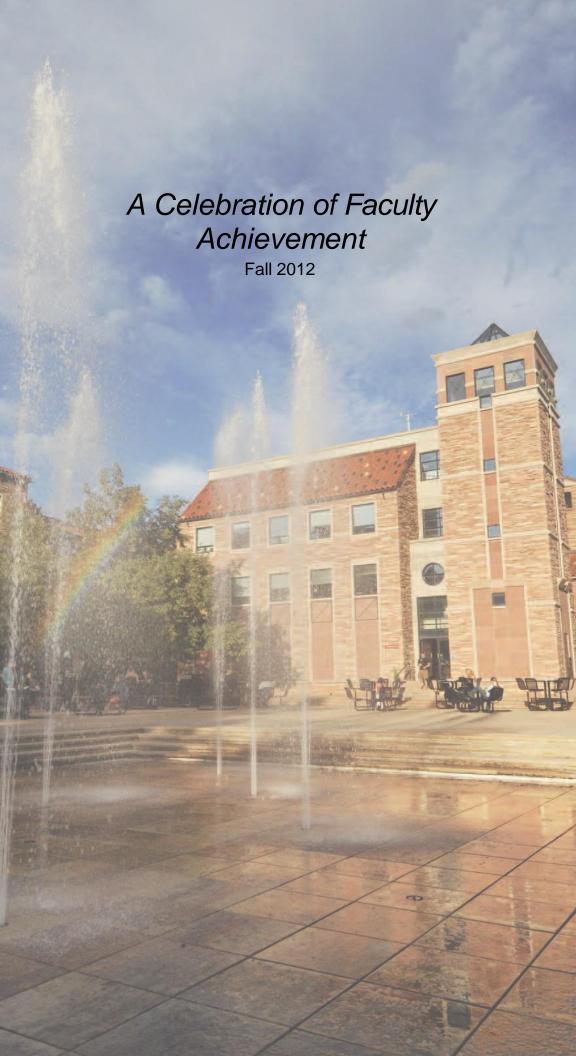
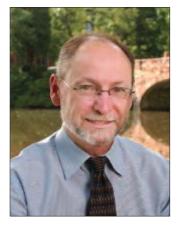


A Celebration of Faculty Achievement Fall 2012









The true greatness of a university can be measured not by the beauty of its campus, the breadth of the programs it offers, or the success of its athletic teams, important as all these are. Above all else, the greatness of a university rests squarely on the talents and accomplishments of its faculty. At the University of Colorado Boulder, we are blessed with faculty members who engage in ground- breaking research, scholarship, and creative work:

who bring the fruits of their inquiries into the classroom to provide our students with an education of the highest quality; and who contribute in numerous other

ways to shape the character and future not only of the state and region but, indeed, of the world. It is not much of an overstatement to say that the university *is* its faculty.

Every year the accomplishments of our faculty grow in number and significance, a fact reflected in the numerous awards and other recognitions our faculty receive. Some are recognized by their campus colleagues for their distinguished contributions in teaching, research, or service. Others have received national and international recognition, including some of the most prestigious awards scholars can receive.

National and International CU

- Faculty Recognition4 Nobel laureates
- 4 National Medal of Science winners
- 7 MacArthur fellows
- 17 members of the National Academy of Engineering
- 23 members of the American Academy of Arts and Sciences
- 25 members of the

To list all the accolades earned by our faculty would require a substantial volume. This publication can present only a representative sampling. Highlighted on these pages are those faculty members who have earned tenure or promotion to the rank of professor. Other faculty members profiled in these pages have received fellowships or academic prizes, have been designated as CU-Boulder Distinguished Faculty, or have become members of prestigious academic societies. These faculty members, together with the many distinguished faculty members not included here, contribute to realizing the university's vision of excellence in teaching, learning, discovery, and creativity—all in the service of a brighter future for Colorado and the world.

Russell Moore

Provost and Executive Vice Chancellor for Academic Affairs

Mars

Faculty Tenure and Promotion

Tenure Recipients

(Effective 2012)

Waleed Abdalati, Geography

Andreas Becker, Physics

Michelle Ellsworth, Theatre and Dance

János Engländer, Mathematics Jennifer

Fitzgerald, Political Science Miranda

Fleischer, Law

Matthew Gerber, History

John Gunther, Music

Chris Heathwood, Philosophy

 ${\bf Markas\, Henry,} The atre\, and\, Dance$

Cheryl Higashida, English

Su-ion Ih, Mathematics

Hun Shik Kim, Journalism and Mass Communication

Ben Kirshner, Education

Steve Lamos, English Anne

Lester, History

Heather Lewandowski, Physics Manuel

Lladser, Applied Mathematics Holley

Long, Library Administration Barbara

Losoff, Library Administration Stefanie

Mollborn, Sociology Bhuvana

Narasimhan, Linguistics

Diana Nemergut, Environmental Studies

Leysia Palen, Computer Science

Amy Palmer, Chemistry and Biochemistry

Carter Pann, Music

Liang Peng, Business

Hillary Potter, Sociology

Richard Regueiro, Civil, Environmental, and Architectural Engineering

John Slater, Spanish and Portuguese

Kevin Stenson, Physics

Alexis Templeton, Geological Sciences

Nathaniel Thiem, Mathematics

Michael Thornton, Music

David Webb, Education

J. Mathias Weber, Chemistry and Biochemistry

Promotions to Full Professor

(Effective 2012)

Waleed Abdalati, Geography

Philip Armitage, Astrophysical and Planetary Sciences

David Bearce, Political Science

Angela Bielefeldt, Civil, Environmental, and Architectural Engineering

David Brown, Political Science

Margaret Campbell, Business

Jeffrey DeShell, English Noah

Finkelstein, Physics Victor

Fleischer, Law

Jason Glenn, Astrophysical and Planetary Sciences

Nan Goodman, English

Tiffany Ito, Psychology and Neuroscience

Bjorn Jorgensen, Business

Mark Leiderman, Germanic and Slavic Languages and Literatures

Kurt Maute, Aerospace Engineering Sciences

Charles Musgrave, Chemical and Biological Engineering

Scott Peppet, Law

Markus Pflaum, Mathematics

Guillermo Solano-Flores, Education

Jeffrey Thayer, Aerospace Engineering Sciences

Pei-San Tsai, Integrative Physiology

Keith Waters, Music

CU-Boulder Distinguished Professors

The University of Colorado awards the title of Distinguished Professor to recognize the outstanding contributions of faculty members to their academic disciplines. Faculty members who are designated as Distinguished Professor are leaders in their respective fields as demonstrated by national or international recognition and/or significant public service achievements.

Active Distinguished Professors

Kristi S. Anseth, Chemical and Biological Engineering

Frank S. Barnes, Electrical, Computer, and Energy Engineering

Marvin Caruthers, Chemistry and Biochemistry

Thomas R. Cech, Chemistry and Biochemistry

Andrzej Ehrenfeucht, Computer Science

Margaret A. Eisenhart, Education

Carl Lineberger, Chemistry and Biochemistry; JILA

Steven Maier, Psychology and Neuroscience

James R. Markusen, Economics

Allan McMurray, Music

JaneMenken, Sociology; Institute of Behavioral Science

Margaret Murnane, Physics; JILA

Norman Pace, Molecular, Cellular, and Developmental Biology

Zoya Popovic, Electrical, Computer, and Energy Engineering

Lorrie Shepard, Education

Margaret Tolbert, Chemistry and Biochemistry; Cooperative Institute for Research in Environmental Sciences

Linda R. Watkins, Psychology and Neuroscience

Carl E. Wieman, Physics; JILA

Charles F. Wilkinson, Law

Retired Distinguished Professors

Roger G. Barry, Geography; Cooperative Institute for Research in Environmental Sciences

Delbert S. Elliott, Sociology; Institute of Behavioral Science

Barbara Engel, History Stephen

Fischer-Galati, History FredW.

Glover, Business

Richard Jessor, Psychology and Neuroscience; Institute of Behavioral Science

Robert L. Linn, Education

Richard McCray, Astrophysical and Planetary Sciences

J. Richard McIntosh, Molecular, Cellular, and Developmental Biology

Marjorie K. McIntosh, History Wolfgang

Schmidt, Mathematics William B. Wood,

Molecular, Cellular, and Developmental Biology

Deceased Distinguished Professors

Hazel E. Barnes, Philosophy

Kenneth Boulding, Economics

James S. (Stan) Brakhage, Film Studies

Stuart Cook, Psychology and Neuroscience; Institute of Behavioral Science

Stanley Cristol, Chemistry and Biochemistry

David Hawkins, Philosophy

Keith R. Porter, Molecular, Cellular, and Developmental Biology

DavidM. Prescott, Molecular, Cellular, and Developmental Biology

Gilbert White, Geography

President's Teaching Scholars at CU-Boulder

This program, established in 1989 as a University of Colorado presidential initiative, honors faculty members who have excelled in teaching and scholarship, creative work, or research, and who promote teaching excellence throughout the university. President's Teaching Scholars are chosen from CU's four campuses not only for skill in their own classroom but also for their promise of improving education and enlarging its possibilities across the university. They serve as ambassadors for teaching and for research focused on improving teaching and learning.

Noah Finkelstein

Professor, Physics

Professor Finkelstein is well known in the CU-Boulder community as a physics education researcher who studies the conditions that stimulate students' interest in physics and support (or inhibit) their understanding of this challenging subject. One of the principal investigators and directors of the Physics Education Research Group, Professor Finkelstein has published more than 75 peer-reviewed articles since coming to CU-Boulder in 2003. He serves on four national boards in physics education, including the Physics Education Research Leadership Organizing Council and the Executive Board of the American Physical Society's Forum on Education.



His previous honors include the Outstanding Graduate Faculty Advising Award (2010), the Boulder Faculty Assembly Excellence in Teaching Award (2007), first place in the National Science Foundation (NSF)/Science Magazine's International Science and Engineering Visualization Challenge (2007), an NSF CAREER Award (2005), and a current NSF award to build a Center for STEM (Science, Technology, Engineering, Mathematics) Learning at CU. A winner of CU's Diversity and Excellence Award, Professor Finkelstein annually leads a delegation of students to the National Association of Black and Hispanic Physicists conference.

Harihar Rajaram

Professor, Civil, Environmental, and Architectural Engineering

In a letter supporting Professor Rajaram's nomination to be designated a Presidential Teaching Scholar, a colleague wrote, "He is simply our best teacher, and his model of excellence has inspired faculty throughout the department." Professor Rajaram has skillfully integrated teaching and research at a high level throughout his career at CU-Boulder. He is praised by his colleagues not only for his classroom teaching in hydrology but also for redesigning courses to enhance their intellectual challenge. His dedication to students spans freshmen to advanced graduate students, both in and outside of the classroom.



Professor Rajaram's previous awards include a 1998 National Science Foundation Career Award for integrating research and education, the Charles Hutchinson Memorial College of Engineering Teaching Award in 1999, and a 2012 Boulder Faculty Assembly Excellence in Teaching award (*see related story on page 17*). Dedicating this honor to his parents, both educators, Professor Rajaram says, "I hope to help mentor younger faculty members in the early stages of their careers to help them discover their teaching personas and develop effective and efficient approaches to [their teaching]."

President's Teaching Scholars at CU-Boulder

Active Scholars

Brian Argrow, Aerospace Engineering Sciences

Daniel Barth, Psychology and Neuroscience

Martin Bickman, English

Lee V. Chambers, History

Diane Conlin, Art and Art History; Classics

Anne Costain, Political Science

Alexander Cruz, Ecology and Evolutionary Biology

James H. Curry, Applied Mathematics

Stanley A. Deetz, Communication Michael

Eisenberg, Computer Science John L.

Falconer, Chemical and Biological Engineering

Michael Grant, Ecology and Evolutionary
Riology

David Klaus, Aerospace Engineering Sciences

Clayton Lewis, Computer Science

Ronald Melicher, Business Wesley

Morriston, Philosophy James

Palmer, Film Studies Steven J.

Pollock, Physics

Ed Rivers, English

Harvey Segur, Applied Mathematics

J. Michael Shull, Astrophysical and Planetary Sciences

Diane Sieber, Herbst Humanities

Eric Stade, Mathematics

Dennis Van Gerven, Anthropology

Linda R. Watkins, Psychology and Neuroscience

Marianne Wesson, Law

Carl Wieman, Physics

Shelby Wolf, Education

Retired Scholars

Douglas Burger, English
Jack Kelso, Anthropology
William Krantz, Chemical Engineering

Dale Meyer, Business

Norton Steuben, Law

James Symons, Theatre and Dance

John R. Taylor, Physics

Deceased Scholars

Nancy K. Hill, Humanities

Robert Pois, History

David M. Prescott, Molecular, Cellular, and Developmental Biology

Klaus Timmerhaus, Chemical Engineerin



CU System Faculty Award

Elizabeth Gee Award

This award honors an outstanding faculty member for efforts to advance women in academia, interdisciplinary scholarly contributions, and distinguished teaching. Instituted in 1992, the award is named for Elizabeth Gee, a faculty member in the Health Sciences Center School of Nursing and the late wife of former CU President Gordon Gee. The Gee Award is the only award in the CU system that specifically recognizes outstanding work on women's issues and efforts to advance women in the academy.

Alison Jaggar

Professor, Philosophy and Women and Gender Studies

A pioneer in introducing feminist concerns into philosophy and in establishing the discipline of women's (now gender) studies, Professor Jaggar works in the areas of contemporary social, moral, and political philosophy, often from a feminist perspective. The author of many books and articles, Jaggar introduced gender as a category of analysis into the philo- sophical debate on global justice. In addition, she is exploring the potential of a naturalized approach to moral epistemology for addressing moral disputes in the context of inequality and cultural difference.



As a member of the American Philosophical Association, Professor Jaggar has taken a leadership role in working to improve the status of women. At CU, she has supported junior women faculty and mentored many women graduate students who are now established in tenured or tenure-track positions. Among her numerous honors and awards are selection as Professor of Distinction and designation as a Society for Women in Philosophy Distinguished Woman Philosopher. Professor Jaggar is a member of "Fempov," a multi-disciplinary and international research team whose aim is to produce a new poverty standard capable of revealing the gendered dimensions of global poverty.

Hazel Barnes Prize

The \$20,000 Hazel Barnes Prize is the most prestigious honor accorded to a faculty member by the university and recognizes the enriching relationship between teaching and research. It was established in 1991 by former Chancellor James Corbridge in honor of CU-Boulder Philosophy Professor Emerita Hazel Barnes, who taught at CU-Boulder from 1943 to 1986 and was noted for her interpretations of the works of French philosopher Jean-Paul Sartre. Nominees are tenured faculty members who are not only outstanding teachers but also have distinguished records in research and scholarship.

Patrick Mason

Professor, Music

The distinguished American baritone Patrick Mason is recognized for the astonishing breadth and exceptional quality of his musical performance work, for his success in the recording studio, and for his outstanding research and teaching record as a faculty member since 1993. Professor Mason's expertise spans the entire range of notated Western music from the medieval era to the present and from opera to popular songs. He has appeared on stages across the



nation and in Tokyo, Rome, Bonn, Paris, Luxembourg, Amsterdam, and Cairo. He has also collaborated with some of America's most eminent composers, including Leonard Bernstein, Stephen Sondheim, and George Crumb. For more than two decades, Professor Mason has performed with the New York Festival of Song.

Professor Mason was a 2006 Grammy Award finalist in the category of Solo Vocal Performance for his Bridge Records recording of *Songs of Amy Beach*. A Berton Coffin Faculty Fellow at CU-Boulder, Professor Mason serves as the vocal coordinator of the John Duffy Composer's Institute, an annual two-week event in Norfolk, Virginia, where young singers and composers work to create new pieces for the musical stage. Chancellor Philip P. DiStefano wrote, "Professor Mason's vast musical knowledge and experience have been highly influential for his students, many of whom have gone on to be successful in the fiercely competitive world of voice and opera."



Robert Stearns Award

The Stearns Award was initiated in 1953, the year of the resignation of Robert L. Stearns (A&S '14) as the sixth president of the university. He had presided over CU since 1939. Given by the CU-Boulder Alumni Association, the award recognizes members of the faculty and staff for extraordinary achievement or service in any one or combination of the following areas: teaching, service to the university, work with students, research, or off-campus service.

Lorrie Shepard

Distinguished Professor, Dean, Education

Dean Shepard is a professor of statistics, research methods, and testing and assessment policy. She also chairs the Research and Evaluation Methodology program. Her research focuses on psychometrics and the use and misuse of tests in educational settings. Her research in applied measurement has addressed issues of standard-setting and test bias while her work in educational policy research has focused on the uses of tests for special school placements. Dean Shepard has conducted extensive, large-scale studies on the identification of learning disabilities, grade retention, and kindergarten screening.



Dean Shepard has previously served as president of the National Academy of Education, the American Educational Research Association, and the National Council on Measurement in Education. She is the only person to have served as president of all three associations. She has received numerous awards, including the Distinguished Career Award from the National Council on Measurement in Education and the award for Distinguished Contributions to Research in Education from the American Educational Research Association. Dean Shepard is lauded for her distinguished 36-year research career (reflected in the 3,000 citations of her scholarly work by other researchers) and for her exceptional commitment to service to the Boulder campus in a wide variety of roles

Distinguished Research Lectureship

The Distinguished Research Lectureship is among the highest honors bestowed by the faculty upon a faculty member at CU-Boulder. It honors a tenured faculty member widely recognized for a distinguished body of academic or creative achievement as well as contributions to the educational and service missions of CU-Boulder. Each awardee receives an honorarium and presents a lecture on his or her research to the wider university community. More than 100 CU-Boulder faculty members have been selected for this honor over the years.

Veronica Bierbaum

Professor, Chemistry and Biochemistry; JILA

Professor Bierbaum's research focuses on the development of new techniques in physical and organic chemistry and their application to studies of gas phase ion chemistry. Her studies probe the kinetics, dynamics, and energies of reactions fundamental to physical, organic, atmospheric, and interstellar chemistry. Among her many recognitions are as an investigator for the National Science Foundation's Partners in Science Education grant, president of the



American Society for Mass Spectrometry, and a fellow of the American Association for the Advancement of Science, Council of Scientific Society Presidents, and the American Chemical Society. She is also a member of the Boulder Valley School District Scientific Review Committee and the CU Wizards Program.

Professor Bierbaum's lecture held in August, "Astrochemistry: From the Laboratory to the Stars," discussed how spectroscopy and kinetics, two fundamental branches of chemistry, allow scientists to probe the identities of molecules throughout space and understand their mechanisms of formation and destruction.

Provost's Faculty Achievement Awards

These annual awards are presented to selected faculty members who have offered recent significant publications or creative contributions in their academic fields. Awardees receive a research grant and a plaque recognizing their achievement.

Pre-Tenure Recipients

David Ciarlo, History

Katherine Gunny, Business

Se-Hee Lee, Mechanical Engineering

Leysia Palen, Computer Science

Gia Voeltz, Molecular, Cellular, and Developmental Biology

Tenured Recipients

Thomas Andrews, History

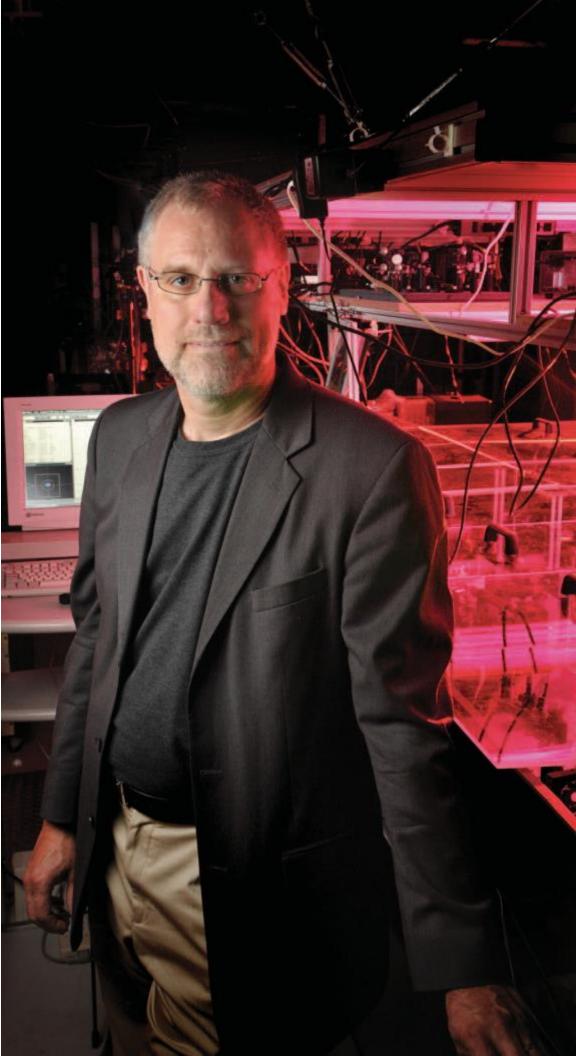
Jason Boardman, Sociology

Derek Briggs, Education

Daniel Kellogg, *Music* Helen Norton, *Law*

Wounjhang Park, Electrical, Computer, and Energy Engineering

Ronggui Yang, Mechanical Engineering



College of Arts and Sciences Professor of Distinction

The honorary title Professor of Distinction is reserved for scholars and artists of national and international distinction who are recognized by their peers as teachers and colleagues of exceptional talent. Appointments to this title are made from those holding the rank of professor in the College of Arts and Sciences.

Natalie Ahn

Professor, Chemistry and Biochemistry

Since joining the CU-Boulder faculty in 1992, Professor Ahn has worked to deepen our understanding of the complex workings of the human cell. Her research focuses on the chemical signaling mechanisms that cause changes in cells in our bodies, including changes that result in cancer. Understanding these mechanisms could accelerate the development of targeted—even individualized—therapies for cancer, heart disease, and other illnesses. Because proteins are the key to understanding cell dynamics, Professor Ahn is devising new



techniques to study proteins at the molecular level, including mass spectrometry. Her pioneering work places her in the forefront of proteomics, the effort to define the complete composition of cells.

Professor Ahn is a Howard Hughes Medical Institute investigator and an adjunct professor in the Department of Biochemistry at the University of Colorado Anschutz Medical Campus, where she also is a member of the Cancer Center. She is president of the U.S. Human Proteome Organization and serves on the editorial boards of the *Journal of Molecular Biology, Cancer Research*, and *Molecular and Cellular Proteomics* as well as the editorial advisory board of *Biochemistry*.

Keith Maskus

Professor, Economics; Associate Dean, Social Sciences

Professor Maskus has written extensively on various aspects of international trade. His current research focuses on the international economic aspects of protecting intellectual property rights. He is the author of *Intellectual Property Rights in the Global Economy*, published by the Institute for International Public Goods, and *Transfer of Technology under a Globalized Intellectual Property Regime*, published by Cambridge University Press. He recently wrote a piece calling for fundamental reform in LLS, patent policy, published by the



for fundamental reform in U.S. patent policy, published by the Council on Foreign Relations.

Professor Maskus has been a lead economist in the Development Research Group at the World Bank and is a research fellow at the Peterson Institute for International Economics, a fellow at the Kiel Institute for World Economics, and an adjunct professor at the University of Adelaide. Previously, he was a visiting professor at the University of Bocconi and a visiting scholar at the University of Munich and Peking University. Drawing upon the depth and breadth of his expertise, Dean Maskus serves as a consultant for the World Bank, the World Health Organization, and the World Intellectual Property Organization.

Kayden Book Award

Named for Eugene M. Kayden, a 1912 CU-Boulder alumnus who went on to a distinguished career as a scholar and teacher of economics, the Kayden Book Award is open to faculty in the humanities. Awardees receive a research stipend, and their department receives a grant to organize a one-day authormeets-critics symposium on their award-winning book.

Thomas Andrews

Associate Professor, History

In *Killing for Coal*, Professor Andrews offers a bold and origi- nal perspective on the 1914 Ludlow Massacre in southern Colorado, the deadliest strike in American history. Striking members of the United Mine Workers of America fought with guards working for the Rockefeller family and a state militia beholden to Colorado's industrial barons. When the clash was over, 19 men, women, and children of the miners' families lay dead. The striking mine



workers had killed at least 30 men and destroyed six mines and two company towns. In an analysis of the incident that goes well beyond traditional labor history, Professor Andrews makes a powerful case for rethinking the relationships that unite and divide workers, consumers, capitalists, and the natural world in an economy dependent on fossil fuels. Taking the organic world as his starting point, Professor Andrews elucidates the causes and consequences of the violence that erupted in coal shipping strikes over the course of nearly half a century. *Killing for Coal* reveals a complex world shaped by forces of land, labor, industrialization, and workers' resistance. (*See related story on page* 29)

Kayden Book Award—Honorable Mention

David Ciarlo

Assistant Professor, History

Advertising Empire: Race and Visual Culture in Imperial Germany

Keith Waters

Professor, Music

The Studio Recordings of the Miles Davis Quintet, 1965-68

Boulder Faculty Assembly Excellence in Teaching

Oliver DeWolfe

Assistant Professor, Physics

When Professor DeWolfe joined the physics faculty in 2006, the department already had an outstanding national reputation for teaching excellence. He learned quickly from his award-winning colleagues and has achieved excellence in his own right. He teaches the full range of classes, from introductory physics for non-majors to graduate courses in general relativity. He is noted for the clarity of his explanations, the intensity of student engagement in his



classroom, and his willingness to help students outside the classroom. As indicated by standardized tests, Professor DeWolfe's students achieve a level of mastery that exceeds the national norm. Beyond this statistical measure, many students spoke of the difference his individual attention made to their understanding of physics.

The excellence of Professor DeWolfe's teaching benefits not only students in his classes but also the department as a whole. As part of a course transformation process, physics faculty routinely team-teach classes. As a result, his teaching has had an impact on how others in the department teach. Professor DeWolfe has become a valued member of the Physics Education Research Group and the Science Education Initiative program.

Myles Osborne

Assistant Professor, History

A member of the faculty since 2008, Professor Osborne is a gifted teacher, widely praised by his peers as a charismatic lecturer and skilled leader of seminars on sub-Saharan Africa. He is especially interested in the development of African ethnicities in the 19th and 20th centuries as well as how the history of the pre-colonial and colonial periods helps us understand the issues facing Africa today. Professor Osborne also studies British



imperialism in Africa, in particular the welfare and development policies instituted in British colonies after World War II.

Professor Osborne's lectures come to life through "brilliantly deployed vignettes or case studies" of the human experience, as when he invited his students to examine a South African passbook that black South Africans were required to carry with them during the years of apartheid. Professor Osborne's colleagues praise his approach to teaching and his engaging and effective teaching style. Said one colleague, "The fact that he has reached this point so early in his career is a matter of some amazement to me."

Harihar Rajaram

Professor, Civil, Environmental, and Architectural Engineering

Professor Rajaram is widely regarded by students and colleagues as an exceptional teacher who has a positive impact on his students and inspires a culture of teaching excellence in the department. Students often name Professor Rajaram as the best professor they've had at the university, and his lifetime course evaluations are the highest in the department. He is praised by his colleagues not only for his classroom teaching in hydrology but also for redesigning



courses to enhance their intellectual challenge. His dedication to students spans freshmen to advanced graduate students, both in and outside of the classroom. Students sense from day one that Professor Rajaram is offering them a "welcoming, curiosity-driven, yet challenging course."

Integrating teaching and research at a high level, Professor Rajaram was designated as a 2012 President's Teaching Scholar (*see related story on page 6*). He has published more than 50 peer-reviewed journal publications, and his research has been cited nearly 1,000 times. His previous awards include the NSF CAREER award in 1998 and the Charles Hutchinson Memorial College of Engineering Teaching Award from CU in 1999.

Hanspeter Schaub

Associate Professor, Aerospace Engineering Sciences

Since joining the faculty in 2007, Professor Schaub has established himself as a dedicated and innovative teacher as well as a leader in teaching highly technical matter, including aerospace dynamics, orbital dynamics, and formation flying. His energy and dedication to teaching are illustrated by his co- authored graduate-level textbook titled *Analytic Mechanics of Space Systems*. Professor Schaub's energy is also demonstrated by his extramural distance teaching through



the Center for Advanced Engineering and Technology Education, which reaches students all over the country from diverse backgrounds. According to a colleague, Professor Schaub has "invested more time and effort in developing effective teaching materials than anyone else Iknow."

Professor Schaub is associate chair of graduate studies for Aerospace Engineering Sciences. He has been recognized many times for his teaching and research, most recently receiving the Outstanding Faculty Advisor Award in 2011 from the College of Engineering and Applied Science, the Provost's Faculty Achievement Award in 2010, and the H. Joseph Smead Fellowship. He was selected as an associate fellow of the American Institute of Aeronautics and Astronautics in 2007.

Boulder Faculty Assembly Excellence in Service

Brian Argrow

Professor, Aerospace Engineering Sciences

Professor Argrow has established a significant and sustained record of service to the Department of Aerospace Engineering Sciences, the College of Engineering and Applied Science, and the University of Colorado. "Unselfish" is the word that best defines his service philosophy, which he describes as "built upon the understanding and acceptance that I can never fully repay those whose unselfish service has enabled my full access to



an adult life of freedom, with an education and a career of my choice, a career that enables unselfish service."

A respected educator and researcher, Professor Argrow has integrated a long list of service accomplishments as associate department chair, associate dean for education, former Alfred and Betty Look Professor of Engineering, and co-founder and director of the Research and Engineering Center for Unmanned Vehicles (RECUV). He is a member and chair of many national review boards and panels, including the NASA Advisory Council, the NOAA Advisory Committee, and the Air Force Scientific Advisory Board. In addition, he finds time to participate in outreach programs that benefit students, their parents, and high school teachers.

Angela Bielefeldt

Professor, Civil, Environmental, and Architectural Engineering

A passionate educator and researcher who has worked tirelessly to improve engineering education, Professor Bielefeldt weaves service into all aspects of her professional duties. As director of the Environmental Engineering Program, Professor Bielefeldt has been involved in every level of curriculum development, student recruitment, and advising. Under her stewardship, enrollment has more than tripled in the last five years. In addition, the undergraduate program was recently ranked 116



addition, the undergraduate program was recently ranked 11th by $U.S.\ News\ \&\ World\ Report.$

Professor Bielefeldt incorporates authentic community engagement projects into her classes. This innovation has had an impact on the hundreds of students who are now working professionals. In her contributions to the Engineering for Developing Communities Program, Professor Bielefeldt has worked to expand students' projects beyond the classroom and into developing communities. She also works to take engineering projects into the K–12 classrooms. Through her work with Engineering for Developing Communities and her service on several national engineering boards, Professor Bielefeldt strives to enhance engineering education and promote sustainable engineering. She has received national and college recognition for her efforts, including the Early Career Award from the American Society for Engineering Education.



Boulder Faculty Assembly Excellence in Research, Scholarly, and Creative Work

Susan Kent

Professor, Chair, History

Professor Kent specializes in modern British history, focusing on gender, culture, imperialism, and politics. Among her eight books in print are Sex and Suffrage in Britain, 1860–1914; Making Peace: The Reconstruction of Gender in Interwar Britain; Gender and Politics in Britain, 1640–1990; a coauthored book on The Women's War of 1929; and Aftershocks: The Politics of Trauma in Interwar Britain. Four other books are in press. A colleague described Professor Kent's



scholarship as being energetic and erudite, combining stylistic flair with a range of knowledge that encompasses a biography of Queen Victoria, gender and power in modern Britain, the global influenza pandemic of 1918–19, colonial Nigeria in African history, and ecological and environmental history.

A member of the faculty since 1993, Professor Kent has been honored nationally for her work, including a fellowship from the National Endowment for the Humanities in 1993–94. She was a visiting scholar at the School of Social Science at the Institute for Advanced Study at Princeton University that same year. In 2009, Professor Kent received honorable mention for the Kayden Book Award for *Aftershocks*.

Michael Radelet

Professor, Sociology

Professor Radelet is one of the leading death penalty scholars in the world today. He was one of the first in the modern era to report a now-familiar finding: the race of the victim in homicide cases, not the race of the defendant, has the strongest impact on death penalty decisions. In other studies, Professor Radelet has documented the conviction for homicide of hundreds of people later proven innocent. His research has had enormous impact, having been



introduced in appeals of hundreds of death row inmates and helping to convince Illinois governor George Ryan to commute 167 death sentences in 2003. Overall, his research has had remarkable influence on public policy and legal debates.

Professor Radelet has been chair of the sociology department and a visiting professor at the University of Westminster in London. One colleague commented that Professor Radelet's research "has been widely disseminated and put into the arena of public debate," thus highlighting a distinguished and integrated long-term achievement. Another wrote, "There is nobody working in the area of capital punishment, whether as attorney, policy advocate, or scholar, who is unaware of his contributions."

Matthew Sponheimer

Associate Professor, Anthropology

Professor Sponheimer's research focuses on the ecology of early human ancestors in Africa. He and his collaborators use isotope analysis of fossil remains to shed light on human evolution and on the ecology and diets of our ancestors. The results of this pioneering approach have appeared in prestigious journals, including *Nature*, *Science*, and the *Proceedings of the National Academy of Science*. Professor Sponheimer currently directs a multi-disciplinary



project investigating the community paleoecology of *Australopithecus africanus* at Makapansgat Limeworks, South Africa, and co-directs a research group examining the neoecology of large mammals in South Africa's Kruger National Park. He also co-directs two projects using heavy isotopes to study early hominin land use at Olduvai Gorge, Tanzania, and the Sterkfontein Valley, South Africa.

Professor Sponheimer's research has helped increase our understanding of what ancient hominins ate. And studying the ancient hominin diet, he has said, will help us understand "how we became us." One colleague remarked that Professor Sponheimer's research production is both "unparalleled" and "having an immediate . . . and positive impact on the field of paleoanthropology."



Each year, faculty members at CU-Boulder receive many honors and recogni- tions from beyond campus. They range from the local to the international and honor the work of faculty in teaching, research, and service. The following are of some of the most prestigious awards. They serve as a sample of the much larger list of recognitions garnered by our faculty.

Howard Hughes Medical Institute (HHMI)

The Howard Hughes Medical Institute (HHMI) is a nonprofit medical research organization that plays a prominent role in advancing biomedical research and science education in the United States. Widely known for their creativity and productivity, HHMI investigators are selected through rigorous national competitions. These scientists receive renewable, five-year appointments as employees of HHMI, while remaining at their original institutions. As a result, HHMI investigators have the freedom to explore and, if necessary, to change the direction of their research.

Howard Hughes Medical Institute Investigators

Natalie Ahn, Professor, Chemistry and Biochemistry

Kristi Anseth, Distinguished Professor, Chemical and Biological Engineering

Thomas Cech, Distinguished Professor, Chemistry and Biochemistry Min Han, Professor, Molecular, Cellular, and Developmental Biology

Roy Parker, Professor, Chemistry and Biochemistry

HHMI Early Career Scientists

Joaquín Espinosa, Associate Professor, Molecular, Cellular, and Developmental Biology **Rob Knight,** Associate Professor, Chemistry and Biochemistry

HHMI Alumni

Robert Boswell, Professor, Molecular, Cellular, and Developmental Biology; Vice Chancellor, Office of Diversity, Equity, and Community Engagement

Society of HHMI Professors

Leslie Leinwand, Professor, Molecular, Cellular, and Developmental Biology

JE HNUUCAR LAR VEL. OF INER

American Academy of Arts and Sciences

Founded in 1780, the American Academy of Arts and Sciences is an international learned society composed of the world's leading scientists, scholars, artists, business people, and public leaders.

Veronica Vaida

Professor, Chemistry and Biochemistry; Cooperative Institute for Research in Environmental Sciences

Professor Vaida's research lies at the interfaces of physical chemistry and atmospheric and environmental science. Drawing on fundamental techniques and concepts of physical chemistry, Professor Vaida uses spectroscopy to explore chemical reactions in the atmosphere, many of which have an impact on the environment. Her experimental program has included investigation of the



photochemical processes that created the Antarctic ozone hole. Professor Vaida has discovered previously unsuspected sources of hydroxyl radicals. She is currently studying light-initiated chemical reactions in the atmosphere of the Earth both today and before life emerged on the planet. A new direction of her research is the application of photochemistry to synthesize high-energy compounds from materials in the atmosphere.

As one measure of the significance of Professor Vaida's research, many of her articles have been heavily cited by other scientists. Her achievements in scientific research have previously earned her a prestigious Guggenheim Fellowship, election as a fellow of the American Physical Society and the American Association for the Advancement of Science, and a Boulder Faculty Assembly Award.

Other CU-Boulder Academy Members

Thomas Blumenthal, Molecular, Cellular, and Developmental Biology (2010)

Marvin Caruthers, Chemistry and Biochemistry (1994)

Thomas R. Cech, Chemistry and Biochemistry (1988)

 $\textbf{Linda Cordell,} \ Anthropology \ (2009)$

Eric Cornell, Physics; JILA (2005)

Charles DePuy, Chemistry and Biochemistry (2003)

Larry Gold, Molecular, Cellular, and Developmental Biology (1993)

Reid Hastie, Psychology and Neuroscience (2006)

James Hynes, Chemistry and Biochemistry (2009)

Deborah Jin, Physics; JILA; National Institute of Standards and Technology (2007)

Carl Lineberger, Chemistry and Biochemistry; JILA (1995) Jane Menken, Sociology; Institute of Behavioral Science (1990)

Josef Michl, Chemistry and Biochemistry (1999)

Margaret Murnane, Physics; JILA (2006)

Robert Nagel, Law (2003)

Norman Pace, Molecular, Cellular, and Developmental Biology (1991)

David M. Prescott, Molecular, Cellular, and Developmental Biology (1970)

Wolfgang Schmidt, Mathematics (1994)

Noboru Sueoka, *Molecular, Cellular, and Developmental Biology* (1969)

Carl Wieman, Physics; JILA (1998)

Gilbert White, Geography (1969) William

B. Wood, Molecular, Cellular, and Developmental Biology (1976)

National Academy of Education

The National Academy of Education advances the highest-quality education research and its use in policy formulation and practice. It consists of up to 150 U.S. members and 25 foreign associates who are elected on the basis of outstanding scholarship or other outstanding contributions to education. Since its establishment, the academy has sponsored a variety of commissions and study panels that have published influential proceedings and reports.

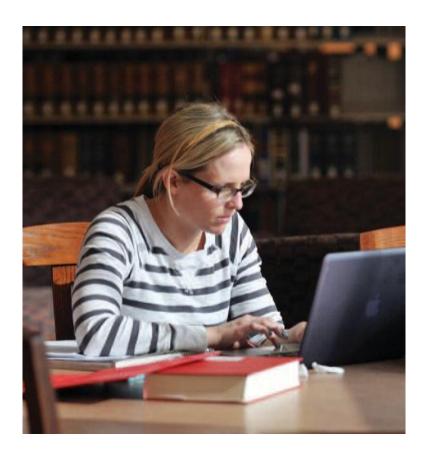
CU-Boulder Academy Members

Margaret Eisenhart, Education (2004)
Kris Gutierrez, Education (2010) Walter
Kintsch, Psychology; Institute of
Cognitive Science (1992)

Robert Linn, Education (1990)

Lorrie Shepard, Education (1992)

Carl Wieman, Physics; JILA (2009)



National Academy of Engineering

The National Academy of Engineering includes more than 2,000 peerelected senior professionals in business, academia, and government who are among the world's most accomplished engineers and who provide leadership and expertise for numerous projects focused on the relationships among engineering, technology, and the quality of life.

Diane McKnight

Professor, Civil, Environmental, and Architectural Engineering

Professor McKnight's research focuses on interactions between freshwater organisms, trace metals, and natural organic material in diverse freshwater environments, including lakes and streams in the Colorado Rocky Mountains and in the McMurdo Dry Valleys in Antarctica. In the Rocky Mountains, Professor McKnight has studied the impact of metal contamination in streams caused by acid drainage from mines as well as the influence of



climate change and nitrogen deposition on alpine lakes and wetlands. She is a leading investigator studying extreme life at the McMurdo Dry Valleys Long Term Ecological Research site. She is a fellow of the Institute of Artic and Alpine Research (INSTAAR), the American Geophysical Union, and the American Association for the Advancement of Science.

In addition to her many influential scientific publications, Professor McKnight has published a children's book, *The Lost Seal*, that tells the true story of a wayward seal discovered near the research camp in 1990 and its eventual rescue. She is a former member of the National Research Council's Water Science and Technology Board and its Polar Research Board, and she received a Meritorious Service Award from the U.S. Geological Survey.

CU-Boulder Academy Members

Bernard Amadei, Civil, Environmental, and Architectural Engineering (2008)

Kristi Anseth, Chemical and Biological Engineering (2009)

Dan Baker, Astrophysical and Planetary Sciences: Laboratory for Atmospheric and Space Physics (2010)

Frank Barnes, Electrical, Computer, and Energy Engineering (2001)

George Born, Aerospace Engineering Sciences (2004)

Steve Clifford, Cooperative Institute for Research in Environmental Sciences (1997)

Ross Corotis, Civil, Environmental, and Architectural Engineering (2002)

Fred Glover, Business (2002)

Don Hearth, Aerospace Engineering Sciences (1989)

Michael King, Laboratory for Atmospheric and Space Physics (2003)

Martin Mikulas, Aerospace Engineering Sciences (1999)

Jacques Pankove, Electrical and Computer Engineering (1986)

Max Peters, Chemical and Biological Engineering (1969)

Valerian Tatarskii, Cooperative Institute for Research in Environmental Sciences (1994)

Klaus Timmerhaus, Chemical and Biological Engineering (1975)

Kaspar William, Civil, Environmental, and Architectural Engineering (2004)

National Academy of Sciences

Founded in 1863 and considered one of the highest honors for an American scientist or engineer, the National Academy of Sciences is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare.

John Wahr

Professor, Physics; Cooperative Institute for Research in Environmental Sciences

Professor Wahr is an expert on theoretical geophysics and on the use of satellite measurements to understand better the planet and its atmosphere. In recent years, he has been using NASA's GRACE satellite system to measure the depletion of fresh water and ice stored in Earth's glaciers, ice caps, ice sheets, soils, and aquifers. Recently he co-led a high profile study using GRACE to measure mass loss in the earth's ice



formations during the past decade and the resulting contribution to sea level rise. He is a leading authority on the study of Earth's rotation, Earth and ocean tides, the dynamics of the Earth's rotation, the rebound of the Earth's crust after glacial melting, and crustal deformation.

A Professor of Distinction in the College or Arts and Sciences, Professor Wahr is also an elected fellow of the American Geophysical Union. He has published 170 peer-reviewed journal articles in his field. In recognition of his work, Professor Wahr has been awarded the Vening Meinesz Medal from the European Geosciences Union, the Charles A. Whitten Award, the Bowie Lectureship, and the James B. Macelwane Award from the American Geophysical Union.

Other CU-Boulder Academy Members

Marvin Caruthers, Chemistry and Biochemistry (1994)

Thomas R. Cech, Chemistry and Biochemistry (1987)

Noel Clark, Physics (2007)

Linda Cordell, Anthropology; University Museum (2005)

Eric Cornell, Physics; JILA (2000)

Stanley Cristol, Chemistry and Biochemistry (1972)

Charles DuPuy, Chemistry and Biochemistry (1999)

Lawrence Gold, Molecular, Cellular, and Developmental Biology (1995)

John Hall, Physics; JILA (1984)

James Hynes, Chemistry and Biochemistry (2011)

Deborah Jin, Physics; JILA (2005)

Carl Lineberger, Chemistry and Biochemistry; JILA (1983)

Richard McCray, Astrophysical and Planetary Sciences; JILA (1989) Richard McIntosh, Molecular, Cellular, and Developmental Biology (1999)

Jane Menken, Sociology; Institute of Behavioral Science (1989)

Joseph Michl, Chemistry and Biochemistry (1986)

Margaret Murnane, Physics; JILA (2004)

Norman Pace, Molecular, Cellular, and Developmental Biology (1991)

David M. Prescott, Molecular, Cellular, and Developmental Biology (1974)

Margaret Tolbert, Chemistry and Biochemistry; Cooperative Institute for Research in Environmental Sciences (2004)

Gilbert White, Geography (1973)

Carl Wieman, Physics; JILA (1995)

William B. Wood, Molecular, Cellular, and Developmental Biology (1972)

Jun Ye, Physics; JILA (2011)

Nobel Laureates

The Nobel Prize is an international award given yearly for achievements in physics, chemistry, economics, medicine, literature, and peace. Nomination and selection of winners vary according to the category and prize-awarding institutions.

1989 Thomas R. Cech Chemistry and Biochemistry



2001 Carl Wieman Physics; JILA



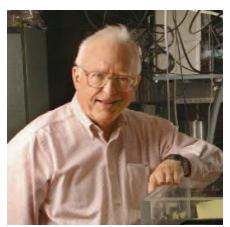
2001
Eric Cornell
Physics; JILA



2005

John Hall

Physics; JILA



2007

A group of hundreds of researchers from around the world that included more than a dozen **CU-Boulder research faculty** shared the Nobel Peace Prize with former vice president Al Gore for their contributions to the international report of the Intergovernmental Panel on Climate Change.

Guggenheim Fellows

Guggenheim Fellowships are prestigious grants to a select group of individuals that provide fellows with blocks of time to pursue important scholarly work with as much creative freedom as possible. No special conditions are attached to these fellowships, and fellows may spend their grant funds in any manner they deem necessary to their work. Since 1949 more than 70 CU-Boulder faculty members have been named Guggenheim fellows.

Thomas Andrews

Associate Professor, History

Professor Andrews' research interests span a number of traditional academic specialties, including Western, Native American, and environmental history as well as labor history and the scholarship of teaching and learning in history. A number of these lines converged in his book *Killing for Coal: America's Deadliest Labor War*; which approaches the famous 1914 massacre of more than a dozen miners and their family members in Ludlow, Colorado as much more than a labor



dispute. In fact, Professor Andrews' book constitutes the first full-fledged environmental history of labor struggle. *Killing for Coal* won a number of prizes, including the Bancroft Prize for the top book in the field of history and the university's Kayden Book Award (*see related story on page 15*).

During the term of his Guggenheim Fellowship, Professor Andrews conducted research for his next book, *An Animal's History of the United States*, an examination of human-animal relationships during the past 600 years. A regular presenter for the National Center for History Education, Professor Andrews has also been involved with the National Center for History in the Schools and the National History Education Clearinghouse.

CU-Boulder Guggenheim Fellows since 1998

Len Ackland, Journalism and Mass Communication (2008)

Fred Anderson, History (2001)

Mitchell C. Begelman, Astrophysical and Planetary Sciences (1998)

 $\textbf{Roger Bilham,} \ Geological \ Sciences \ (1999)$

Albert Chong, Art and Art History (1998)

G. Barney Ellison, Chemistry and Biochemistry (1999)

Barbara Engel, History (2003) Steven

A. Epstein, History (1998) Bruce W.

Holsinger, English (2004) Paul W.

Kroll, Asian Languages and Civilizations (2007)

Noel Lenski, Classics (2009)

Russell K. Monson, Ecology and Evolutionary Biology (1998)

John O'Loughlin, Geography (2004)

Margaret Tolbert, Chemistry and Biochemistry (2005)

Veronica Vaida, Chemistry and Biochemistry (2004)

Mark Winey, Molecular, Cellular, and Developmental Biology (2007)

MacArthur Fellows

The MacArthur Foundation accepts yearly nominations in as broad a range of fields and areas of interest as possible to identify and support talented individuals—writers, scientists, artists, social scientists, humanists, teachers— who have shown extraordinary originality and dedication in creative pursuits and a marked capacity for self-direction. The MacArthur Fellows Program awards five-year, unrestricted fellowships, sometimes referred to as "genius grants," to individuals who show exceptional merit and promise of continued creative work.

Charles Archambeau, Physics (1988)

David Hawkins, Philosophy (1981)

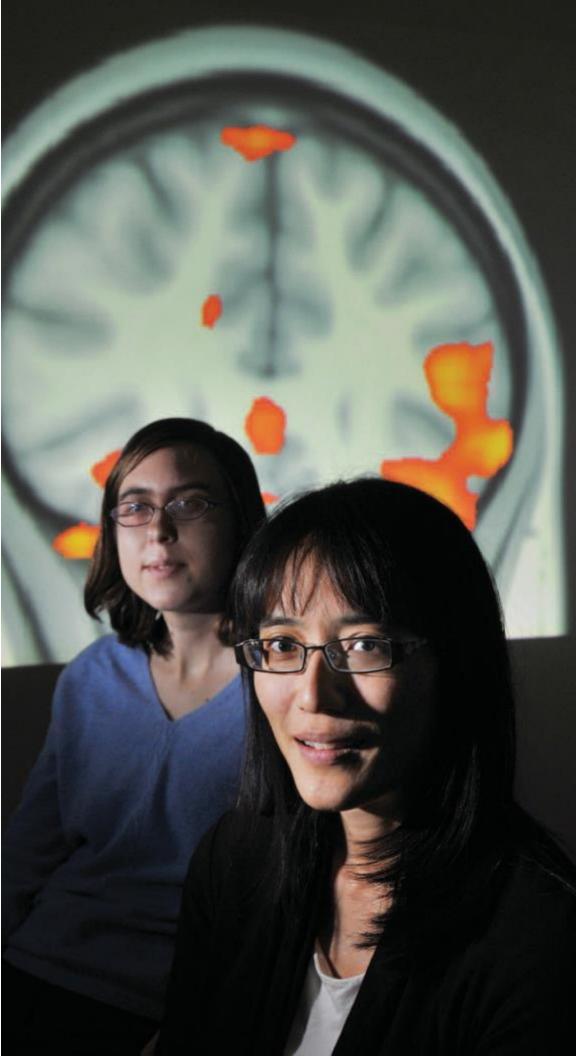
Deborah Jin, Physics; JILA (2003)

Daniel Jurafsky, Linguistics; Institute of
Cognitive Science (2002)

Patricia Limerick, History (1995)

Margaret Murnane, Physics; JILA (2000)

Norman Pace, Molecular, Cellular, and
Developmental Biology (2001)



National Medal of Science

The National Medal of Science was established by the 86th Congress in 1959 as a Presidential Award to be given to individuals "deserving of special recognition by reason of their outstanding contributions to knowledge in the physical, biological, mathematical, or engineering sciences." In 1980 Congress expanded this recognition to include the social and behavioral sciences. National Medals of Science are awarded by the president of the United States to individuals deserving of special recognition by reason of their outstanding cumulative contributions to knowledge in service to the nation.

Marvin Caruthers, Chemistry and Biochemistry (2006)

Thomas R. Cech, Chemistry (1995)

Keith Roberts Porter, Biology (1976) Gilbert White, Geography (2000)



Packard Fellows

Candidates for a Packard Fellowship must be faculty members in the first three years of their careers who are eligible to serve as principal investigators engaged in research in the natural and physical sciences or engineering. Disci- plines include physics, chemistry, mathematics, biology, astronomy, computer science, earth science, ocean science, and all branches of engineering.

Cindy Regal

Assistant Professor, Physics; JILA

As a Packard Fellow, Professor Regal will receive support for her work on laser-based techniques for controlling single atoms and creating quantum gases whose atoms can be manipulated at the single-atom level. These techniques will have applications in quantum information science and in modeling the fundamental physics of complex materials like liquids and solids.

Professor Regal was also honored this year with a Presidential Early Career Award for Scientists and Engineers for her "discovery of pairing and condensation in a Fermi gas of atoms and broad contributions to the realization of laser-cooled nano-mechanical resonators." In being selected for this national honor, Professor Regal was also recognized for her service as a mentor and role model for women in physics.

Professor Regal is also the first professor at the university

to earn the prestigious Clare Boothe Luce Professorship Award, which is designed to encourage women to study and teach science, mathematics, and engineering.

Anton Andreev, Physics (1999)

Kristi Anseth, Chemical and Biological Engineering (1997)

Elizabeth Bradley, Computer Science (1995)

Barbara Demmig-Adams, Ecology and Evolutionary Biology (1992)

Michael Hermele, Physics (2010)

Pieter Johnson, Ecology and Evolutionary Biology (2008) **David Jonas,** Chemistry and Biochemistry (1996)

Karla Kirkegaard, Molecular, Cellular, and Developmental Biology (1989)

John Price, Physics (1990)

Leo Radzihovsky, Physics (1998)

Alexis Templeton, Geological Sciences (2006)

Shijie Zhong, Physics (2001)

Fulbright Fellows

The Fulbright program sends 800 U.S. faculty and professionals abroad each year and is intended for candidates who wish to conduct research, teach, or undertake a combination of both at an academic institution of their choice in a host country. Fellows lecture and conduct research in a wide variety of academic and professional fields. CU-Boulder has had more than 100 Fulbright fellows since 1982.

Claire Farago

Professor, Art and Art History

During her fellowship year, Professor Farago, an art historian, conducted research at the University of York in the United Kingdom. Her project focused on Leonardo da Vinci's *Treatise on Paintings*, an influential collection of the artist's practical thoughts about painting. Professor Farago sought to understand why the *Treatise*, which was widely circulated in manuscript for decades, was finally published in 1651 in abridged form. Professor Farago, who teaches courses on



Renaissance art history, early modern gender studies, art theory, and contemporary critical theory, also worked on curriculum development for CU-Boulder's introductory course on World Art as part of her Fulbright project.

Professor Farago's areas of interest are Renaissance art theory, cultural exchange between Europe and the rest of the world, processes of globalization, critical historiography of the discipline, the materiality of the sacred, the history of style, museums and collecting practices, and the reception of art and ideas about art. She has been a MacGeorge fellow at the University of Melbourne, where she conducted research for the book she co-authored, *Art Is Not What You Think It Is*.

Thea Lindquist

Associate Professor, University Libraries

Improving searches of digital collections at Aalto University in Helsinki was the focus of Professor Lindquist's Fulbright work. She worked with the Semantic Computing Research Group at Aalto University to explore how to enhance discovery in digital collections of primary sources. She explored the research potential of linked data, a method of structuring Web content that allows computers automatically to read and connect information from different sources. This



approach could vastly improve researchers' ability to locate relevant information. Professor Lindquist, who is the librarian for History and Germanic and Slavic Languages and Literatures, used CU's World War I Collection online as test material for her project.

Professor Lindquist's research interests range from electronic library resources for teaching and research in early modern studies to early modern English religious and diplomatic history. A member of the faculty since 2004, she has served as the library liaison for the Center for British and Irish Studies, the Center for the Medieval and Early Modern Studies, and the Center for the American West.



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