Hellman Family Faculty Fund

Current and Past award Recipients
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2015 Award Recipients

**Charisma Acey**, City & Regional Planning, *Exploring the Human Right to Water Paradigm in Urban and Peri-Urban Water Governance*

Professor Acey’s research focuses on human-environment interactions at multiple scales in urban areas around the world, poverty alleviation, and participatory approaches to community development. Professor Acey has worked on sustainable household scale alternative energy solutions and improving access to basic services such as water and sanitation in Ghana, Uganda, and Nigeria. Professor Acey also has experience working as a senior manager for relief and development NGOs working in countries in West Africa, southern Africa and Central and South America. Professor Acey received her Ph.D. in Urban Planning from UC Berkeley.

**Anil Aswani**, Industrial Engineering and Operations Research, *Addressing Food Insecurity in Underserved Communities Using Operations Research*

Professor Aswani’s research focuses on modeling human behavior within complex systems using new statistical and optimization models, as well as big data. Professor Aswani’s research is applied in personalized medicine and healthcare systems, visual analytics, and automated systems. Professor Aswani has presented his research at noted conferences such as the Allerton Conference on Communication, Control, and Computing, and the IEEE International Conference on Robotics and Automation. Professor Aswani received his Ph.D. in Electrical Engineering and Computer Sciences from UC Berkeley.

**Daylet Dominguez**, Spanish & Portuguese, *Ethnography, Literature, and National Projects in the Hispanic Caribbean*

Professor Dominguez’s research focuses on the links between literature and ethnography in the Hispanic Caribbean. In addition, her research also focuses on the development of discourses on race and the development of cultural nationalism. Professor Dominguez has presented her research at conferences around the world, hosted at the Cuban Heritage Collection at the University of Miami, the Cuban Research Institute at Florida International University, among others. Professor Dominguez received her Ph.D. in Spanish with a Specialization in Latin American and Caribbean cultures and literatures from Princeton University.

**Aaron Fisher**, Psychology, *Isolating hyperarousal in PTSD: Targeting potential sources of physiologic dysregulation*

Professor Aaron Fisher’s research focuses on personalized assessment and personalized delivery of psychotherapy, in addition to studying the psychophysiology of anxiety disorders. Both of these research areas have strong relationships to overall health outcomes, which Professor Fisher also explores. Professor Fisher’s work has been published in journals such as the *Journal of Consulting and...*
Clinical Psychology, Biological Psychology, Current Opinion in Psychology, among others. Professor Fisher has received awards from the Society of Psychotherapy Research and American Psychological Foundation. Professor Fisher received his Ph.D. in Clinical Psychology from The Pennsylvania State University.


Professor Daniel Fisher’s focus is on sociocultural anthropology and the anthropology of media. Professor Fisher conducts fieldwork mainly in Aboriginal Northern Australia, but has also conducted fieldwork in New York City and Peru. Professor Fisher incorporates audio, video, and photography into his teaching and fieldwork. Professor Fisher’s work has been published in the Cultural Anthropology and American Ethnologist journals, among others. Professor Fisher also teaches about the anthropology of Australia to undergraduate students. Professor Fisher received his Ph.D. in Anthropology from New York University.

Peter Jenks, Linguistics, A Database and Grammar of Moro

Professor Jenks’s research focuses on how the syntax of natural languages interplays with phonology, morphology, and semantics. In particular, Professor Jenks studies languages that have not played a prominent role in the development of formal theories, such as the Thai, Moken, Moro, and Basaa languages. Professor Jenks’s most notable collaboration is with the Moro Language Project at UCSD while performing his research on the Moro language. Professor Jenks has taught graduate-level and undergraduate-level courses on Syntax and Semantics, Field Methods, and Logical Semantics. Professor Jenks received his Ph.D. in Linguistics from Harvard University.

Lauren Kroiz, History of Art, Cultivating Citizens: The Regionalist Work of Art in the New Deal Era

Professor Kroiz’s research focuses on modern art in the United States, and history and theory of photography and new media. In addition, her research explores the relationships between regionalism, nationalism, and globalism. Professor Kroiz’s first book, Creative Composites: Race, Modernism, and the Stieglitz Circle, won the 2010 Phillips Book Prize. Professor Kroiz is currently working on her second book titled Cultivating Citizens, which focuses on rethinking the aesthetics and politics of regionalism in the United States during the 1930s and 1940s. Professor Kroiz received her Ph.D. in History and Theory of Art from MIT.

Laurel Larsen, Geography, Quantifying the importance of groundwater for fish habitat in California’s intermittent streams

Professor Larsen’s research interests are in hydroecology, landscape dynamics, and environmental restoration. Professor Larsen has done fieldwork in the Florida Everglades and Lancaster, PA. Professor Larsen leads the Environmental Systems Dynamics Laboratory which takes a complex-systems approach to environmental problems, and uses fieldwork and numerical modeling to identify the drivers of change and possible responses to future change. Professor Larsen received her
Ph.D. in Civil and Environmental Engineering from the University of Colorado. Prior to arriving at UC Berkeley, Professor Larson was a Research Ecologist at USGS.


Professor Maher’s focuses on hunter-gatherer societies in the Near East, North Africa and Arabia with the aim of reconstructing human-environment interactions during the Late Pleistocene, the period before farming was commonplace. Professor Maher conducts fieldwork at several Epipaleolithic sites in Jordan, the Natufian site of Wadi Mataha in Jordan, and Neolithic sites of Seker al-Aheimar in Syria. Professor Maher strives for public engagement in anthropology through her collaboration with the Department of Antiquities of Jordan, local communities, and non-governmental agencies to promote archaeological resource sustainability and to integrate findings with local initiatives for heritage and habitat conservation. Professor Maher received her Ph.D. in Anthropology from the University of Toronto.

**Angela Marino**, Theater, Dance & Performance Studies, *Fiesta Performance and Governance*

Professor Marino’s interest lies in bridging Latin American and Latino cultural arts and politics to public education and performance venues in the United States. Professor Marino organized performance art festivals in New Mexico, and is currently working as an advisor to the Teatro at Cal Project. In addition, Professor Marino also has been a Fulbright Scholar and a Chancellor’s Post Doctoral Fellow. Professor Marino’s work has been published in the *Latin American Theater Review, Harvard Revista,* and *Cultural Anthropology,* among others. Professor Marino received her Ph.D. from the Department of Spanish and Portuguese at New York University.

**Evan Miller**, Chemistry, *New Chemical Tools for Optically Recording Neuronal Activity*

Professor Miller’s research interest lies in the development and application of molecular tools for studying neuroscience. In particular, Professor Miller focuses on researching the techniques of voltage imaging and activity tracing. Professor Miller’s work has been published in the *Proceedings of the National Academy of Sciences, Journal of the American Chemical Society,* among others. Professor Miller teaches undergraduates and graduates in Chemical Biology and Techniques for Mapping Neuronal Activity. Professor Miller received the Thieme Chemistry Journals Award in 2014 and multiple awards from the National Institutes of Health. Professor Miller received his Ph.D. in Chemistry from UC Berkeley.

**Saira Mohamed**, School of Law, *The Law and Culture of Disobeying Illegal Orders*

Professor Mohamed’s research interests are in the areas of criminal law and human rights, with her research focused on responses to mass atrocity. Professor Mohamed’s work considers the meaning of responsibility in mass atrocity crimes and seeks to unsettle conventional conceptions of choice and participation in this context. Professor Mohamed is a term member of the Council on Foreign Relations. Professor Mohamed has prior experience as a Senior Advisor in the Office of the U.S.
Special Envoy for Sudan and as an Attorney-Advisor for human rights and refugees in the State Department’s Office of the Legal Advisor. Professor Mohamed received her J.D. from Columbia Law School.

Scott Moura, Civil & Environmental Engineering, *Optimally Fast-Safe Battery Charging via Pseudospectral Methods*

Professor Moura’s research interests are in control theory modeling, control theory estimation, and optimal and adaptive control. Professor Moura applies his research to energy storage, batteries, electrified vehicles, and smart grids. Professor Moura is the Director of the Energy, Controls, and Applications lab, and is also affiliated with the CITRIS i4Energy which studies information technology for energy. Professor Moura’s research has been published in *IEEE Transactions on Control Systems Technology, Journal of Power Sources,* and *International Journal of Control,* among others. Professor Moura received his Ph.D. in Mechanical Engineering from the University of Michigan.

Grace O’Connell, Mechanical Engineering, *Effect of disc herniation repair on tissue remodeling and joint function*

Professor O’Connell’s research interests lie in the biomechanics of cartilage and intervertebral discs, tissue engineering, and continuum modeling of soft tissues. Professor O’Connell’s work has been published in the *Journal of Orthopaedic Research, Journal of Biomechanics,* and *Tissue Engineering,* among others. In addition, Professor O’Connell was invited to speak at the UCSF Medical Center and at the Bioengineering Seminar Series. Professor O’Connell is a Panelist for the NSF – Biomechanics and Mechanobiology Program and an ad-hoc reviewer for the Technology Foundation STW. Professor O’Connell received her Ph.D. in Bioengineering from the University of Pennsylvania.

Andrea Roth, School of Law, *An Investigation of the Emerging Police Practice of Maintaining Local Databases of “Volunteered” and “Abandoned” DNA*

Professor Roth’s research focuses on the use of forensic science in criminal trials, the continuing viability of the lay jury, and the ways in which criminal procedure and evidentiary law must be retheorized in an era of science-based prosecutions. Professor Roth’s research has been published in the *California Law Review, Boston University Law Review,* and the *Journal of Law Education,* among others. Before arriving at UC Berkeley, Professor Roth was a Thomas Grey Fellow at Stanford Law School and Public Defender in the District of Columbia. Professor Roth is a member of the Constitution Project’s National Committee on DNA Collection. Professor Roth received her J.D. from Yale Law School.

Alexandra Saum-Pascual, Spanish and Portuguese, *Hispanic Legacies: The Trace of Experimental Writing in Spain and Latin America (An Electronic Literature Project)*

Professor Saum-Pascual focuses on the relationship between literature and digital technologies, Post-Civil War and Contemporary Spanish literature and culture, and digital technologies as fundamental
agents of change. Professor Saum-Pascual's work has been published in *The Journal of Spanish Cultural Studies*, *The Arizona Journal of Hispanic Cultural Studies*, and *Caracteres: Estudios culturales y críticos de la esfera digital*, among others. Professor Saum-Pascual is a member of the Executive Committee of the Berkeley Center for New Media. Professor Saum-Pascual received her Ph.D. in Spanish at UC Riverside.

**Nicholas Swanson-Hysell**, Earth and Planetary Science, *Did Earth lose its balance 800 million years ago? Testing the planetary reorientation hypothesis using the Zavkhan Volcanics of Mongolia*

Professor Swanson-Hysell’s research focuses on gathering data from sequences of volcanic and sedimentary rocks in order to gain insights about the positioning of continents, the evolution of the magnetic field, and more. Professor Swanson-Hysell’s work has been published in *Geology, American Journal of Science, Science*, among others. In addition, Professor Swanson-Hysell has received the William Gilbert Award and the Dodds Honorific Fellowship. Before arriving at UC Berkeley, Professor Swanson-Hysell was an NSF Earth Sciences Postdoctoral Fellow at the Institute for Rock Magnetism. Professor Swanson-Hysell received his Ph.D. in Geosciences from Princeton University.

**Lisa Trever**, History of Art, *Ancient Andean Art, Archaeology, and Molecular Science*

Professor Trever studies the arts and visual culture of Precolumbian and colonial Latin America. Professor Trever has done extensive fieldwork in Peru. Professor Trever’s work has been published in *Nawpa Pacha: Journal of Andean Archaeology, Res: Anthropology and Aesthetics*, among others. In addition, Professor Trever teaches classes on Latin American art, the anthropology of art, and topics in visual studies. Professor Trever is a faculty affiliate of the Latin American Studies Program, the Center for Latin American Studies, and the Archaeological Research Facility. Professor Trever received her Ph.D. in History of Art and Architecture from Harvard University.

**Ke Xu**, Chemistry, *Spectrally resolved multicolor super-resolution microscopy*

Professor Xu’s research interest is in understanding how orders emerge in biological systems at the nano-meter scale using biophysics, physical chemistry, and cell biology. Professor Xu develops and applies innovative quantitative methods to advance his research, notably obtaining a patent for high resolution dual-objective microscopy. Professor Xu’s work has been published in *Science, Nature Methods, the Journal of the American Chemical Society*, among others. Professor Xu is a peer reviewer for *Natural Methods, Nano Letters, and Journal of Materials Chemistry*. Professor Xu received his Ph.D in Chemistry from the California Institute of Technology.

**Jie Yao**, Materials Science & Engineering, *New Material Platform for Future Smart Windows*

Professor Yao’s research focuses on dynamically tunable electronic materials and optical materials, as well as applications of materials with extraordinary optical responses. Professor Yao’s work has been published in *Science, Nature Communications, and Optics Express*, among others. Professor Yao also teaches courses on semiconductor processing and properties of electronic materials. Moreover, Professor Yao is a proposal reviewer for the National Science Foundation. Before becoming a
Professor at UC Berkeley, Professor Yao was a Postdoctoral Student at Stanford University. Professor Yao received his Ph.D. in Applied Science and Technology from UC Berkeley.

**Wenjun Zhang**, Chemical & Biomolecular Engineering, *Biosynthesis of tagged natural products and their applications*

Professor Zhang’s research interests lie natural product biosynthesis and engineering, genome mining, and microbial production of fuel-like molecules. Professor Zhang’s work has been published in *Nature Chemical Biology*, *Proceedings of the National Academy of Sciences*, *Organic Letters*, among others. Professor Zhang has also developed courses at the undergraduate and graduate level in biomolecular engineering and chemical engineering thermodynamics. Professor Zhang was a recipient of the Pew Scholar award. Professor Zhang received her Ph.D. in Chemical Engineering from UCLA.
2014 Award Recipients

Reza Alam, Mechanical Engineering, *Mitigating Epileptic Seizures via Localization: Theory and Experiment*

Professor Alam leads the Theoretical and Applied Fluid Dynamics Laboratory, which conducts research about renewable energy, internal gravity waves, and fluid mechanics. Professor Alam’s work has been published in esteemed publications such as the Proceedings of the Royal Society and the Physical Review Letters. Moreover, he has presented his work at many important conferences around the world. He received his Ph.D. in Mechanical Engineering from MIT in 2008 and joined UC Berkeley in 2011.

Timothy Clarke, Department of Philosophy, *Aristotle and Parmenides*

Professor Clarke’s research interests are in ancient philosophy, particularly metaphysics and epistemology. His work ‘The Argument from Relatives’ was published in the *Oxford Studies in Ancient Philosophy* in 2012. He is currently working on a book on Aristotle’s response to Eleatic monism and several papers on Plato and Aristotle. Moreover, Professor Clarke has taught several seminars for both graduates and undergraduates, in addition to teaching courses on Aristotle and ancient philosophy. Professor Clarke received his Ph.D. in ancient philosophy from Yale University.

Nadia Ellis, Department of English, “*Archives of the Non-Racial*” and the Diasporic City

Professor Ellis specializes in African diasporic, Caribbean, and postcolonial literatures and cultures. Her research traces the trajectories of literary and expressive cultures around the world, such as the Caribbean, Britain, and the United States. Professor Ellis has been recognized by the Social Science Research Council, Mellon Foundation, and UC Berkeley’s Townsend Center for the Humanities for her research. In addition, Professor Ellis teaches classes on postcolonial literature, black diasporic culture, queer theory, and US immigrant literature. She received her Ph.D. in English from Princeton University in 2008.

Seth Finnegan, Integrative Biology, *Comparative energetics of tropical marine mollusk communities in space and time*

Professor Finnegan’s research interests center around the processes that have shaped the composition of marine biota and the development of marine ecosystems from the late Neoproterozoic period to the present day. His research has been published in important publications such as *Geological Society of America Bulletin* and *Proceedings of the National Academy of Sciences*. Also, Professor Finnegan is the Curator at the University of California Museum of Paleontology. Professor Finnegan received his Ph.D. from UC Riverside and joined Berkeley in 2012.
Stavros Gadinis, School of Law, Global Technocrats: The Spread of International Standards

Professor Gadinis’s research interests are in international business transactions, substantive law, financial regulation, among others. He has been invited to present his research at many conferences around the world. Professor Gadinis teaches courses on Business Associations, International Business Transactions, and Securities Regulations. In addition to his significant body of work while in academia, Professor Gadinis practiced corporate law in Europe. Professor Gadinis is fluent in English, French, and Greek. Professor Gadinis received his S.J.D. from Harvard and joined UC Berkeley in 2010.

Mariska Kriek, Department of Astronomy, The Origin and Fate of Compact Quiescent Galaxies in the Early Universe

Professor Kriek’s research focuses on the formation and evolution of galaxies across cosmic time, active galactic nuclei, and stellar population synthesis modeling. Professor Kriek has been the first author on 10 refereed publications, and the co-author on 50 additional refereed publications. She has been invited to 39 talks in total, presenting her research at colloquiums and seminars around the world. Professor Kriek teaches both undergraduate and graduate level astronomy courses at UC Berkeley. Professor Kriek received her Ph.D. in Astronomy from Leiden University.

Alastair Lawrence, Haas School of Business, SEC Comment Letters and Investor Inattention

Professor Lawrence’s research interests are in financial disclosure, reporting standards, analysts’ signals, and auditing. He has been invited to present at his research at conferences and workshops in the United States and Canada. Professor Lawrence’s research has been published in the Journal of Accounting & Economics. Professor Lawrence is an Advisory Board Member at the Center for Young Entrepreneurs at Haas. Professor Lawrence received his Ph.D. in Management (Accounting) from the University of Toronto and joined UC Berkeley in 2011.

Polina Lishko, Molecular & Cell Biology, Investigating the role of the BK potassium channel in asthma

Professor Lishko’s research focuses on the cell biology of mammalian fertilization and the molecular mechanisms that regulate sperm mobility such as sperm ion channels. Professor Lishko’s research has been published in the Proceedings of the National Academy of Sciences of the USA, Annual Review of Physiology, Nature, among others. She utilizes electrophysiological, biochemical, and molecular biological approaches in her research. Professor Lishko has a Ph.D. in Biophysics from the Bogomoletz Institute of Physiology. She joined UC Berkeley in 2012.

Thomas Maimone, Department of Chemistry, New Synthetic Strategies Directed Toward Neurologically Active Natural Products

Professor Maimone’s research interests are in organic and organometallic chemistry, natural product total synthesis, and catalyst design. Professor Maimone received the Thieme Chemistry New Faculty
Award in 2013 and the Cupola Era Chair in Chemistry in 2012. Professor Maimone’s research has been published in journals such as the *Journal of the American Chemical Society*, *Organic Letters*, and *Angewandte Chemie International Edition*. He received his Ph.D. in Organic Chemistry and joined UC Berkeley in 2012. Before coming to UC Berkeley, Professor Maimone was already recognized for his research, winning the Reaxys Ph.d. Prize in 2010.

**David Marno**, Department of English, "Holy Attention: Religious Origins of a Secular Concept"

Professor Marno is interested in the Renaissance period, Shakespeare, and the intersection of literature and religious practice. He has taught research seminars and classes related to his research interests. Professor Marno has presented over 15 papers at conferences around the world. In addition, he won the UC Berkeley Townsend Center Fellowship in the 2012-13 academic year. Professor Marno earned his M.A. degrees in Hungary and his Ph.D. in Comparative Literature at Stanford University. He joined UC Berkeley in 2011.

**G. Christina Mora**, Department of Sociology, *Latino Migration and Classification*

Professor Mora’s research focuses on racial and ethnic categorization, immigrant religion, organizations, and immigration. Her research has been published in journals such as *American Sociological Review*, *Annual Review of Sociology*, and *Latino Studies*. Professor Mora has been invited to present at conferences located in the US, UK, and Canada. Professor Mora is a member of the American Sociological Association and the Society for the Scientific Study of Religion. Professor Mora is also a member of the Haas Diversity Research Center.

**Gabriel Orebi Gann**, Department of Physics, *Towards Large-Scale Dark Matter Detection*

Professor Orebi Gann is an experimental particle physicist, whose research interests are in weakly interacting particles such as neutrinos and dark matter. She is a faculty scientist at the Lawrence Berkeley National Laboratory in addition to being a professor at UC Berkeley. Professor Orebi Gann has been invited to present at talks all over the US. Her research has been published in peer-reviewed journals such as *Astroparticle Physics* and *Physical Review*. She advises the Society of Women in the Physical Sciences and organized seminars for the Institute of Nuclear and Particle Astrophysics.

**Diego Pirillo**, Department of Italian Studies, *Renaissance Intelligencers: Information, Persecution and the Making of Modern Diplomacy*

Professor Pirillo’s research interests are in early modern philosophy, heterodoxy, and political thought. He has been invited to present his research at over 15 talks around the world. Professor Pirillo is currently a reviewer for ‘California Italian Studies’ and ‘Rinascimento.’ Professor Pirillo has won several fellowships, including Andrew W. Mellon Fellowship in Critical Bibliography and Harvard University’s K.F. Pantzer Jr. Fellowship. He also performed research in Italy at the Scuola Normale Superiore in Pisa, Italy after earning his Ph.D. in Philosophy. Professor Pirillo joined UC Berkeley in 2011.
**Carolina Reid**, City and Regional Planning, *The Intent, Implementation and Impact of the Community Reinvestment Act*

Professor Reid’s research focuses on housing, community development, access to credit, and the Community Reinvestment Act. Professor Reid’s research has been published in journals such as *Florida Law Review, American Journal of Community Psychology, and Cornell Journal of Law and Public Policy*. Moreover, she has written over 25 working papers and policy reports. Professor Reid has presented her research at conferences throughout the US. Professor Reid worked as Senior Researcher for the Center for Responsible Lending before she joined UC Berkeley in 2012.

**Erica Rosenblum**, Environmental Science, Policy & Management Anthropology, *A genomic approach to understanding emerging diseases of wildlife*

Professor Rosenblum’s research focuses on evolutionary ecology, speciation, extinction, and ecological genomics. She has published her research in journals such as *Journal of Evolutionary Biology, Ecology and Evolution, and Proceedings of the National Academy of Sciences*. In addition, Professor Rosenblum is the Associate Editor for the journal *Evolution*. Professor Rosenblum has been active in community educational outreach, presenting at Women in Science events and facilitated science programs for elementary school students. Professor Rosenblum received her Ph.D. from UC Berkeley and joined UC Berkeley in 2012.

**Shawn Shadden**, Mechanical Engineering, *Simulating cerebral autoregulation: A gateway to modeling stroke*

Professor Shadden’s research interests are in cardiovascular biomechanics, fluid dynamics, and computational mechanics. He has published his research in journals such as *Annals of Biomedical Engineering, Journal of Fluid Mechanics, and Cardiovascular Engineering and Technology*. Professor Shadden serves on the Scientific Advisory Committee for the NIH Vascular Modeling Repository and the Review Editorial Board for the Frontiers in Computational Physiology and Medicine. Professor Shadden received his Ph.D. in Control and Dynamical Systems and joined UC Berkeley in 2013.

**Valerie Shapiro**, School of Social Welfare, *Reducing mental, emotional, and behavioral problems in youth through prevention services: Understanding the growth of protective factors to guide service delivery*

Professor Shapiro’s research interests are in preventing mental, emotional, and behavioral problems in youth. In addition, Professor Shapiro focuses on bridging the research-practice gap. She is also the Co-Director of the Center for Prevention Research in Social Welfare and a Research Analyst at the Devereux Center for Resilient Children. Professor Shapiro’s research has been published in peer-reviewed journals such as *Prevention Science, Journal of Social Work Education, and Journal of Adolescent Health*. Professor Shapiro received her Ph.D. in Social Welfare and joined UC Berkeley in 2012.
**Sarah Stanley**, School of Public Health, *Understanding the role of nitric oxide signaling during M. tuberculosis infection*

Professor Stanley’s research focuses on tuberculosis mechanisms of pathogenesis and immune subversion, lipid metabolism, innate immunity, and novel approaches to antibiotic development. She has published over twenty articles in peer-reviewed journals such as *Proceedings of the National Academy of Sciences*, *The Journal of Immunology*, and *Genome Biology*. Moreover, Professor Stanley has won the National Natural Science Foundation of China Research Fellowship. She earned her Ph.D. in Microbiology and Immunology and then joined UC Berkeley in 2012.

**Sally Thompson**, Civil & Environmental Engineering, *Could restoring the pre-European fire regime increase the resilience of water supply and forests in the Sierra Nevadas?*

Professor Thompson’s research focuses on ecohydrology, spatial ecology, and plant physiology. Before joining UC Berkeley, Professor Thompson worked for several years as an environmental engineering consultant. In 2013, she won the Early Career Award in Hydrology from the American Geophysical Union. She is currently the Associate Editor for the Hydrology and Earth Systems Science journal and the Editorial Board Member of the Advances in Water Resources journal. Professor Thompson also teaches courses on hydrology at both the undergraduate and graduate levels. She has a Ph.D. in Environmental Science.
2013 Award Recipients

**Dana Carney**, Haas School of Business, *The Incredible Power of Ordinary, Everyday Nonverbal Cues*

Dana Carney is an Assistant Professor at UC Berkeley’s Haas School of Business and a faculty member of the Haas Management of Organizations Group. Dr. Carney’s research interests are in the nonverbal psychological cues that impact social judgments and decisions, and furthers her research by leading the Social and Nonverbal Behavior Lab. Dr. Carney has received prestigious awards from the National Science Foundation, Columbia University Diversity Initiative, and the American Psychological Association in recognition of her research. Dr. Carney received her B.A. from the University of San Francisco, M.A. from California State University, Fullerton, and Ph.D. from Northeastern University.

**Abigail De Kosnik**, Theater, Dance and Performance Studies, *FanData: Counting Archives and Networks*

Abigail De Kosnik is an Assistant Professor at UC Berkeley’s Department of Theater, Dance, and Performance Studies. Dr. De Kosnik’s interests are in performance and technology, and new media. Dr. De Kosnik is the author of *The Survival of Soap Opera: Strategies for a New Media Era* and organized a conference on Open Source and the Humanities. In addition, Dr. De Kosnik brought two prominent digital culture scholars to UC Berkeley, fostering an international exchange of ideas. Dr. De Kosnik received her B.A. and M.A. from Stanford University, and her Ph.D. from Northwestern University.


Cybelle Fox is an Assistant Professor at UC Berkeley’s Department of Sociology. Dr. Fox received a B.A. in history and economics from UC San Diego in 1997 and a Ph.D. in sociology and social policy from Harvard University in 2007. Dr. Fox’s main research interests include race and ethnic relations, the American welfare state, immigration, historical sociology, and political sociology. Dr. Fox is the author of several books, including *Three Worlds of Relief*, and has published several works in scholarly journals such as the *American Journal of Sociology* and *Political Science Quarterly*.

**Brett Green**, Haas School of Business, *Overcoming product market frictions in poor countries*

Brett Green is an Assistant Professor at UC Berkeley’s Haas School of Business and is a faculty member of the Haas Finance Group. Dr. Green’s research interests include information economics, dynamic games, asset pricing theory, and sports economics. Dr. Green has been invited to present at many conferences and seminars, such as the UC Berkeley, Harvard/MIT Theory Seminar and the Western Finance Association Conference. Moreover, Dr. Green has the distinction of serving as a journal referee for scholarly journals like the *American Economic Review* and *Econometrica*. Dr. Green received his B.S.E. from Duke University, and his M.S. and Ph.D. from Stanford University.
Darya Kavitskaya, Slavic Languages and Literature, *The Documentation of the Northern Dialect of Crimean Tatar*

Darya Kavitskaya is an Assistant Professor at UC Berkeley’s Department of Slavic Languages and Literature. Dr. Kavitskaya’s research interests include phonological theory, historical Slavic linguistics, field linguistics, and morpho-phonology. Dr. Kavitskaya’s current projects focus on the language in the Crimean Tatar. Dr. Kavitskaya has performed extensive fieldwork in Ukraine and Russia. Dr. Kavitskaya is the author of *Crimean Tatar and Compensatory Lengthening: Phonetics, Phonology, Diachrony.* Dr. Kavitskaya received her B.A. and Ph.D. from UC Berkeley.

Richard Koci Hernandez, School of Journalism, *The Cannon and the Flower: War, a family and the transcendent power of music [A Study of Transmedia]*

Richard Koci Hernandez is an Assistant Professor for New Media at UC Berkeley’s Graduate School of Journalism. Koci Hernandez is a national Emmy award winning video and multimedia producer who previously worked as a photojournalist at the San Jose Mercury News for 15 years. Koci Hernandez’s photographic works have been published in the Los Angeles Times, BBC, Wall Street Journal, the New York Times, among others. Koci Hernandez has taught multimedia workshops for Stanford University, USC Annenberg School of Communication, among others.


Yaniv Konchitchki is an Assistant Professor at UC Berkeley’s Haas School of Business and is a faculty member of the Haas Center for Financial Reporting and Management. Dr. Konchitchki’s research interests include capital markets and examining accounting information through its links to macroeconomics and valuation. Dr. Konchitchki has consistently earned awards for his superior teaching abilities, earning the Earl F. Cheit Award for Outstanding Teaching at UC Berkeley in the 2012-13 academic year. Dr. Konchitchki received his B.A. and M.A. from Tel Aviv University, and his MSc and Ph.D. from Stanford University.


Panos Patatoukas is an Assistant Professor at UC Berkeley’s Haas School of Business and is a faculty member of the Haas Center for Financial Reporting and Management. Dr. Patatoukas’s research interests include accounting, financial statement analysis, and market efficiency. Dr. Patatoukas is a reviewer of several scholarly journals such as *The Accounting Review* and *Review of Financial Studies.* Dr. Patatoukas received the Schwabacher Fellowship, which is the highest honor bestowed upon Assistant Professors at the Haas School of Business. Dr. Patatoukas received his M.A., MPhil, and Ph.D. from Yale University.
Daniel Nomura, Nutritional Science and Toxicology, *Massively Parallel Mapping of Dysregulated Oncogene-Driven Metabolic Pathways in Cancer*

Daniel Nomura is an Assistant Professor at UC Berkeley’s Department of Nutritional Science and Toxicology. Dr. Nomura leads the Nomura Research Group, which focuses on the effects of dysregulated metabolism in humans. Dr. Nomura has published several works in scholarly journals such as *Cell Reports*, *Science*, and *Proceedings of the National Academy of Sciences*. Dr. Nomura has received several prestigious honors, most recently becoming one of only 15 United States researchers to be named a 2012 Searle Scholar. Dr. Nomura received his Ph.D. from UC Berkeley.

Tapan Parikh, School of Information, *Local Ground-Increasing Youth Data Literacy Using Contextually Grounded Mapping and Visualization Tools*

Tapan Parikh is an Assistant Professor at UC Berkeley’s School of Information. Dr. Parikh’s research focuses on the use of computing to support sustainable economic development across the world. Dr. Parikh leads the Represent research group, and also advises several startup companies. Dr. Parikh has earned several honors, such as “Humanitarian of the Year” from MIT’s *Technology Review* and fellowships from Intel and NSF. Dr. Parikh received his M.S. and Ph.D. from the University of Washington.

Matthew Potts, Environmental Science, Policy and Management, *Conservation of biodiversity in working tropical landscapes*

Matthew Potts is an Assistant Professor at UC Berkeley’s Department of Environmental Science, Policy, and Management. Dr. Potts’s research interest is forest ecosystem management and in creating a quantitative understanding of how to optimally achieve ecosystem service production and biodiversity conservation in multi-use landscapes. Dr. Potts leads the Potts Research Group and has extensive international experience conducting field research. Dr. Potts received his B.S. from the University of Michigan and Ph.D. from Harvard University.

Elizabeth Purdom, Statistics, *Statistical Methods for the Clustering of mRNA-seq Data*

Elizabeth Purdom is an Assistant Professor at UC Berkeley’s Department of Statistics. Dr. Purdom’s research interests are in developing statistical methods for high-dimensional data arising in the field of biology and genetics. Dr. Purdom is a faculty member of the Biomedical Statistics Research Group, which provides statistical consulting to biology labs. Dr. Purdom also leads her own research group. Dr. Purdom’s work has been published in the *Proceedings of the National Academy of Sciences* and *Nature*. Dr. Purdom received her B.S. from Yale University and Ph.D. from Stanford University.


David Romps is an Assistant Professor at UC Berkeley’s Department of Earth and Planetary Science. Dr. Romps leads the Romps Group at UC Berkeley and Lawrence Berkeley National Laboratory,
which conducts research on clouds and atmospheric dynamics to better understand Earth’s climate. Dr. Romps has published several works in scholarly journals such as *Journal of Atmospheric Sciences* and *Geophysical Research Letters*. Dr. Romps received his B.S. and M.S. from Yale University, and his Ph.D. from Harvard University.

**Namwali Serpell**, English, *Faces*

Namwali Serpell is an Assistant Professor at UC Berkeley’s Department of English. Dr. Serpell’s specialties are in critical theory, the narrative and the novel, and American and British literature. Dr. Serpell has won several awards, such as the 2011 Rona Jaffe Foundation Writer’s Award and the 2012 Robert O. Collins Award. Dr. Serpell has published several articles in journals such as *Critique*, *Narrative*, and *Callaloo*. Dr. Serpell is currently working on an upcoming book titled *Seven Modes of Uncertainty*. Dr. Serpell received her Ph.D. from Harvard University.

**Jun Sunseri**, Anthropology, *Tshimbulpe-Berkeley Collaborative Archaeology Project*

Jun Sunseri is an Assistant Professor at UC Berkeley’s Department of Anthropology. Dr. Sunseri’s research focuses on the relationship between colonialism and indigenous landscapes, and utilizes an interdisciplinary approach. Dr. Sunseri specializes in zooarchaeology and GIS analysis. Dr. Sunseri has extensive field experience in the U.S. and Africa. Dr. Sunseri was formerly a Chancellor’s Postdoctoral Fellow at UC Berkeley before joining the department as a faculty member.


Karen Tani is an Assistant Professor of Law at UC Berkeley’s School of Law, and is affiliated with UC Berkeley’s Center for the Study of Law and Society. Dr. Tani’s research interests are in legal architecture of the U.S. welfare state, torts, legal history, and social welfare law. Dr. Tani actively engages in professional service as a member of the Board of Directors of the American Society for Legal History and as a member of the Organization of American Historians. Dr. Tani received her J.D. and Ph.D. at the University of Pennsylvania.

**Emily Thornbury**, English, *Rebuilding Anglo-Saxon Texts*

Emily Thornbury is an Assistant Professor at UC Berkeley’s Department of English. Dr. Thornbury’s works and research focus on the role of poets and poetry in Anglo-Saxon England. Dr. Thornbury’s specialties are in linguistics, textual criticism, poetry, medieval Latin, and Old English. Dr. Thornbury has published in several scholarly journals such as *English Studies* and *New Medieval Literatures*. Dr. Thornbury’s current projects explore Anglo-Saxon aesthetic categories and the effects of scarcity on the texts of early England. Dr. Thornbury received her Ph.D. at the University of Cambridge.
2012 Award Recipients

Michael Anderson, Agricultural and Resource Economics, *The Effects of Car Ownership on Locational Choice, Earnings, Energy Usage, and Health*

Professor Anderson’s research interests include the areas of environmental economics, health economics, and applied econometrics, especially relating to questions of causal inference. Professor Anderson received his Ph.D. in Economics from the Massachusetts Institute of Technology (2006) and a B.A. in Economics from Swarthmore College (1999).

Diliana Angelova, History of Art, *Radiocarbon Dating of Byzantine Bone and Ivory Boxes*

Professor Angelova’s main research focus is Early Christian and Byzantine art. Her scholarship to date and the work she anticipates pursuing in the future are situated at the intersection of two basic issues: continuity and change in the realm of ideas, and the role of women in ancient societies. By taking gender and material culture seriously she seeks to reframe the traditional male- and literary-centered way in which fundamental topics such as Roman imperial power, early Christian art, or romantic love have been defined in art historical and scholarship. Ultimately, her major objective is to present a richer and more nuanced understanding of the role of gender in the ancient, and the medieval worlds.

Clayton Critcher, Haas School of Business, *How Legislating Political Niceness Has Encouraged Political Nastiness*

Professor Critcher is interest in how people come to understand themselves, form impressions of others, and operate as political, economic, and moral beings in a challenging and complicated world. As a judgment and decision making (JDM) and social cognition researcher, he examines the sophisticated and clever ways that people go about achieving these many goals, as well as the inevitable shortcomings that arise in such a complex pursuit. As reflected in his diverse research programs, he believes that the level of analysis afforded by social psychological and related methods allows for meaningful examination of a wide range of human experience.

Julianna Deardorff, School of Public Health, *Early adversity exposure and Mexican American adolescents’ pubertal development, sexual risk-taking behaviors and substance use*

Professor Deardorff recently joined the faculty in the Maternal and Child Health program at UC Berkeley’s School of Public Health. Professor Deardorff’s research focuses on risk factors for early pubertal timing and subsequent physical and mental health outcomes for youth, both in terms of short-term consequences in adolescence and long-term consequences in adulthood. Her expertise and knowledge about the pubertal transition and children’s health and well-being will be important to the PAWS study as the children in their sample grow older and begin to enter puberty.
Danielle Ercek, Chemical and Biomolecular Engineering, *In vitro nanobioreactors: Investigating the effects of encapsulation on enzyme kinetics*

The research in the Professor Tullman Ercek Laboratory focuses on developing new strategies for the engineering of naturally occurring biological parts, systems and organisms to yield improved and novel functions for industrial and pharmaceutical applications. Recent advances in biotechnology have made it possible to treat proteins and protein-based systems as pieces with which to construct new structures and machineries with innovative functions. They envision combining a synthetic biology-based approach with protein and metabolic engineering techniques for the re-engineering of the enzymes and systems involved in protein secretion, cellulose degradation, and compartmentalization, with an overall goal of providing unique biology-based solutions to current problems in areas of protein production and bioenergy.

Beate Fricke, History of Art, *Life in the making: Creation, procreation and mimesis in the late Middle Ages*

Professor Fricke teaches European Medieval Art. Her research focuses on the history of images using perspectives from philosophy, cultural anthropology, the natural sciences, and theology, with a special emphasis on theories of art and the image. Currently she is working on her second book "Beautiful Genesis. Creation, procreation and mimesis in the Late Middle Ages", for which she was awarded a grant by the Swiss National Research Foundation (SNF) in 2008-09 and 2011. This project scrutinizes the intersections between art, epistemology and the history of science, and investigates how the emergence of life is reflected in painting, art theory as well as in alchemy and medieval science.

Ming Hsu, Haas School of Business, *How does the brain represent brands? Toward a neuroscientific basis of consumer behavior*

Professor Ming Hsu’s Neuroeconomics Laboratory goal is to understand the behavioral and neural basis of economic and consumer decision-making. These are the interdisciplinary research areas of neuroeconomics and consumer neuroscience. These questions allow us to bring a variety of models and methods, including non-expected utility theory, behavioral and psychological game theory, lab and field experiments, as well as neuroimaging, neuropsychological, and physiological data.

Malo Hutson, City and Regional Planning, *Deepening Their Roots: The Urban Struggle for Economic, Environmental, and Social Justice*

Professor Malo André Hutson’s research focuses on community development, regional planning, urban sustainability, and population health. In addition, he focuses on urban policy and politics. Professor Hutson’s current research includes an analysis of metropolitan fragmentation and racial residential segregation and their relationship to health. Specifically, he is investigating how multiple political jurisdictions within a metropolitan region affect the distribution of resources across racial and class lines. He is also working in an innovative collaboration with colleagues in the School of Public Health at U.C. Berkeley, UCSF Medical School as well as national nonprofit and for-profit...
housing developers—Mercy Housing California and the Related Companies, respectively, to
revitalize the Sunnydale public housing developments in San Francisco and improve
health. Professor Hutson is also conducting a meta-analysis study of built environments and social
context as predictors of physical activity and obesity with Dr. Gina S. Lovasi at the Columbia
University Mailman School of Public Health.

Katerina Linos, School of Law, Rights on the Ground: International Organizations, National Institutions
and the Protection of Fundamental Rights

Professor Katerina Linos’ research and teaching interests include international law, comparative law,
European Union law, employment law and health care law. To address questions in these fields, her
work combines legal analysis with empirical methods. In Compliance with European Union Directives,
she explores empirically why the most integrated international community we know, the European
Union, stumbled in its efforts to harmonize the laws of its member states. In Path Dependence in
Discrimination Law, she compares early race discrimination cases in the U.S., and early sex
discrimination cases in the E.U., and illustrates how early doctrinal developments predict the success
and failure of current national origin, age, disability, and sexual orientation claims in the two
jurisdictions. In her current project, Diffusion through Democracy (forthcoming, American Journal of
Political Science), Linos examines why soft international law and transnational norms often trigger
major national legal reforms, despite the strong constraints domestic constituencies impose on
leaders of democratic states.

Michael Lustig, Electrical Engineering and Computer Sciences, Bespoke Coils: High-Sensitivity Flexible
MRI Coils via Printed Electronics

Professor Michael (Miki) Lustig joined the faculty of the EECS Department at UC Berkeley in Spring
2010. He received his B.Sc. in Electrical Engineering from the Technion, Israel Institute of Technology
in 2002. He received his Msc and Ph.D. in Electrical Engineering from Stanford University in 2004
and 2008, respectively. His research focuses on medical imaging, particularly Magnetic Resonance
Imaging (MRI), and very specifically, the application of compressed sensing to rapid and high-
resolution MRI, MRI pulse sequence design, medical image reconstruction, inverse problems in
medical imaging and sparse signal representation.

Mairi McLaughlin, French, The Origins and Evolution of Journalistic French: From the First Periodical
(1631) to the French Revolution (1789)

Professor Mairi McLaughlin is an Affiliated Member of the Linguistics Department. She specializes in
French/Romance Linguistics and Translation Studies. Her first book, Syntactic Borrowing in
Contemporary French: A Linguistic Analysis of News Translation was published by Legenda in 2011.
She is currently on leave for the academic year 2012-2013 to work on a new project to trace the origins
and development of journalistic French.
Mahasin Mujahid, Public Health, *The Influence of Neighborhood Environments on Management of Type II Diabetes*

Professor Mujahid’s research interests include social epidemiology and population health with an emphasis on racial/ethnic and place-based health disparities. Professor Mujahid employs interdisciplinary and community-based approaches to examining and intervening on the underlying causes of social disparities in health. Professor Mujahid’s current research examines how features of neighborhood environments impact cardiovascular health and health disparities. Using data from several U.S. based cardiovascular cohorts, Professor Mujahid seeks to improve the measurement of specific features of neighborhood physical and social environments and use state of the art statistical methods to estimate “causal” neighborhood health effects. She also works to provide empirical documentation of the contribution of neighborhood environments to race/ethnic differences in cardiovascular disease risk. In related research, Professor Mujahid seeks to understand the multi-level and multi-factorial determinants of the clustering of cardiovascular risk factors (obesity, diabetes, hypertension) in racial/ethnic minorities that contribute to the disproportionate burden of poor cardiovascular health in these population groups.

Holger Müller, Physics; LBNL, *Ultrafast x-rays and ultracold atoms*

Professor Holger Müller successfully applied for his first patent when he was 14. Later, he did his undergraduate thesis with Jürgen Mlynek at the University of Konstanz, Germany. He graduated from Humboldt-University, Berlin, with Achim Peters as advisor. Müller received a fellowship of the Alexander von Humboldt foundation and joined the group of Steven Chu in Stanford as a postdoc. In July 2008, he joined the physics faculty at UC Berkeley. His work uses methods from atomic, molecular, and optical physics. It is centered on advancing the experimental technology to push the sensitivity of experiments to new levels, and to perform precision measurements of fundamental quantities.


Kyle Steinfeld, Architecture, *Visualization Tools for Climate-Calibrated Design*

Professor Steinfeld specializes in digital design technologies. He teaches undergraduate and graduate design studios, core courses in architectural representation, and advanced seminars in digital
modeling and visualization. Professionally, he has worked with and consulted for a number of design firms, including Skidmore Owings and Merrill, Acconci Studio, Kohn Petersen Fox Associates, Howler/Yoon, Diller Scofidio Renfro, TEN Arquitectos, and others. His research interests include collaborative design technology platforms and bioclimatic design visualization. Kyle holds a Masters of Architecture from MIT and a Bachelor’s Degree in Design from the University of Florida.

**Michiko Taga**, Plant and Microbial Biology, *Shared Corrinoid Production in Microbial Communities*

Professor Michiko Taga earned a B.A. in Biology at Carleton College and a Ph.D. in Molecular Biology at Princeton University. Professor Taga’s lab is interested in understanding how vitamin B$_{12}$ and B$_{12}$-like compounds are produced and how these molecules function at an enzymatic, organismal, and community level.

**Lauren Williams**, Mathematics, *Applications of combinatorics to statistical physics and integrable systems.*

Professor Lauren Williams is currently organizing the Cluster Algebras program at the Mathematical Sciences Research Institute. Her research interests are in algebraic, enumerative, and topological combinatorics, and their connections with algebraic geometry. Professor Williams earned an A.B. in Mathematics at Harvard University and a Ph.D. in Mathematics at MIT.
Pieter Abbeel, Electrical Engineering & Computer Sciences, *Large-Scale Machine Learning for Connectomics*

Pieter Abbeel received a BS/MS in Electrical Engineering from KU Leuven (Belgium) and received his Ph.D. degree in Computer Science from Stanford University in 2008. He joined the faculty at UC Berkeley in Fall 2008, with an appointment in the Department of Electrical Engineering and Computer Sciences. He has developed apprenticeship learning algorithms which have enabled advanced helicopter aerobatics, including maneuvers such as tic-tocs, chaos and auto-rotation, which only exceptional human pilots can perform. His group has also enabled the first end-to-end completion of reliably picking up a crumpled laundry article and folding it. His work has been featured in many popular press outlets, including BBC, MIT Technology Review, Discovery Channel, SmartPlanet and Wired. His current research focuses on robotics and machine learning with a particular focus on challenges in personal robotics, surgical robotics and connectomics. He has won various awards, including best paper awards at ICML and ICRA, the Sloan Fellowship, and the Okawa Foundation award.

Duncan Callaway, Energy & Resources Group, *How big is the efficiency resource? Scalable evaluation of building energy efficiency potential and performance*

Dr. Callaway’s teaching focuses on power systems and energy efficiency. His research can be categorized in three areas: modeling and control of aggregated storage devices; power management; and system analysis of energy technologies and their impact. His research involves the use of a variety of methods, including stochastic modeling, system identification, dynamics and control, and spatial analysis. In general, his work focuses on improving energy efficiency and renewable resource utilization through novel energy system configuration and control strategies. Some of the specific application areas he works on include wind energy, demand response and load control, and plug-in electric vehicles.

Stephanie Carlson, Environmental Science, Policy & Management, *Dynamics of a Threatened Organism in a Seasonally Fragmented Stream Habitat*

Professor Carlson’s general interest is in understanding the dynamics of freshwater fish populations, particularly the factors that shape these populations and influence their persistence. Much of her research is field-based and incorporates elements of behavioral, population, community, and evolutionary ecology. Her research combines various field techniques including the tagging and tracking of individually-marked fish, experimental manipulations in the field, and direct observations. Through Professor Carlson’s current research, she seeks to understand the ecological context for variation in population dynamics and selection acting on natural populations. Wild populations are increasingly subject to disturbance from human activities, including from harvest, ecological interactions with invasive species, habitat degradation, and climate change. Much of her
current research relates to understanding the consequences of this human-induced selection. She believes that a better understanding of the process of human-induced selection and how organisms have evolved in response to human disturbances will result in more effective management and conservation efforts.

**Jacob Dalton**, East Asian Languages & Cultures/ South & Southeast Asian Studies, *On the Origins and Early Development of Tantra, Buddhist Ritual Manuals from Dunhuang*

Professor Jacob Dalton received his B.A. (Religious Studies) from Marlboro College, and his M.A. and Ph.D. (Buddhist Studies) from the University of Michigan. After working for three years (2002-05) as a researcher with the International Dunhuang Project at the British Library, he taught at Yale University (2005-2008) before moving to Berkeley. He works on Nyingma religious history, tantric ritual, paleography, and the Dunhuang manuscripts. He is the author of a forthcoming study on violence and the formation of Tibetan Buddhism, and co-author of *Tibetan Tantric Manuscripts from Dunhuang: A Descriptive Catalogue of the Stein Collection at the British Library* (Brill, 2006). He is currently working on a history of Tibetan Buddhism, as seen through the eyes of the “Sutra Empowerment” (*Mdo dbang*) tradition of the Nyingma school. Future plans include a study of tantric ritual in the Dunhuang manuscripts.

**Damian Elias**, Environmental Science, Policy & Management, *Mechanisms of Multimodal Integration: An evolutionary approach*

The goal of Professor Elias’s research program is to understand basic principals in behavior and behavioral adaptation. By exploring the interface between sensory physiology, behavior, and ecology, his lab seeks to identify basic principals of sensory integration, multimodal communication, complex signal evolution and how organisms adapt to biophysical constraints on these processes. Ongoing work in the lab focuses on vibratory and visual communication in invertebrate model systems.

**Munis Faruqui**, South & Southeast Asian Studies, *The Saiyid Barkat Ali Collection in the Re-evaluation of Emperor Aurangzeb’s Legacy*

Professor Faruqui teaches courses about Muslims in South Asia and Advanced Urdu. He is currently working on a monograph that focuses on the figure of the Mughal Prince to explore questions of Mughal state formation, imperial power, and dynastic decline in sixteenth- and seventeenth-century South Asia. Recent and forthcoming publications include an examination of the creation of the Mughal Empire under Emperor Akbar (r. 1556-1605); an investigation into the founding decades (circa 1720s-40s) of the princely state of Hyderabad; and a study of the mystic and Mughal prince, Dara Shukoh (d. 1659). His other research interests include Islam’s interaction with non-Muslim religious traditions, and the sixth Mughal Emperor Aurangzeb (r. 1658-1707).

Professor Feldman’s research expertise and interest include comparative diaspora studies, critical theory, public humanities, theories of race and ethnicity, U.S. cultural studies. "Special Relationships: Israel/Palestine and U.S. Imperial Culture, 1962-1982,” the working title to the book manuscript growing out of his dissertation, utilizes a comparative approach to globalizing twentieth century American connections to Israel/Palestine. While the idea that the U.S. has a "special relationship" with Israel has achieved the present-day status of unassailable common sense, his book shows how the articulation of this relationship has been both mediated and repeatedly contested in African, Arab, and Jewish diasporic literary culture and political theory. Heated questions about the meaning and function of race and ethnicity, national identity and imperial cartography, encampment and emancipation, genocide and Holocaust, security and social justice were central to these debates, connecting seemingly "domestic" concerns to the facts and fate of Israel/Palestine.

Meredith Fowlie, Agricultural & Resource Economics, Greenhouse Gas Emissions Reductions from Wind Energy: Location, Location, Location?

Professor Fowlie’s research interests lie at the intersection of empirical industrial organization, environmental economics, and public policy. Much of her work involves positive, and some normative, analysis of policy interventions designed to reduce the environmental impacts of energy production and consumption. She is particularly interested in understanding how market-based environmental regulations are working in practice.

William Fuchs, Haas School of Business, Bargaining and Trade in Thin Markets with Private Information

Professor Fuchs earned License in Economics and Business from the Universidad Torcuato Di Tella Buenos Aires, Argentina and a PhD in Economics from the Stanford Graduate School of Business. His main interests are in problems related to coordination and/or asymmetric information. Professor Fuchs’s approach to these problems draws heavily on game theory and dynamic contracts. Although Professor Fuchs mainly applies these tools he is also interested in their theoretical development.

Susan Gahl, Linguistics, Speaking "Up": Language development in Michael Apsted’s "Up" film series

Professor Gahl is interested in the relation between the form of language and the processes by which language is produced, understood, and lost (e.g. in language disorders, such as aphasia). She studies patterns of language form in order to understand mechanisms underlying language production and comprehension. A general hypothesis underlying her work is that our experience as speakers shapes the form of language, as well as the way we process language. Because of this relation between linguistic form and processing, Professor Gahl is interested in effects of usage probabilities and frequencies. Her work on pronunciation variation challenges the traditional "grammar vs. usage" distinction, by showing that usage-based syntactic probabilities affect pronunciation, in a manner inconsistent with the traditional distinction. At the methodological level, her work combines psycholinguistic experimentation and corpus linguistic investigations.

Yuriy Gorodnichenko, Economics, Genes, socioeconomic outcomes and economic development
Professor Gorodnichenko received his B.A. and MA at EERC/Kyiv-Mohyla Academy (Kyiv, Ukraine) and his Ph.D. at the University of Michigan. He is broadly interested in macroeconomics and issues related to transition economies (especially, labor markets and firm performance). His recent research is related to design of optimal stabilization policies (e.g., effectiveness of fiscal stimulus, inflation targets), sources of income differences across countries, and the role of informational frictions for business cycles. Professor Gorodnichenko teaches graduate and undergraduate classes in macroeconomics.

**Lin He**, Molecular & Cellular Biology, *The molecular mechanisms regulating the organ specificity of tumor metastasis*

Professor He’s research aims to identify and characterize novel ncRNAs that play essential roles during tumorigenesis and tumor maintenance. Particular efforts are focused on microRNAs (miRNAs), a novel class of small, ncRNAs that mediate post-transcriptional gene silencing (Fig.1). Using mouse tumor models and cell culture studies, she will elucidate the molecular basis of the miRNA functions in the oncogenic and tumor suppressor network, and explore the potential of miRNAs as diagnostic tools and/or therapeutical targets.

**Karl Kullmann**, Landscape Architecture & Environmental Planning, *Continuously Variable Density: Towards Topographically Sensitive Urbanism*

Professor Kullmann has 13 years of professional and academic experience in the fields of landscape architecture and urban design in Australia, Germany, and the United States. Professor Kullmann teaches courses in landscape design and planning, digital representation techniques, and a research seminar focusing on linear landscapes. In addition to having taught urban and landscape design studios across all scales, he has also taught courses in contemporary landscape theory and philosophy. His current research interests include investigating the relationship between linear landscapes and their urban context, explorations into concepts of orientation and disorientation in the contemporary city, and experiments in urban-growth scenario modeling. Professor Kullmann maintains an active professional practice, recent projects including an urban park, a city-wide entry/legibility strategy, and remote eco-settlement.

**Cindy Looy**, Integrative Biology, *The Late paleozoic deglaciation and evolution of conifers*

Professor Looy is a plant ecologist who investigates the response of Paleozoic plants and plant communities to environmental change during periods of mass extinction and deglaciation, and the possible evolutionary consequences. Her primary research is focused on several aspects of the end-Permian biotic crisis and its aftermath, and the transition from a glacial-dominated world to an ice-free one during the Late Carboniferous to the Middle Permian. Her studies strongly rely on an interdisciplinary approach combining quantitative palynological and paleobotanical data with organic geochemistry, isotope analysis, marine paleontology, biostratigraphy, ecology and plant physiology.
Craig Miller, Molecular & Cellular Biology, *Finding the genes that promote bone gain*

Professor Miller studies how pattern forms during development and changes during evolution. He focuses on the vertebrate head skeleton, using a genetic approach in the threespine stickleback fish, a species complex that has repeatedly evolved head skeletal adaptations. Professor Miller seeks to understand the genetic basis of craniofacial and dental pattern and how alterations to these genes result in evolved differences in morphology.

Tamara Roberts, Music, *Play Good: The Culture and Politics of Urban Women’s Drumming Communities*

Professor Roberts is a scholar, teacher, and artist devoted to exploring the aesthetic, political, and spiritual potential of imaginative performance. Her current research investigates the connection between sound and race, centering on forgotten interracial and intercultural histories of popular music in the U.S. Her dissertation, "Musicking at the Crossroads of Diaspora: Afro Asian Musical Politics," considers the relationships between black/Asian musical collaboration, interracial politics in the U.S., and the international Third World movement. Other research interests include musical representations of whiteness, the racial politics of the 1950/60s U.S. folk revival, the gendering of the voice, the politics of Buddhist chant and meditation, and intercultural percussion communities. In all, her work engages how music is used to construct individual and communal identities—often of seemingly disparate individuals—while at the same time holding the potential to render our lives more complexly than static labels of race, gender, and sexuality.

Janelle Scott, Education/African American Studies, *An Exploratory Study of Teach For America and Civic Engagement*

Janelle Scott earned a Ph.D. in Education Policy from the University of California at Los Angeles Graduate School of Education and Information Studies, and a B.A. in Political Science from the University of California at Berkeley. Prior to earning her doctorate, she taught elementary school in Oakland, California. Her research explores the relationship between education, policy, and equality of opportunity, and centers on three related policy strands: the racial politics of public education, the politics of school choice, marketization, and privatization, and the role of elite and community-based advocacy in shaping public education. Her work has appeared in several edited books and journals, including *The Peabody Journal of Education*, *Educational Policy*, *American Educational Research Journal*, and *Harvard Educational Review*. She the editor of *School choice and diversity: What the evidence says* (2005 *Teachers College Press*).

Tina Trujillo, Education, *An Exploratory Study of Teach For America and Civic Engagement*

Tina Trujillo studies the potential of policy and administrative levers to help create more equitable educational systems for traditionally underserved student populations. Using concepts from the politics of education and sociology, she currently examines how high-stakes accountability policies have established state-determined performance goals for districts and schools, and the resulting
expansion of centralized instructional regimes that prioritize program coherence and systemic alignment. She is interested in the political and organizational dynamics that shape educational leaders’ responses to these policies, as well as the types of instruction that are advanced, suppressed, or overlooked under such regimes - particularly for low-income students of color. A former urban public school teacher, school reform coach, and educational evaluator, Tina builds on her practical experience as inspiration for and insight into research and teaching. At Berkeley, she teaches Ph.D. students in POME and prepares educational leaders in the Leadership for Educational Equity Doctoral Program (LEEP) and Principal Leadership Institute (PLI).

**Jen-Chywan (Wally) Wang, Nutritional Sciences & Toxicology, Mechanisms of Glucocorticoid-induced Insulin Resistance**

The long-term goal of Professor Wang’s research is to elucidate the mechanisms underlying the effects of glucocorticoids on energy homeostasis and inflammatory response. His studies apply a combinatorial approach that includes biochemistry, genetics, chemistry and physiology, to dissect the fundamental mechanisms of physiological processes and to develop novel strategies for therapeutic intervention.

**Ahmet Yildiz, Physics, The Control of Intraflagellar Transport in Chlamydomonas Reinhardt II**

Professor Yildiz’s research is focused on pushing the limits of sensitivity further by developing fluorescence and force clamp techniques. He aims to understand how macromolecular machines inside the cell work individually and how their interaction play a key role in cellular processes. He is also using superresolution imaging techniques to visualize cell cycle dependent changes in DNA structure.
2010 Award Recipients

Jennifer E. Ahern, Public Health, *Pilot research with OEF/OIF Veterans on social environment factors protective against substance misuse*

In her quest to better understand how aspects of people’s communities shape their health and health behaviors, Professor Ahern is looking beyond community income at a wide variety of other community-level social factors, such as norms about particular health behaviors, and how they are related to health and health behavior. She is also looking at aspects of the built environment, such as the availability of parks and number of liquor stores.

Sonia J. Bishop, Psychology, *Identifying the neurocognitive mechanisms disrupted in Anxiety*

Disorders and developing non-pharmacological interventions specialized for specific patients Professor Bishop’s work focuses primarily on neural mechanisms supporting attention, emotion and their interactions. Her research also includes individual differences in cognitive control and emotional reponsivity; neural substrate of anxiety; genetic factors modulating recruitment of cortical “control” and limbic “affective” mechanisms.

Michelle C. Chang, Chemistry, *Building new chemical function in living organisms*

Professor Chang’s research laboratory utilizes the approaches of mechanistic biochemistry, molecular and cell biology, metabolic engineering, and synthetic biology to address problems in energy and human health. They design and create new biosynthetic pathways in microbial hosts for in vivo production of biofuels from abundant crop feedstocks and pharmaceuticals from natural products or natural product scaffolds. A unifying theme of all of her lab’s projects is a focus on gaining a detailed molecular understanding of how living cells control enzymatic processes within the context of the entire metabolic network. Specific projects under current investigation include (i) the in vivo production of biofuels from plant biomass, and (ii) the development of new biosynthetic methods for selective, catalytic C-F bond formation under mild conditions.

Danica Chen, Nutritional Sciences and Toxicology, *Identification of Novel Molecular Targets for Breast Cancer Chemoprevention*

Dr. Chen’s research aims to understand the aging process and to explore therapeutic targets to slow aging. In particular, she is focusing on sirtuins in mammalian aging. Sirtuins are genetic regulators of aging. They are believed to be mediators of calorie restriction responses, such as lifespan extension and amelioration of diverse diseases of aging, including cancer.

Professor Cheshire’s current research topics include: the role of information as the object of exchange in social exchange environments, the emergence of exchange systems and networks, the production of collective goods in exchange networks, the development of trust and cooperation in exchange networks, and the role of social psychological incentives in social exchange. The common thread in each of these topics is the interplay between the social and the structural aspects of the environments. For example, the development of trust, cooperation, and the creation of public goods are all social in the sense that they arise through the communication and behaviors of individuals. Yet, the connections (or lack of connections) between individuals often form network structures that encourage or constrain social interaction. By investigating both the social and structural aspects of information sharing and various forms of communication, we can gain a much richer understanding of our world.

Jeroen Dewulf, German, Amerindo Country: The Dutch Eurasian “Indo” Community in the U.S.

Professor Dewulf is director of the Dutch Studies Program (Queen Beatrix Chair) in the Dept. of German. He graduated in Dutch and German Philology at the University of Ghent, in Belgium. He holds a Master's degree in Comparative Literature from the University of Porto, in Portugal, and a Ph.D. in German Literature from the University of Bern, in Switzerland. He has taught Dutch Studies, German Cultural History and Comparative Literature in Portugal (University of Porto) and Brazil (University of São Paulo) and was visiting professor at the University of Antwerp. His areas of specialization are European Studies, particularly related to (multicultural) identity in the Benelux and Switzerland, and Postcolonial Studies, in particular Dutch, German and Portuguese colonial history and literature, as well as issues related to migration, race and hybridity.

Kathleen Donegan, English, Seasons of Misery: Catastrophe and the Writing of the Colonial Settlement

Professor Donegan writes and teaches about literature and culture in early America, from New World encounters through the first decades of the republic. Her special interest is in the early seventeenth century settlement -- and un-settlement -- of English peoples on Native lands. Donegan's book project, Seasons of Misery: Catastrophe and the Writing of Settlement in Colonial America, investigates the relationship between suffering and violence in these outposts and contact zones, and the role of misery in constituting colonial subjectivity. She also teaches courses on early American women writers; captivity, slavery and piracy; the colonial Atlantic world; racial formation in early America; and is working on an edited collection of colonial shipwreck narratives.

Paul Fine, Integrative Biology, The diversification of Amazonian trees: the role of insect herbivores and plant chemical defenses

The Fine Lab’s research investigates the origin and maintenance of Amazonian rain forest tree diversity. Professor Fine is especially interested in the role that biotic interactions and environmental heterogeneity play in the morphological, functional, and genetic diversity of tropical trees, and how these factors influence the distribution and speciation of plants. Current projects include studies of
Protium (Burseraceae), assembly of Amazonian plant communities and the diversification of the sister families Anacardiaceae and Burseraceae.

**Britt A. Glaunsinger**, Plant and Microbial Biology, *Getting the Message Right: How do Cells Eliminate Flawed RNAs*

Viruses not only have an intimate association with disease, but also represent superb tools to deconstruct the pathways that govern cell function. The Glaunsinger lab investigates the mechanisms by which γ-herpesviruses promote global decay of cellular mRNAs during lytic infection; we are especially interested in possible interplay between the viral host shutoff factor(s) and cellular mRNA degradation machinery. We anticipate that analyzing such interactions may provide key insight into how these viruses modulate their cellular environment and events that regulate mammalian mRNA turnover.

**Alastair Iles**, ESPM, *The Policy and Business of Building the Platform Molecules of the Biomass Chemistry Industry*

Professor Iles takes special interest in the trajectories that science and technology developments can take, and their implications for environment and society; the ways in which industry and consumption can become far more sustainable; how humans learn about environmental issues and become agents; and how new forms of societal governance, including regulation, can be created to foster greater democracy in science and technology.

**Rucker Johnson**, Public Policy, *Long-run Impacts of Head Start & School Quality on Adult Health & Socioeconomic Attainments*

Professor Johnson’s work considers the role of poverty and inequality in affecting life chances. He has focused on such topics as low-wage labor markets, spatial mismatch, the societal consequences of incarceration, the impacts of childhood school and neighborhood quality on adult health and socioeconomic success, and the effects of growing up poor and poor infant health on childhood cognition, educational attainment, and health over the life course.

**Jon Kosek**, Geography, *The Making of the Modern Bee: Towards a Critical Natural History of the Honeybee*

Professor Kosek received his doctorate in geography at the University of California, Berkeley (2002) and a masters degree at the Yale School of Forestry and Environmental Studies (1995). After receiving his doctorate, Jake held the Lang Postdoctoral Fellowship at Stanford University and was also a Lecturer there in the Department of Cultural and Social Anthropology. Subsequently, he received the Ciriacy-Wantrup Fellowship in the Department of Rhetoric at the University of California, Berkeley and then worked as an Assistant Professor in the departments of American Studies and Anthropology at the University of New Mexico before returning to the department of Geography at Berkeley. His current research builds on this past work on nature, politics and difference, using
conceptual insights from anthropology, science studies and theories of history to develop new approaches to natural history as both an object of critical inquiry and a conceptual tool.

Nicholas Mathew, Music, Political Music in Wartime Vienna, 1794-1815

Born in Norwich, in Norfolk, England, Professor Mathew took his first degree at Oxford University, studying the piano concurrently at the Guildhall School of Music and Drama in London. He moved to the US for graduate school, taking his doctorate at Cornell University, where he also studied period pianos with Malcolm Bilson. Before joining Berkeley, he returned to Oxford for three years, as a Junior Research Fellow in Music at Jesus College.

To date his published work has focused on the relationships between music and politics: the place of music in political institutions, the role of music in the public sphere, and the ways in which music constructs identity and subjectivity – as well as issues of appropriation, subversion, musical trashiness, and political kitsch. He is currently working on a book which re-examine the politically charged rhetoric and cultural contexts of Beethoven’s music and its later reception.

Lev D. Michael, Linguistics, Documentation and Analysis of Matsigenka, an endangered Amazonian language

Professor Michael is an anthropological linguist with an areal commitment to Amazonia and adjacent regions. His research focuses on the social, political, and cultural life of grammar, and conversely, on using our understanding of grammar to shed light on cultural history. In the former domain, his work focuses on the strategic uses of deictic grammatical categories (e.g. evidentiality) to create particular social effects, on the manipulation of phonological and morphological structure for verbally artistic ends, and on how languages as a whole come to serve as political resources and objects of political conflict. He is also interested in using genetic historical linguistics and contact linguistics as a tool for exploring the cultural history of Amazonia.

Benjamin W. Porter, Near Eastern Studies, Economic intensification on the Mamluk imperial frontier: A case study from Middle Islamic Dhiban (Jordan)

Besides being a faculty in the Near Eastern department, Professor Porter is also a curator of Near Eastern archaeology at the Phoebe A. Hearst Museum of Anthropology. He received his PhD in 2007 from the University of Pennsylvania’s Department of Anthropology. Porter co-directs the Dhiban Excavation and Development Project in Jordan, an archaeological field project investigating how agricultural communities dominated by imperial systems use technologies to organize agricultural and craft production in semi-arid, resource-scarce environments. He also co-directs the Dilmun Bioarchaeology Project with Sonoma State University’s Alexis Boutin. This project is researching and publishing skeletal evidence and artifacts from Peter B. Cornwall’s 1941 expedition to Bahrain and Eastern Saudi Arabia. Porter is also interested in critical social theory, the anthropology of tourism, and Near Eastern archaeology’s intellectual history.
Ronald L. Rael, Architecture, *Developing 3D Printing for the Rapid Manufacture of Ceramic Building Components*

Professor Rael’s research examines the convergence of digital, industrial and non-industrial approaches to making architecture. He was the recipient of a Graham Foundation Grant for 'Constructed Topographies: Earth Architecture in the Landscape of Modernity’, winner of the Architectural League of New York’s Deborah Norden Competition for 'Wadi Hadramut: Cities of Earth' and is author of *Earth Architecture* (Princeton Architectural Press, 2008), which examines the contemporary history of the oldest and most widely used building material on the planet - dirt. His practice, Rael San Fratello Architects, with Virginia San Fratello, works at the intersection of architecture, art, culture and environment and has won numerous words for their projects.

Brody L. Reiman, Art Practice, *Cartographic Itineraries: Rerouting the Art Object Through the Writer’s Home*

Professor Reiman received her B.F.A. from Carnegie Mellon University in 1992, and her M.F.A. from the University of California, Davis in 1994. She is known in the art world as half of the entity of castaneda/reiman who has worked together since 1994. Together they have exhibited in the Bay Area and throughout the United States, gaining critical recognition for their works. They have won a number of awards in the United States and abroad. Most recently, the San Francisco of Museum of Modern Art acquired one of their pieces.

Sayeef Salahuddin, EECS, *All Spin Logic for Ultra Low Power Computing*

Professor Salahuddin received his B.Sc. in Electrical and Electronic Engineering from BUET (Bangladesh University of Engineering and Technology) in 2003 and PhD in Electrical and Computer Engineering from Purdue University in 2007. He joined the faculty of Electrical Engineering and Computer Science at University of California, Berkeley in 2008.

His research interests are in the interdisciplinary field of electronic transport in nano structures currently focusing on novel electronic and spintronic devices for low power logic and memory applications. Professor Salahuddin has championed the concept of using ‘interacting systems’ for switching, showing fundamental advantage of such systems over the conventional devices in terms of power dissipation.

He received the Kintarul Islam Gold Medal from BUET in 2003, the Meissner fellowship from Purdue University, 2003-4, an IBM PhD Fellowship 2007-8, a MARCO/FCRP Inventor Recognition Award in 2007 and a UC Regents Junior Faculty Fellowship in 2009.

Laura Sterponi, Education, *Rethinking echolalia: Repetition as interactional resource in the communication of children with autism*
Professor Sterponi’s research focuses on the role of language and literacy practices in children’s education as well as children’s involvement in the production, transmission, and transformations of these cultural practices. As developmental psychologist, Laura is interested in learning and socialization processes. As applied linguist, she is centrally concerned with the role oral and written language plays in those processes. Her double background in psychology and applied linguistics prompts and enables her to explore the interplay of individual agency and socio-cultural determinations in language and literacy education.

Joan L. Walker, Civil and Environmental Engineering, Revolutionizing Transportation Modeling due to a Revolutionized Data Collection Environment

Prior to joining Civil and Environmental Engineering, Professor Walker was an Assistant Professor of Geography and Environment at Boston University. Walker received her Bachelor’s degree in Civil Engineering from UC Berkeley in 1991 and her Master’s and PhD degrees in Civil and Environmental Engineering from MIT. From 2001-2004 she served as Director of Demand Modeling at Caliper Corporation. Walker’s research focus is behavioral travel demand modeling, emphasizing methods and their application to urban issues including health, congestion, air quality, equity, and quality of life. Professor Walker is a recipient of the Presidential Early Career Award for Scientists and Engineers (PECASE). The PECASE program recognizes outstanding scientists and engineers who, early in their careers, show exceptional potential for leadership at the frontiers of knowledge. This Presidential Award is the highest honor bestowed by the U.S. government on scientists and engineers beginning their independent careers.

Feng Wang, Physics, Probe the Dynamics of Heterogeneous Photocatalysis for Solar Energy

As principal investigator of the Ultrafast Nano-Optics Group, Professor Wang leads its research in light-matter interaction in condensed matter physics, with an emphasis on novel physical phenomena emerging in nanoscale structures and at surfaces/interfaces. When electrons and phonons are confined in nanometer scale or at surface/interfaces, they respond differently to external stimuli. Professor Wang investigates the unique nature and dynamics of such excited states using advanced laser spectroscopy techniques.

Andrew Wurmser, Molecular and Cell Biology, Indentification of a novel role for TGF-β1 in the vascularization of glioblastoma multiforme

Professor Wurmser’s current research focuses on the mechanism by which neural stem cells convert to endothelial and smooth muscle cells is referred to as stem cell plasticity, a poorly understood phenomenon whereby tissue-specific stem cells broaden their developmental repertoires and differentiate to cells of another lineage. Thus, neural stem cell plasticity rather than angiogenesis may account for a significant proportion of blood vessel generation in brain, expanding the importance of the adult neural stem cell in maintaining the cellular composition and function of the central nervous system. His goal is to determine whether the neural stem cell plays an important, non-angiogenic role.
in the physiological and pathological remodeling of the vasculature.


Professor Zhou’s research can be broadly defined as understanding the developmental pathways towards behavioral problems and competence in childhood and adolescence. Taking a developmental psychopathology perspective, she is particularly interested in the following processes/aspects of development: a) temperament; b) emotion-related processing; c) family socialization, including parenting, parent-child and family relationship; and d) cultural influences on socio-emotional development. Professor Zhou investigates these questions in a variety of child/adolescent populations, including normative children and children at risk for maladjustment, and children of different cultural/ethnic backgrounds.
2009 Award Recipients


Assistant Professor Alon received his B.S., M.S., and Ph.D. degrees in Electrical Engineering from Stanford University in 2001, 2002, and 2006, respectively. In Jan. 2007, he joined the University of California at Berkeley as an Assistant Professor of Electrical Engineering and Computer Sciences, where he is now a co-director of the Berkeley Wireless Research Center (BWRC). He has also held visiting positions at Intel, AMD, Rambus, Hewlett Packard, and IBM Research, where he worked on integrated circuits for a variety of applications using bulk and SOI processes from 130nm down to 45nm.


Assistant Professor Arriola studies ethnic politics, party systems, and political economy in Africa. His current research focuses on the formation of multiethnic electoral coalitions among opposition parties in Africa. He has conducted field research in Cameroon, Ethiopia, Kenya, and Senegal. He has previously been a Fulbright scholar at the Institute of Ethiopian Studies at Addis Ababa University, a visiting researcher at the West African Research Center in Dakar, Senegal, and a predoctoral fellow at the Center on Democracy, Development, and the Rule of Law at Stanford University. He earned a BA from Claremont McKenna College, an MPA from the Woodrow Wilson School at Princeton, and a PhD in political science from Stanford.

**Diana M. Bautista**, Molecular & Cell Biology, *Molecular and Cellular Mechanism of Mammalian Touch and Pain*

Assistant Professor Bautista’s research focuses on how our somatosensory system underlies our ability to detect light touch and pain. The importance of somatosensation is underscored by diseases, such as diabetes and AIDS, which impair the ability to detect both gentle and harsh mechanical stimuli, and often lead to repetitive injury, irreversible tissue damage, and loss of limbs. Despite its widespread importance, little is known about the molecular mechanisms underlying our ability to detect mechanical forces. Her goal is to identify molecules that mediate mechanotransduction in vertebrate somatosensory neurons, the cells that convey our sense of touch and pain. Understanding the molecular basis of mechanotransduction will help elucidate pain mechanisms under normal and pathological conditions as well as provide new targets for drug design.

**Charles Blanton**, English, *Epic Negation: The Dialectical Poetics of Late Modernism, Aftereffects: Late British Style*
Assistant Professor Blanton specializes in the history of modernism and of modern poetry more generally, with a broad interest in the aesthetic and cultural theory of the last two centuries. He is currently working on two books: *Epic Negation: The Dialectical Poetics of Late Modernism, and Aftereffects: Late British Style*. He is co-editor of *Pocket Epics: British Poetry After Modernism* and of *A Concise Companion to Post-War British and Irish Poetry*, with Nigel Alderman.

**Rauri Bowie**, Integrative Biology, *Novel approaches for combining climate modeling with genetic data: birds from the Eastern Arc Mountains of Africa as a case study with which to test the evolutionary importance of stability*

Assistant Professor Bowie’s research centers on the use of molecular and morphological approaches to study population dynamics and evolution. Current research themes include: (1) the use of molecular markers, morphology and moult (in birds) to infer current and historical population processes at various spatial and temporal scales; (2) the effects of historical changes in habitat on current distributions and diversity of faunas, with particular reference to animals endemic to the high-altitude rainforests of eastern, central and southern Africa, and inselbergs of the arid Succulent Karoo; and (3) incorporating molecular and morphological data into conservation policy with the goal of developing methodologies that incorporate evolutionary processes into spatial development frameworks and conservation initiatives. His research is question driven as opposed to taxon driven, although he primarily focuses on birds, insects, marine mollusks and inshore rockfish. At present he has ongoing research interests in Kenya, Tanzania, Uganda, the DRC, Malawi, Namibia, Mozambique and South Africa, where much of his time is devoted to investigating the spatial and temporal connections among animal communities naturally isolated in forests on Africa’s tallest mountains and among boulders on Karoo koppies.

**Mary M. Cavanaugh**, Social Welfare, *The Dialectical Psychoeducational Workshop (DPEW) for Males At Risk for IPV: A Pilot Randomized Controlled Trial*

Assistant Professor Cavanaugh completed her doctoral studies at the University of Pennsylvania in Social Welfare and in Criminology. Her area of interests include the theoretical foundations of intimate partner violence, with a particular focus on examining the origins of violent behavior in male and female offenders; designing and testing primary prevention programs for at risk populations; and forensic social work. She has authored and co-authored a number of publications on intimate partner violence and on the intersection of mental illness and violent behaviors.

**Lu Chen**, Optometry, *Development of New Therapies for Corneal Inflammation and Transplantation*

Assistant Professor Chen’s current research focuses on Corneal Inflammation, Lymph/Blood Vascular Biology, Immunology, and Transplantation. Her research’s primary long-term goal is to use corneal models to elucidate molecular mechanisms of lymphatic vessel development, and their applications to lymphatic-related diseases both inside and outside of the eye; a necessary prerequisite to the development of new therapeutic protocols.
Melinda Chen, Gender & Women’s Studies, Leaded Bodies as Toxic Assests: National and Corporeal Security in Notions of Toxicity

Assistant Professor Chen grew up in Illinois and studied computer architecture before beginning Ph.D. studies in Linguistics at U.C. Berkeley, where an interest in issues of silence, gender, and minority language politics led to involvement in the Designated Emphasis in Gender, Women, and Sexuality. Her current book project explores stealth and explicit dehumanization, gendered, immigrant and racialized silences of language theories, and the stakes and workings of linguistic reclamation, integrating feminist theory, linguistics, cognitive science, and “race” and queer studies. Her new project concerns transgender participation among first- and second- generation “Asian” immigrants to the U.S., and the complicities and interrogations therein of “domestic” (U.S.) pan-Asian colonialist metaphors of gender. Computers continue to haunt her, in the forms of hobbyist consumerism, ill-fated repairs and melancholic fantasies of perfect design.

James Davies, Music, Romantic Neuro-science in Musical Performance, 1800-1845

Assistant Professor Davies was born in Cape Town. He took his first degree (majoring in performance) in Johannesburg and moved to the University of Cambridge, UK, to undertake his Ph.D. His latest research involves the cultural history of performance in the 1820s and 30s: shifting conceptions of musical hands and reflex action, notions of the voice in operatic singing, and the emerging discourse on nervousness in ‘electric performance’.

Nicholas de Monchaux, Architecture, Local Code: Towards Place-Based Intelligence in Prefabricated Design

Assistant Professor de Monchaux focuses his design practice and research on the intersection between organizational thinking and the built environment. His interdisciplinary design work and writings on cities, networks, and objects have been the subject of numerous articles, invited lectures, and symposia. He is the author of the forthcoming Spacesuit: 21 essays on Technology, Complexity, and Design (Princeton Architectural Press).

Karen S. Feldman, German, “The Importance of the Means”: Language and Style in Kant

Assistant Professor Feldman’s areas of specialization include hermeneutics and phenomenology, the Frankfurt School, German Idealism, feminist theory, literary theory and aesthetics. She received her B.A. from the University of Chicago (1989) and her Ph.D. from DePaul University (1998). Prof. Feldman was a Fulbright scholar at the Herzog August Bibliothek in Wolfenbüttel and in Berlin (1998-2000); and a postdoctoral fellow at the Graduiertenkolleg "Repräsentation, Rhetorik, Wissen." She is the author of Binding Words: Conscience and Text in Hobbes, Hegel and Heidegger (Northwestern University Press, forthcoming in 2005) and co-editor of Continental Philosophy: An Anthology (Blackwell, 1998). She has published articles on early modern and Continental thought in Journal of the History of Ideas, Philosophy and Rhetoric, Word and Image, Angelaki, Philosophy Today, and in edited collections. Her current research concerns figurality and literariness in the wake of Kant’s aesthetics.
Karsten Gronert, Optometry, Harnessing Endogenous Protective Circuit to Preserve Vision

Assistant Professor Gronert’s research is focused on elucidating and defining the molecular mechanisms of these protective pathways at the ocular surface. He is unique in that he has expertise in working with the eye while also having significant training and expertise in general pharmacology. Because Dr. Gronert also has an active research program addressing the role of these processes in the kidney and gastro-intestinal tract, his ability to compare and contrast how different sites regulate immune responses places him in a unique position to extend his research to encompass the eye and make significant contributions to the School and the profession of optometry. Dr. Gronert’s long-term goals are to develop a multidisciplinary research program to define protective circuits that regulate the execution of the essential inflammatory/reparative response and, thus, provide new therapeutic approaches to minimize and control ocular damage and diseases.

Maria Paz Gutierrez, Architecture, Building environmental control: thin film integration of hygrosensors and thermoelectrical/photovoltaic coating technologies for higher energy efficiency envelopes

Assistant Professor Gutierrez is co-founder of Gensler + Gutierrez interdisciplinary practice. Her design researches material bio-responsiveness addressing sensorial, cultural and biological phenomena. Gutierrez holds an M Arch from U Penn, post-graduate studies -U.S.P. Brazil and Arch Dipl- U.F.T. Chile. She previously taught at RPI, U Penn, and U.F.T. Chile. Gutierrez has been a material research consultant since 2003 for firms such as ECCB. She is presently developing research on hydro-responsive membranes and a book on biomimetic material systems design (Material Bio-Intelligibility). Her most recent publications include Material Bio-intelligence (ACADIA 2008), Architecture Responsiveness (Riverside Press 2006) and Bio-Responsive Material Visualization (ACSA-MaterialMatters 2008).

Amy E. Herr, Bioengineering, Development of a Non-Invasive Diagnostic Test for Renal Disease (Nephropathy)

Assistant Professor Herr’s research interests involve understanding the physics and biology of micro-scale biochemical analysis techniques and associated fluid mechanics. She is interested in characterization and development of high throughput, sensitive, efficient bioanalysis techniques involving MEMS technologies and the life and physical sciences. Such techniques are capable of assessing systemic health and disease states, thus permitting new detection, prevention and therapeutic strategies. She is particularly interested in microsystems that enable the study of proteins (expression levels, activities, regulation and interactions).

Robert Kaufman, Comparative Literature, Modernism After Postmodernism? Robert Duncan and the Future-Present of American Poetry

Assistant Professor Kaufman works in experimental poetics since Romanticism, and in aesthetic, cultural, and literary theory, which have led him to pursue three interrelated research projects. The first study is the forthcoming Negative Romanticism: Adornian Aesthetics in Keats, Shelley, and Modern
Poetry; the book examines the relationships between “second-generation” British Romanticism and modern attempts (from Keats, Shelley, and Kant, to Brecht, Vallejo, Zukofsky, and the Frankfurt School, to recent lyric poetry.)

Nicole King, Molecular & Cell Biology, *Insights into animal origins by comparative genomics of Sponges*

Assistant Professor King studies choanoflagellates and the evolution of multicellular animals from their unicellular ancestors. To better understand the origin and evolution of animals, her goals are to [1] determine the minimal genomic complexity of the common ancestor of animals, [2] elucidate the ancestral functions of genes required for multicellular development, [3] characterize choanoflagellate cell and developmental biology, and [4] test the hypothesis that the emergence of multicellular animals stemmed, in part, from the evolution of new modes of gene regulation.

Han Lim, Integrative Biology, *Jamming the small RNA signals required for bacterial survival and infection*

Assistant Professor Lim examines how genetic systems regulate phenotypic diversity in genetically identical populations. His work integrates mechanisms at the molecular, cellular, population and ecological levels using *Escherichia coli* as a model system. He uses a combination of theoretical and experimental approaches to identify general mechanisms for generating diversity in biological systems. This knowledge may help to develop better strategies to combat bacterial infections.

Tania Lombrozo, Psychology, *Empirical investigations of explanation and inference*

Assistant Professor Lombrozo explores several topics within cognitive psychology. How do we conceptualize the world around us? Why are we driven to seek explanations, and what makes some explanations more satisfying than others? How do we represent and reason about theoretically fundamental concepts like causation, functions, and moral status? Investigating these basic questions about cognition involves the marriage of experimental methods from psychology with the conceptual analysis of analytic philosophy. Accordingly, much of her work is informed by philosophy of science, epistemology, and moral philosophy.

Ana Maria Martinho, Spanish & Portuguese, *Culture, Media and Politics in Angola*

Assistant Professor Martinho teaches at both undergraduate and graduate levels. She offers courses such as "Ethnography and Literature", "Nation and Gender in Africa and Brazil", "Colonial History", and "Culture Media and Politics in Lusophone Countries". Her main interests are Portuguese and Luso-African Cultures and Literatures; Education and Development in Africa; Atlantic Cultures; African Diaspora and Emigration. She travels frequently to Africa and has worked with universities across the world, from Mozambique to South Africa, Thailand, Australia, Venezuela and Brazil. She has worked in projects in Guinea-Bissau and Angola in the fields of Education & Development and Higher Education. She has also an extensive cooperation record of working with non-profit organizations and governmental offices (EU - Belgium; Foreign Affairs Ministry Portugal) as a consultant, evaluator or collaborator in training and project planning.
Amani Nuru-Jeter, Public Health, The Psychological Effects of Racism Stress Among Black Women of Childbearing Age

Assistant Professor Nuru-Jeter’s broad research interest is to integrate social, demographic, and epidemiologic methods to examine racial inequalities in health as they exist across populations, across place, and over the life-course. Dr. Nuru-Jeter considers herself to be more “exposure” than “outcomes” focused, which is consistent with her interests in examining social factors such as “race” and “social class” as exposures that serve as the foundation for the creation and preservation of health disparities across a number of outcomes. She is interested in how these social exposures determine life experiences and opportunities differently for different social groups and how those differences become embodied and impact mental and physical health and well being.

Celine E. Pallud, Environmental Science, Policy, & Management, The future of the Salton Sea: Coupling transport and biogeochemical processes affecting selenium mobility

Assistant Professor Pallud works in the Soil and Environmental Biogeophysics Lab which focuses on the analysis and prediction of transport and fate of chemical species that are of importance to the functioning, quality and remediation of soils, surface sediments and water. More specifically, her research aims at a mechanistic understanding and quantitative characterization of microbial processes and their impact on the mobility, bioavailability and distribution of nutrients, metals and contaminants. As a consequence, her research is strongly multidisciplinary, standing at the interface between soil microbiology, soil geochemistry and soil physics and explores the coupled geochemical, biological and transport processes in soils and surface sediments. Her approach combines (i) field measurements, (ii) laboratory experiments that focus on the mechanisms, kinetics and equilibrium states of individual biogeochemical processes, and (iii) reactive transport modeling that ultimately allows predicting the response of a natural system to changing conditions.

Beth Piatote, Ethnic Studies, Indigenous Literacies

Assistant Professor Piatote’s research and teaching interests include Native American literature, history, law and culture; Native American/First Nations literature and federal Indian law in the United States and Canada; American literature and cultural studies; Ni:mi:pu: (Nez Perce) language and literature. She has published articles on Silko’s Almanac of the Dead and on museum representations of Plateau Indian history in Oregon. She is currently working on an indigenous feminism project which proposes a theory of "kinswomanism" as a model for addressing sexism both within and beyond native communities.

Chelsea Specht, Plant and Microbial Biology, The evolution of adaptive floral morphology in an ecologically important group of tropical monocots (Zingiberales)

Assistant Professor Specht’s lab focuses on studies in plant form and function. It uses traditional morphological techniques combined with molecular and evolutionary biology to study the natural
diversity of plants and to help better understand the forces creating and sustaining this diversity. Her research incorporates elements of systematics, population genetics and developmental biology to study the patterns and processes associated with plant speciation.

Chenxi Tang, German, *Imagining World Order: International Law and Literature from the Renaissance to the Nineteenth Century*

Assistant Professor Tang studied philosophy, comparative literature, and German literature at Peking University, Ludwig-Maximilians-Universität Munich (MA 1993), and Columbia University (PhD 2000). He had taught at the University of Chicago before joining the German Department at Berkeley in 2007. His research and teaching interests include German literature in the eighteenth and nineteenth centuries, cultural theory, social and political thought, and modern European intellectual history. His book *The Geographic Imagination of Modernity: Geography, Literature, and Philosophy in German Romanticism* traces the emergence of the geographic paradigm in Western thought around 1800. He is currently working on a book project entitled *Imagining World Order: International Law and Literature from the Renaissance to the Nineteenth Century*. This project investigates the ways in which literature joined hands with jurisprudence to envision a symbolic order of the world during the classical age of international law.

Cihan Tugal, Sociology, *Piety faces of the Mammon and the Pharoah: Islamicization as an associational response to the market and the state?*

Assistant Professor Tugal works on the role of religion in political projects. His research so far has focused on how the interaction between religion and politics shapes everyday life, urban space, class relations, and national identity. His book *Passive Revolution: Absorbing the Islamic Challenge to Capitalism* will be published in 2009. His previous research was published in Economy and Society, the New Left Review, the Sociological Quarterly, and edited volumes. The common thread of these chapters, articles, and the book is bringing in a cultural perspective to politics. Dr. Tugal also studies Islamic mobilization in Egypt and Iran, in order to understand why similar movements have not resulted in a comparable Islamic market consensus in these countries. He argues that Islamic politics has interacted with civil society and the state in different ways in these three cases, leading to the victory of neoliberalized Islam in Turkey, its defeat in Iran, and a stalemate in Egypt.

Evan A. Variano, Civil & Environmental Engineering, *Developing 3D Imaging and Velocimetry for Coastal and Riverine Sediment Motion*

Assistant Professor Variano’s research approaches from several directions the mysteries of transport and mixing in flows inspired by environmental processes. This research is centered in the Engineering Laboratory for Fluid Motion in the Environment (ELFME). His interests include designing devices to remove sediment from water supplies, especially in resource-limited environments (e.g. developing nations, disaster areas); predicting the effects of water management changes in the Florida Everglades; and designing systems for optimized mixing, transfer, and reaction rates.
2008 Award Recipients


Assistant Professor Raiford earned her doctorate in African American Studies and American Studies from Yale University in 2003. Before coming to Berkeley, she was the Woodrow Wilson Postdoctoral Fellow at the John Hope Franklin Humanities Institute at Duke University. Her teaching and research interests include race, gender and visual culture with an emphasis on film and photography; race and racial formations of the United States; twentieth century African American social movements; race and memory; and black popular culture.

Geoffrey Bower, Astronomy, *The Fly’s Eye: Opening a New Window on Fast Radio Transients*

Assistant Professor Bower received his A.B. in Physics from Princeton University in 1991, his M.A. in Astronomy from Berkeley in 1994, and his Ph.D. from Berkeley in 1997. His interests include the transient and variable universe, the kinds of sources that vary, and how we can use them to learn about a wide range of problems. The types of sources that he has studied include galactic stellar-mass black holes, massive black holes including the one in the Galactic Center, supernovae, pulsars, T Tauri stars, and dwarf stars.

Sanjay Kumar, Bioengineering, *Engineering molecular and cellular function through unstructured protein doma*

Assistant Professor Kumar’s research program lies at the interface of molecular and cellular bioengineering, with a specific focus on understanding how cells sense, process, and respond to biophysical inputs from their environment. His research group actively investigates molecular biophysical aspects of cellular mechanobiology, including the mechanics and dynamics of the extracellular matrix (ECM), cell-ECM adhesions, and the cytoskeleton, and the role these systems play in microscale tissue engineering, stem cell engineering, and neural tumor biology.

Seung-wuk Lee, Bioengineering, *Development of Novel Drug Delivery Vehicles Using Genetically Engineered Viruses*

Assistant Professor Lee's interests include bio-inspired nanomaterials and nanotechnology. His research group is developing new ways to fabricate high performance materials and devices through self-assembly processes by exploiting biological organisms such as viruses and cells. They are also designing synthetic viruses which can be exploited as regenerative tissue engineering materials and drug delivery vehicles.
Mohammad Mofrad, Bioengineering, Multiscale Models of the Bicuspid Aortic Valve: Linking Whole Organ to Cells

Assistant Professor Mofrad earned his doctorate from the University of Toronto in 1999. Before coming to Berkeley, he was a Visiting Assistant Professor in the Department of Mechanical Engineering at the Massachusetts Institute of Technology. Research in the Mofrad Lab (Molecular Cell Biomechanics Laboratory) is focused around two main goals: (1) to understand the principles underlying cellular mechanics, rheology, and mechanotransduction; and (2) to understand the multiscale biomechanical processes underlying cardiovascular tissue mechanotransduction involved in diseases like aortic valve calcification and arterial atherosclerosis.

Christopher Chang, Chemistry, Revealing Basic Mechanisms of Metal Function in the Brain through Molecular Imaging

Assistant Professor Chang earned his doctorate from MIT in 2002. In 2006 he won the National Science Foundation CAREER Award. His group’s research program uses inorganic chemistry, organic chemistry, and chemical biology approaches to explore new and interesting frontiers of science, with particular interest in the areas of neuroscience and energy research. A signature of the group is the ability to make new molecules for a targeted function.

Richmond Sarpong, Chemistry, Alleviating the Environmental and Economic Cost of Synthesizing Complex Molecules to Combat Lung Cancer

In 1991, Richmond Sarpong began his undergraduate studies at Macalester College (St. Paul, MN) where he was first introduced into organic chemistry research through an undergraduate project in the determination of absolute stereochemistry using the Mosher method. In the summer of 1995, he moved to Princeton University to begin doctoral research studying functional analogs of the enediyne antitumor antibiotics. In the fall of 2000 he began a postdoctorate at the California Institute of Technology. As an UNCF-Pfizer Postdoctoral Fellow at Caltech, he was part of a team that completed the first total synthesis of the protein phosphatase inhibitor dragmacidin D. In 2004, he joined the faculty at Berkeley. He is currently developing methodology to access a series of 7- and 5-membered ring fused bicycles.

Maneesh Agrawala, Electrical Engineering and Computer Science, Design Principles, Algorithms, and Interfaces for Visual Communication

Assistant Professor Agrawala’s research interests are visualization, computer graphics and human computer interaction. For the last several years he has been investigating the techniques and principles graphic designers use to improve the effectiveness of visualizations. The goals of this work are to discover the cognitive design principles and then instantiate them in automated design tools.

Sanjit Seshia, Electrical Engineering and Computer Science, Provably Error-Resilient Computing at Low Cost
Assistant Professor Seshia received his B.Tech. in Computer Science and Engineering from the Indian Institute of Technology, Bombay, and a M.S. and a Ph.D. in Computer Science from Carnegie Mellon University. He received the School of Computer Science Distinguished Dissertation Award at Carnegie Mellon (2005), an NSF CAREER award (2007), and a Sloan Research Fellowship (2008). His research develops algorithmic techniques for dependable and secure computing. Problems of interest range over several abstraction layers, from algorithms, through software, to circuits.

Rodrigo Almeida, Environmental Science, Policy and Management, Disrupting the transmission of insect-borne grapevine pathogens

Assistant Professor Almeida earned his doctorate in Environmental Science, Policy, and Management from Berkeley in 2002. His research focuses on the role of insect vectors in the spread of plant diseases. Approaches range from field work on disease spread and vector ecology to basic molecular interactions between vector and pathogen. The ecology of hemipteran insects and associated bacteria (bacterial symbionts) is another area of interest.

Perry de Valpine, Environmental Science, Policy and Management, Estimating predictability of ecological population dynamics

Assistant Professor de Valpine develops and applies statistical methods to analyze complex, noisy, ecological data using biologically realistic models. His research topics include population dynamics, species interactions, computational statistical methods, agricultural insect community dynamics, fishery dynamics and stock assessment, and life history evolution.

Sean Farhang, Goldman School of Public Policy, Why Does Congress Choose Lawsuits for Regulatory Enforcement?

Assistant Professor Farhang received his Ph.D. in political science from Columbia University and his J.D. from New York University School of Law. His research interests focus on law and politics, courts, and litigation in the regulatory process, with a methodological emphasis on institutions and political development. He teaches Goldman School of Public Policy’s core course in law and public policy, among other courses. He is currently working on a book manuscript examining the sources and consequences of private litigation in the policy enforcement process, stressing Congress’ role and motives in enacting (or not enacting) incentives calculated to mobilize this form of regulatory implementation within a separation of powers institutional framework. His research has appeared in political science and legal journals.

Randi Engle, Graduate School of Education, Framing Learning Contexts to Promote Transfer: An Experimental Study

Assistant Professor Engle is a learning sciences researcher who uses tools from cognitive science and discourse analysis to understand the principles and practices underlying effective discussion-based learning environments, especially in mathematics and science education. She studies both experienced and beginning discussion facilitators in order to better understand what is involved in
facilitating discussions in which participants are both (1) deeply engaged in productive intellectual work; and (2) able to generatively transfer what they’ve learned to their future endeavors. Her goal is to develop practical, empirically-grounded theories of these processes that will make it possible for more teachers to facilitate effective classroom discussions.

**Michael Deweese**, Helen Wills Neurosciene Institute, *A rodent model of selective auditory attention*

Assistant Professor Deweese’s laboratory combines behavioral, physiological and theoretical methods to elucidate the role of the cortex during auditory sensory processing. His lab is currently developing a rodent model of selective auditory attention, with the long term goal of uncovering the neural mechanisms underlying our remarkable ability to attend to some sounds while blocking others.

**Michael Silver**, Helen Wills Neurosciene Institute, *Pharmacological studies of spatial integration and visual perception in macular degeneration patients*

Assistant Professor Silver received his doctorate in Neuroscience from the University of California, San Francisco in 1999. Before coming to Berkeley he, was a Postdoctoral Fellow in the Department of Psychology at Stanford University from 2002 to 2005. His lab uses a combination of behavioral, neuroimaging, electrophysiological, modeling, and pharmacological techniques to characterize the neural pathways involved in the control of visual attention in humans and the effects of selective attention on processing of visual stimuli.

**Carlos Noreña**, History, *Mapping Urbanization in the Roman Empire*

Assistant Professor Noreña received his doctorate in Ancient History from the University of Pennsylvania in 2001. His work focuses on the history of the Roman empire (200 BC-AD 400), especially the political and cultural history of the first two centuries AD. His primary research interests are in the ideological and symbolic functions of the Roman emperor, and the cultural transformation of the Roman West.

**Rachel Brem**, Institute for the Quantitative Biosciences, *Signaling behaviors of the unfolded protein response in aging*

Work in Assistant Professor Brem’s group focuses on transcriptional regulatory networks and their variation between members of a species. When geneticists study a panel of DNA sequences from genetically distinct individuals, they often find that the genomes are riddled with differences, which can confer changes in mRNA expression level for thousands of genes. These naturally occurring regulatory differences can impact medically and agriculturally important phenotypes; in its own right, the genetics of regulatory variation also serves as a rich model system for the study of complex traits. The goal of Assistant Professor Brem’s group is to understand the molecular genetic principles that underlie regulatory variation, using computational and experimental approaches, principally in budding yeast.

**Daniela Kaufer**, Integrative Biology, *Rescuing neural stem cells from age-related silencing*
Assistant Professor Kaufer’s research program focuses on the molecular events that underlie the plasticity of the brain in face of stress and neurological insults, bridging the gap between the gross physiological effects, and the molecular and cellular events that underlie them. Her group’s current research focuses on three main projects: (1) hormonal regulation of adult neurogenesis in the dentate gyrus; (2) hormonal regulation of alternative splicing in neuronal and organismal stress responses; and (3) the molecular mechanisms underlying BBB opening and its consequences.

Russell Vance, Molecular and Cell Biology, "How are infections detected? A novel immune pathway for sensing bacterial pathogens"

Assistant Professor Vance’s lab is interested in all aspects of the complex interrelationship between pathogens and their hosts. In particular, his lab applies the modern tools of biology and genetics to answer a variety of questions at a molecular level: how is the presence of pathogenic bacteria sensed by hosts? Are pathogenic bacteria distinguished from harmless bacteria, and if so, how? What innate immune mechanisms protect cells from pathogens? How do cells coordinate defenses that are appropriate for various categories of pathogen? What mechanisms have pathogens evolved to evade host defenses?

Qing Zhong, Molecular and Cell Biology, "Degradation of Organelles"

Assistant Professor Zhong’s lab focuses on two types of programmed cell death: DNA damage induced apoptosis and stress induced autophagy, especially the regulatory steps through ubiquitin and ubiquitin-like modifications. Programmed cell death is a normal component of the development and health of eukaryote. In programmed cell death, cells die in a controlled and regulated fashion in response to a variety of stimuli. Assistant Professor Zhong’s lab studies apoptosis and autophagy mainly through an in vitro biochemical approach to map novel cellular pathways initiating these responses, then an in vivo approach to further define their cellular functions and regulations. Crosstalk between these pathways is also part of his lab’s research.
2007 Award Recipients

Sabrina Agarwal, Anthropology, Understanding Bone Maintenance and Fragility over the Life Course in a Neolithic Archaeological Population

Sabrina Agarwal, Assistant Professor of Biological Anthropology, received her B.A., M.Sc. and Ph.D. (2001) from the University of Toronto, followed by two years as a Postdoctoral Fellow at the Social Sciences and Humanities Research Council of Canada in the Department of Anthropology at McMaster University, and one year as a faculty member at the University of Toronto before coming to UC Berkeley. Her research interests are focused broadly upon the age and sex-related changes in bone quantity and quality, particularly the application of biocultural and evolutionary approaches to the study of bone fragility. Her work has examined age-related changes in cortical bone microstructure, trabecular architecture, and mineral density in several British archaeological populations. She is currently examining the long-term effect of parity and lactation on the human and non-human primate maternal skeleton.

Joshua Bloom, Astronomy, Studying Black Hole Growth: A New Window with New Surveys

Joshua Bloom, Assistant Professor of Astronomy, received his double A.B. in Astronomy & Astrophysics and Physics from Harvard University, his M. Phil. in Astronomy (1997) from Cambridge University, and his Ph.D. in Astronomy and Astrophysics from Caltech (2002). He is a Sloan Research Fellow. His research specialty areas are gamma-ray bursts, optical/infrared instrumentation, supernovae, black hole transients, and virtual observatory. Bloom's research group focuses on understanding the origin of high-energy transients, particularly gamma-ray bursts, and using such transients as astrophysical probes. Bloom is principal investigator for the largest robotic infrared telescope dedicated to the study of astrophysical transients. He is also co-investigator of an NSF-sponsored project to build a cyberinfrastructure for time domain astronomy.

Hillary Elfenbein, Business, On the Intuition That Some Negotiators Are Better Than Others

Hillary Elfenbein, Assistant Professor of Business in the Organizational Behavior and Industrial Relations Group, received her B.A. in Physics and Sanskrit Language, her M.A. in Statistics, and her Ph.D. in Organizational Behavior, from Harvard University. Her areas of research interest are emotion in the workplace, individual differences and cross-cultural differences in the communication of emotion, and person-job fit in terms of emotional climate.

Rachel Segalman, Chemical Engineering, Nanopatterning Organic Photovoltaics

Rachel Seglaman, Charles Wilke Assistant Professor of Chemical Engineering, received her B.S. University of Texas at Austin (1998) and Ph.D. University of California, Santa Barbara (2002). Her areas of research interest are chemical engineering, plastic electronic, stable conductive molecules, polymer properties, nanoscale morphology, oxidizable chemicals, and nanoscale polymer. Plastic electronics are an attractive route to a wide variety of inexpensive, lightweight, durable devices.
Much excitement in this area of research has focused on the synthesis of new, stable conductive molecules and devices. Her research focuses on first understanding how the nanoscale morphology impacts performance and then devising routes to control this behavior.

**Fotini Chow**, Civil & Environmental Engineering, *Atmospheric boundary layer dynamics over complex terrain: turbulent processes and land-surface forcing*

Fotini Chow, Assistant Professor of Environmental Engineering, received her B.S. in Engineering Sciences from Harvard University and her Ph.D., M.S. in Civil and Environmental Engineering from Stanford University. Her research interests are environmental fluid mechanics, large-eddy simulation, turbulence modeling, atmospheric boundary layer flow, flow over complex terrain, urban dispersion modeling, and coupled land-atmosphere modeling.

**Jose Carmena**, Electrical Engineering & Computer Sciences, *Sensori-motor neuroprosthesis for the neurologically impaired*

Jose Carmena, Assistant Professor of Biosystems and Control, Intelligent Systems and Robotics, received his B.S. Electrical Engineering from Polytechnic University of Valencia, Spain (1995), his M.S. in Electrical Engineering, University of Valencia (1997), his M.S. in Artificial Intelligence (1998) and his Ph.D. in Robotics from University of Edinburgh (2002). His current research focuses on brain-machine interfaces and the neural basis of sensorimotor learning and control. His research focuses on the neurophysiological, engineering and clinical implications of the interface between brains and machines. The brain-machine interface (BMI) paradigm contends that a user can perceive sensory information and enact voluntary motor actions through a direct interface between the brain and an artificial actuator in virtually the same way that a person can see, walk or grab an object. As a result of long-term use of the BMI, the brain adapts to the artificial actuator by incorporating its dynamic and physical properties into a somatosensory representation.

**Claire Kremen**, Environmental Science, Policy & Management, *How does biological diversity promote ecosystem services: a mechanistic study of almond crop pollination in a changing California landscape*

Claire Kremen, Assistant Professor of Conservation Biology and Entomology, is interested in mechanisms for slowing or preventing the loss of biodiversity. A central goal is to provide information, techniques or tools of use to real-world situations. Current projects include working in Madagascar within the "protected area", leading a large, international group of colleagues. Her group has received a new grant from the MacArthur Foundation, and is working with conservation partners at Wildlife Conservation Society, World Wildlife Fund and Conservation International to generate strategies for reserve design in Madagascar, and develop local capacity to store, manage and utilize biodiversity data. In Northern California and New Jersey, she is investigating the interrelationship between land use practices, wild bee communities, and pollination services that these bees provide to crops on farms.

**Deborah Blocker**, French, *How “art” became “art”: discourses on the “arts” in early modern Europe (1500-1800)*
Deborah Blocker, Assistant Professor of French, specializes in the social history of literary practices in early modern France, with a particular interest in theater. She is currently completing a book entitled *Instituer un “art”: politiques du théâtre dans la France du premier XVIIe siècle*, to be published by Honoré Champion in Paris. This project has led her to develop a larger curiosity for the social and political constitution of discourses on poetry and the arts (poetics, aesthetics) in early modern Europe, with a specific focus on the circulation of texts, references, and concepts from university settings to courts and salons.

**Victoria Frede**, History, *The Making of Russian Atheism, 1780-1870*

Victoria Frede, Assistant Professor of Modern European History, received her B.A. from Cambridge University (1993), her M.Phil. from the School of Slavonic and East European Studies, University of London (1996), and her Ph.D. in History from the University of California, Berkeley (2002). Her research interests are Imperial Russia, late eighteenth and nineteenth centuries Russian intellectual history, with comparisons between developments in Russia, Germany, France and Britain history of anti-religious thought.

**Abena Osseo-Asare**, History, *Bitter Roots: Medicine, Markets and the Search for Healing Plants in Africa*

Abena Osseo-Asare, Assistant Professor of History, received her A.B. in History and Science (1998) and her Ph.D. in History of Science (2005) from Harvard University. Her general research interests include: the history of scientific knowledge, popular culture, and natural resource management with an emphasis on experiences in Africa. She studies the disjuncture between elite and popular understandings of health, technology and the environment in different historical periods, with an eye towards how history might inform public policy today. Her current research focus is the history of drug prospecting in Africa, addressing the ways in which patents, databases, and chemical formulas shape rights to medicinal plants and related pharmacological knowledge. This project places the history of drug discovery in an international framework to better understand the global pharmaceutical industry. She is affiliated with the Science, Technology, and Society Center, Center for African Studies, and Department of Anthropology, History and Social Medicine at UCSF.

**Sheila Patek**, Integrative Biology, *Evolutionary physiology of communication in the sea*

Sheila Patek, Assistant Professor of Integrative Biology, received her undergraduate degree from Harvard University, doctoral degree from Duke University, and conducted her postdoctoral research with a Miller postdoctoral fellowship at UC Berkeley. Her areas of research interest are biomechanics, evolution, and animal behavior. Her research integrates biomechanics and evolutionary analyses to address broad questions about animal behavior. Her recent studies have focused on the violin-like biomechanics of spiny lobster sound production and the mechanical design underlying the extreme speeds generated by mantis shrimp forelimbs. Her teaching interests include animal behavior, physiology and biomechanics, and invertebrate biology.

**Gregory Barton**, Molecular and Cell Biology, *Identification of mechanisms preventing autoimmunity due to Toll-like reception activation by self nucleic acids*
Gregory Barton, Assistant Professor of Immunology, studies the innate immune system. He is particularly interested in the Toll-like receptor (TLR) family. Work in his lab is currently focused on understanding how TLRs mediate differential responses to distinct pathogen classes. These studies have implications for the study of infectious disease, autoimmunity, and vaccine development. The logic behind the particular combinations of features for each TLR is unknown and represents one of the most fundamental aspects of TLR biology. The goal is to use in vivo models to reveal the principles that govern how this receptor system works.

Irfan Siddiqi, Physics, *Single Molecule Magnetometry: A Route to Testing the Limits of Quantum Mechanics*

Irfan Siddiqi, Assistant Professor of Physics, received his A.B from Harvard University and his Ph.D. in Applied Physics from Yale. His areas of interest are Condensed Matter Physics and Materials Science. He and is currently working primarily on Quantum Amplifiers and Variable Tc Hot-Electron Mixers.

Arash Komeili, Plant & Microbial Biology, *Biomineralization of Magnetic Minerals in Bacteria*

Arash Komeili, Assistant Professor of Plant and Microbial Biology, received his B.S. in Biology from MIT and his Ph.D in Cell Biology from UCSF. His area of research interest is bacterial organelles. His lab uses a combination of cell biological, genetic and biochemical approaches to define the physical characteristics of the magnetosome and identify key genes involved in controlling its production and function. Earlier work showed that the magnetosome membrane is an independent organelle that pre-exists the formation of magnetite and that magnetite synthesis proceeds simultaneously from multiple adjacent magnetosomes. Recently, the work of several groups including his has led to the identification of a large genomic region with many genes encoding proteins that are localized to the magnetosome and are essential for magnetite formation. The challenge now is to understand the specific functions of these genes and how their products interact to form a magnetosome.

Lance Kriegsfeld, Psychology, *Impact of Chrono-Neuroendocrine Disruptions on Adult Neurogenesis and Cell Death*

Lance Kriegsfeld, Assistant Professor of Behavioral Neuroscience, received his Ph.D. from Johns Hopkins University. His research interests are behavioral neuroendocrinology, circadian biology, reproductive behavior and physiology, seasonality/photoperiodism, behavioral genetics, and behavioral neuroscience. The broad goal of the research in his laboratory is to understand the genetic, cellular, and hormonal mechanisms responsible for the temporal control of motivated behaviors and their underlying physiology, with a particular interest in the mechanisms by which the circadian system coordinates myriad neural and peripheral processes to maintain homeostasis and promote optimal psychological and physiological functioning. His laboratory is also interested in investigations of timing on a yearly schedule.

Sandra Smith, Assistant Professor of Sociology, received her B.A. from Columbia University and her Ph.D. from the University of Chicago. She came to Berkeley in 2004 after a postdoctoral fellowship at the University of Michigan’s Poverty Research and Training Center (now the National Poverty Center) and four years as an assistant professor of sociology at New York University. Smith is currently completing her first book, which she has tentatively entitled *Lone Pursuit: Distrust and Job-Finding among the Black Urban Poor*, which highlights the role that joblessness discourses play in spawning pervasive distrust between jobseekers and their potential job contacts. In prior work, Smith has also been concerned with issues of intra-racial relations, its causes and consequences.

Lisa Wymore, Theater, Dance & Performance Studies, *Immersive Choreography: The expansion of perceptual and haptic formations of the body in relationship to real and virtual worlds through the development and analysis of new modes of choreography utilizing 3D Tele-Immersion technology*

Lisa Wymore, Assistant Professor of Theater, Dance & Performance Studies, received her M.F.A. in Dance from the University of Illinois, Urbana-Champaign (1998), moved to Chicago to begin her career as dancer, choreographer, and teacher, and was a faculty member within the Northwestern University Dance Program from 2000 to 2004. Wymore is the Co-Artistic Director of Smith/Wymore Disappearing Acts; a dance-theater-performance group based in San Francisco, which has won numerous awards including Best Interdisciplinary Performance and Best Use of Technology at the Chicago PAC/Edge Festival 2004 and was nominated for two 2006 Isadora Duncan awards (San Francisco Dance Awards) for Best Choreography and Best Design. Wymore is currently the Director of two projects: The most current project is entitled *The Resonance Project*. It involves a team of choreographers, computer engineers, and visual and sound artists who are investigating 3-D presence/co-presence and corporeal and code interactivity within live and media based performance. The second project is entitled *Parking Space*. This project is a site-specific community based dance performance which will take place in a local parking lot in the city of Los Banos, California in June 2007.
2006 Award Recipients

Ernesto Dal Bó, Business, *Political elites and the dynastic transmission of power.*

Ernesto Dal Bó, Assistant Professor of Haas School of Business and Travers Department of Political Science, is interested in political economy issues, applied microeconomic theory, corruption and influence, collective decision-making, endogenous institutions, political parties, coercion, and social conflict. His current research concerns the role of peer effects, social ties, and families as a transmission mechanism in the perpetuation of social asymmetries in the political arena.

Philip Lewis Geissler, Chemistry, *Designing DNA sequences that organize nanocrystal arrays.*

Philip Lewis Geissler, Assistant Professor of Chemistry, focuses his research on theoretical chemistry. His interests lie in exploring the microscopic behavior of complex biological and material systems by using the tools and concepts of statistical mechanics to develop theories and simplified models for chemical phenomena in condensed phases, for biomolecular structure and dynamics, and for the role of fluctuations in nanoscale materials. In his current research he is constructing models for the polymeric framework of living cells, which can exhibit dramatic dynamical restructuring, in an attempt to understand the mechanical aspects of cell signaling.

Todd M. Hickey, Classics, *Reading the Papyri of a Priestly Family: Social Relations and Cultural Negotiation in Egypt under Roman Rule.*

Todd M. Hickey, Assistant Professor of Classics, is the first papyrologist employed by the University in nearly thirty years. Since his arrival in 2001, steady progress has been made in the conservation, digitization, decipherment and publication of the Tebtunis papyri. His research interests lie in deciphering Tebtunis papyri and employing them to engage in important topics in the social and cultural history of Roman Egypt, including the resources and status of Egyptian village priests, their social networks, and their negotiations with elite culture.


Richard Allen, Assistant Professor of the Seismological Laboratory in the Department of Earth & Planetary Science, is interested in tomographic imaging of the Earth’s interior to constrain three-dimensional structure using integrated seismic techniques, and, in particular, mantle upwelling processes, coupling with crustal deformation and surface volcanism. His current research concerns mapping the characteristics of newly identified slow deformation in the Cascadia region to image the three-dimensional geometry of the subducting and overriding plates in an effort to characterize the megathrust earthquake cycle in the Pacific Northwest.

Dan Klein, Assistant Professor of Computer Science, focuses on the automatic organization of natural language information (NLP). He is interested in the areas of unsupervised language acquisition, machine translation, efficient algorithms for NLP, information extraction, linguistically rich models of language, integrating symbolic and statistical methods for NLP, and organization of the web. Currently, he is investigating novel methods for improving machine translation.


Justin Brashares, Assistant Professor of Ecosystem Sciences in the Environmental Science, Policy & Management Department, focuses his research broadly on the ecology, management and conservation of larger vertebrates, particularly mammals. Much of his work is field-based and incorporates elements of population, community, landscape and behavioral ecology to investigate impacts of over-exploitation, isolation and habitat loss on vertebrate populations and communities. He is actively involved with research concerning causes and ecological consequences of bushmeat hunting in Africa, ecology and conservation of small populations, and inter- and intra-specific variation in ecology and behavior. His work in these areas relies on data from long-term monitoring of animal abundance and distribution as well as information gained in the study of individually identified animals. His fieldwork currently is conducted in West Africa, East Africa and western North America.


George Bentley, Assistant Professor of Integrative Biology, is interested in how the brain regulates an animal's constantly fluctuating endocrine status to keep it in tune not only with the physical environment but also the social environment. His research focuses on the role of less tangible stimuli, such as auditory and visual cues, pheromones, temperature and light sensitivity in the endocrine system. He seeks to study the role of Gonadotropin-Inhibitory Hormone in the regulation of reproduction to provide a new picture of the vertebrate reproductive system.

Leslea J. Hlusko, Integrative Biology, *Searching for our ancestors: Surveying for new fossil sites in Tanzania*.

Leslea J. Hlusko, Assistant Professor of Integrative Biology, is currently studying the genetic and developmental basis of mammalian skeletal evolution and variation by looking at primate dentition. She has been analyzing the teeth of the pedigreed breeding colony of baboons, enabling her to model statistically the roles genes play in the overall population of the colony, in traits such as tooth size, enamel thickness, and extra cusps on teeth. She has then integrated genetic data with the fossil record to study morphological evolution from a genotypic perspective. Her research on the modern baboon provides her with insight on the genetics that influence anatomical variation. It also enables her to reconstruct the genetic evolutionary history of primate dentition through interpretation of the fossil record.

Anne M. Joseph, Assistant Professor of Law and Lecturer for the Political Science Department, has research interests in administrative law, economics and politics of regulation, and science and the law. In 2002 she received a doctorate from Harvard University in Political Economy and Government, an interdisciplinary program between the Economics and Government Departments. Her dissertation focused on strategic oversight of the American bureaucracy, including how "auditors" (such as the Government Accountability Office) may build and use their reputations in conducting investigations of policy programs. Currently, she is researching recent federal agency leaders and examining who these appointees are, what they accomplish, how they are overseen, and why they leave their positions.

Lynn Nichols, Linguistics, Defective Nouns and the Complexity of Noun Meanings.

Lynn Nichols, Assistant Professor of Linguistics, is interested in syntactic theory, semantics, Burmese, Southwestern Pueblo Languages, and Korean. She combines research in generative syntax and formal semantic theory with an interest in a wide variety of syntactic and morphosyntactic phenomena. She is involved in on-going fieldwork on Burmese and has conducted extensive fieldwork on Zuni (Southwestern US), as well as South Asian, Southeast Asian and East Asian languages. She recently completed a book on syntactic phenomena associated with propositional attitudes (The Syntax and Morphosyntax of Propositional Attitude Complementation, 2001) and is currently working on another monograph on the morphosyntax and semantics of conditionals and counterfactuals, based on research funded by a grant from Harvard University's Mind/Brain/Behavior Initiative.


Jan T. Liphardt, Assistant Professor of Biophysics, has a strong interest in nonequilibrium statistical mechanics and polymer physics. His research projects include mixtures of physics, materials science, and biology. Specifically, he concentrates on developing novel instruments and probes for single molecule research, using nanopores fabricated in silicon nitride membranes to characterize biopolymers, and creating biobots, which are small (~100 to 300nm) objects that are designed to exhibit interesting mechanical and biological properties.


Ashvin Vishwanath, Assistant Professor in Condensed Matter Theory, is interested in systems of many quantum particles, where strong interactions lead to new states of matter. His current research includes projects in fractionalization, unconventional quantum phase transitions, and phenomenology of superconductor quasiparticles.

Darlene D. Francis, Assistant Professor of Cognition, Brain & Behavior in the Department of Psychology and the School of Public Health, is interested in behavioral neuroscience, developmental psychobiology, animal models, stress, maternal care, and gene-environment interaction. Her primary research interest in the bidirectional relationship between biology and psychology (biopsychology), focusing on the interplay between the environment and neurobiology. She employs animal models to study this complex relationship, concentrating on the relationship between genes and the environment at multiple levels: behaviorally, hormonally, neurobiologically, and genetically.

Rodolfo Mendoza-Denton, Psychology, *Effects of Prejudice on Cardiovascular Health.*

Rodolfo Mendoza-Denton, Assistant Professor of Social/Personality in the Department of Psychology, is interested in prejudice, stereotyping, cultural influences on social cognition, personality, intergroup processes, and coping. More specifically, he draws from an interactionist, Person-by-Situation (P x S) perspective to understand how marginalization of one's social group affects basic processes related to social identity and intergroup relationships. His recent collaborative research outlines a theoretical model of the psychological processes that mediate the behavior of members of stigmatized groups as they interact with majority group members and pursue their goals in major social institutions. He also examines psychological mechanisms that may facilitate adaptive coping in the face of stressful events. Currently, he is examining whether interactionist self-encoding is effective among people who are particularly vulnerable to negative affect in a given domain.

Jonathan D. Wallis, Psychology & Neuroscience, *Role of Prefrontal Cortex and Dopamine in Control of Choice Behavior.*

Jonathan D. Wallis, Assistant Professor of Cognition, Brain & Behavior in the Helen Wills Neuroscience Institute and the Department of Psychology, is interested in executive control and goal-directed behavior. His research is focused on understanding how goals are represented in the prefrontal cortex, and how these goals are then used to control our actions. Currently, he is investigating how the prefrontal cortex chooses between widely different and often competing goals, the neuronal mechanisms that relate goals and sub-goals, and what mechanisms allow us to change our plans as goals change.
2005 Award Recipients

Corinne Hayden, Anthropology, *(At) the end of the patent: Generic medicines and the “health of the public” in Mexico.*

Cori Hayden, Assistant Professor of Social Cultural Anthropology, is interested in the anthropology of science, technology, and medicine; Latin America (particularly Mexico); post-colonial science studies; and kinship, gender, and queer studies. She is a cultural anthropologist and works on the contemporary biosciences in the Americas and the U.K. Her work has primarily explored how claims to and about biological material and knowledge help shape contemporary social imaginaries of participation and marginalization. She is currently exploring the ethics and practice of clinical trials in Latin America, as well as the rise of an ethic of benefit-sharing in human genetic research. She is interested in critical, ethnographically grounded approaches to intellectual property regimes, ethics, and other modes of governance; in developments in the emergent field of science studies in and of Latin America; and in how ideas of the public are constituted through the biosciences, both North and South.

Saba Mahmood, Anthropology, *Secular Islam and its Discontents: The Case of Middle East and South Asia.*

Saba Mahmood, Assistant Professor of Social Cultural Anthropology, focuses her research on the anthropology of subject formation, liberalism, and secular modernity; feminist and poststructuralist theory; religion and politics; and Islam, the Middle East, and South Asia. Her interests lie in exploring historically specific articulations of secular modernity in postcolonial societies, with particular attention to issues of subject formation, religiosity, embodiment, and gender. In her forthcoming book, Politics of Piety: The Islamic Revival and the Feminist Subject, she addresses some of these issues through ethnography of a women’s piety, and movement that is part of the larger Islamist movement in Egypt. Professor Mahmood’s second project focuses on secular-liberal interpretations of Islam in the context of the Middle East and South Asia. Her current project is an exploration of the writings of key Muslim reformers from the early twentieth century, as well as some of their contemporary followers in Pakistan, India, Egypt, and Syria.

Daniel Fletcher, Bioengineering, *Some assembly required: Rebuilding the actin motility machinery.*

Dan Fletcher, Assistant Professor of Bioengineering, has research interests in the areas of optical and force microscopy, microfabrication, and the mechanical properties of cells.

Haw Yang, Chemistry, *Visualizing Complex Biochemical Processes at the Single-Molecule Level.*

Haw Yang, Assistant Professor of Physical Chemistry and Biophysics, is interested in how optical single-molecule spectroscopy is developed and utilized to investigate the dynamics of single biological macromolecules. Whether acting alone or working together, biological macromolecules are capable of performing remarkably different functions. Such functional diversity arises from the
structural complexity of biomolecular assemblies. The manner by which the conformation of an assembled complex changes to accomplish its tasks, amid the continual and random influence of solvent and other biological macromolecules, is a key element to the fundamental understanding of the structure-function relationship. Optical single-molecule spectroscopy provides direct microscopic information regarding the distribution of molecular properties, the time sequence of events, and insight to the underlying cause of changes. These advantageous features make optical single-molecule spectroscopy a powerful tool for investigating the complicated biological machinery in molecular detail.


Jiwon Shin, Assistant Professor in the Korean Program, specializes in Korean literature and culture from the late Chosôn period through the modern era, focusing on issues of space and identity. Her research interests include: intersection of literature and cartographic imagination; conceptions of urban culture and literary coteries; early modern print culture; and nationalist aesthetics. She is working on a book manuscript on late 18th and 19th century literary culture in Seoul. She also translates cultural theories and feminist criticisms as well as literary works from contemporary South Korea.


Ras Bodik, Assistant Professor of Computer Science, works with program analysis: mining of correctness specifications, assertion-generating analysis; run-time optimization: transparent program specialization, type-check optimization; and computer architecture: bottleneck analysis, hardware algorithms for program analysis. His areas of interest are programming languages, compilers, computer architecture and engineering. He also co-leads the BAFL project, which develops methodology for processors to self-tune based on their introspective understanding of their performance bottlenecks.


Donna Jones, Assistant Professor of English, is interested in 20th-Century American literature; 20th-Century British literature; postcolonial and world literature; critical theory; and narrative and the novel. Currently, she is working on literature of the Americas, literature of the African Diaspora, modernism, literature and philosophy, and narrative and historiography.


Sara McMains, Assistant Professor of Mechanical Engineering, is interested in geometric Design for Manufacturing feedback and solid modeling, CAD/CAM/CAPP, layered manufacturing, computer aided process planning, computer graphics and visualization, virtual prototyping, and virtual reality.
David Bilder, Molecular and Cell Biology, *Identification of Malignant Tumor Suppressors via a Novel Genetic Screen in Drosophila.*

David Bilder, Assistant Professor in the Division of Cell and Developmental Biology and an Affiliate in the Division of Genetics and Development, focuses his research on epithelial architecture, polarity, and proliferation control. He is exploring the fundamental question of cell biology using a simple cell type (epithelia) in a genetically manipulable organism (Drosophila). Professor Bilder's lab has adapted targeted mosaic techniques to screen, in vivo and in an unbiased manner, for genes required for cells to assume the highly regular epithelial organization. Cloning and characterization of these genes will reveal the mechanisms that regulate general cellular elements, such as the cytoskeleton and protein trafficking systems, in order to confer specific cellular architectures. Since epithelial organization is compromised during the progression of mammalian malignant tumors, his research also studies how polarity disruption in the fly can promote the acquisition of cancer-like cellular properties.

Michael B. Eisen, Molecular and Cell Biology, *Genomic Dissection of the Fungal Infection Responsible for Global Amphibian Decline.*

Michael Eisen, Assistant Professor in the Division of Genetics and Development and a member of the Lawrence Berkeley Laboratory, Life Sciences Division, is interested in genomics and bioinformatics. His lab works on how genome sequences specify organismal form and function. In particular, the research is interested in understanding how the complex, coordinated patterns of gene expression that underlie animal development and the responses of microbes to changes in their environment are orchestrated by information in genome sequences. He is addressing these questions using both experimental and computational genomic techniques.

Shahwali Ahmadi, Near Eastern Studies, *Parables of Memory and Vision: Anomalies of History and Form in Modern Fiction of Afghanistan.*

Shahwali Ahmadi, Assistant Professor of Persian Literature, specializes in classical and modern Persian literature, and comparative literary theory. His research is multidisciplinary and draws from comparative literary studies, literary theory, philosophy, history and critical social sciences, and cultural studies. He is especially interested in the emergence of the idea of subjectivity and selfhood in Persian literature in the latter part of the nineteenth century concurrent with the advent of modernity in the Persian speaking cultural milieu. He is currently researching modern literature (specifically narrative fiction) in the Persian literature of Afghanistan.

Yasunori Nomura, Physics, *Exploring New Physics at the TeV Scale.*

Yasunori Namura, Assistant Professor in Particle Physics Theory, is interested in exploring physics beyond the standard model of particle physics. Recent theoretical developments allow consideration of a variety of new possibilities for physics at the TeV scale, where the greatest mystery of the standard model - the origin of electroweak symmetry breaking - will be answered. His recent
research has been focused on developing new ideas and building realistic models in particle physics, addressing several mysteries of the standard model.

Taeku Lee, Political Science, *Between Social Theory and Social Science Practice: Towards a New Approach to the Survey Measurement of ‘Race’.*

Taeku Lee, Assistant Professor of Political Science, has a primary research interest in racial and ethnic politics, public opinion and survey research methods, social movements and political behavior, and health care and social welfare policies. Lee’s book Mobilizing Public Opinion (2002) received the American Political Science Association’s J. David Greenstone Award for the best book on politics and history and the Southern Political Science Association’s V.O. Key Award for the best book on Southern politics. Lee has also written on the role of identity, language, partisanship, political trust, stereotypes, and discrimination in shaping contemporary race relations and ethnic politics in the US. He is currently at work on a second book on party identification and the politics of race and immigration, as well as an edited volume on immigration and political incorporation.

Irene Bloemraad, Sociology, *Organizing for Political Voice: The Role of Community Organizations in Immigrant Political Incorporation.*

Irene Bloemraad, Assistant Professor of Sociology, studies the nexus between immigration and the political system. Her interest in immigration stems from personal experience being born in Europe, moving to Canada and then to the United States as a graduate student. Her forthcoming book looks at immigrant political participation in comparative perspective. Professor Bloemraad also has an interest in nationalism and social movements, and she has written on the place of ethnic and racial minorities within independence movements. Given that more than one in ten U.S. residents is foreign-born, and one in four Californians were born outside the United States, Professor Bloemraad hopes to expand the profile of immigration studies at Berkeley. She has developed immigration seminars at the graduate and undergraduate levels and runs an informal immigration workshop for those researching immigrant-related topics.

Natalia Brizuela, Spanish and Portuguese, *Between Empire and Republic or on Photographic Melancholy in Brazilian Modernity.*

Natalia Brizuela, Assistant Professor of Latin American Literature and Culture, is working on a book project which is an attempt to understand why the growth of a national sentiment in Brazil during the latter part of the nineteenth century is marked by what she describes as "a profound melancholy." She seeks to trace the connection between nationalism and melancholy and situate it within the context of the romantic movement and photographic production in nineteenth-century Brazil.
2004 Award Recipients

Sharon Amacher, MCB, Genetics and Development, Fishing the Genome for Transcription Factor Targets and cis Regulatory Code

Sharon Amacher, Assistant Professor of Genetics and Development, is interested in how cells become sequentially determined to more precisely defined fates during vertebrate embryonic development, and how this process depends upon cell position and upon interactions among neighboring cells. To address these questions, she uses genetics, molecular biology, and embryology to investigate mesodermal patterning and segmentation in the zebrafish embryo.

Ozlem Ayduk, Psychology, Continuities in Children’s Ability to Delay Gratification Across the Life Span

Ozlem Ayduk, Assistant Professor of Psychology, specializes in social, cognitive, and affective processes in close relationships; self-regulation of violence, hostility and depression; developmental processes in regulatory competencies. Her research interests fall into three related but distinct domains. One is concerned with attachment and self-regulation as social-cognitive mediators of personal and interpersonal adjustment. The second one focuses on the cognitive and motivational mechanisms that facilitate effective emotional regulation. The third one examines the factors that affect development of self-regulatory competencies.

Laurent Coscoy, MCB, A Novel Family of E3-Ubiquitin Ligases Regulates the Expression of Key Components of the Immune System

Laurent Coscoy, Assistant Professor of Immunology, has research interests in evasion of host immune response recognition plays a key role in the establishment of systemic viral infection. Many viruses have evolved complex strategies for this evasion (one example being the down-regulation of cell surface MHC-I display). Such strategies are readily observable among the herpesviruses, a family of large DNA viruses that efficiently produce persistent infections and disease in their host. Kaposi’s sarcoma-associated herpesvirus (KSHV; also called human herpesvirus 8) is a lymphotropic herpesvirus that is the etiologic agent of Kaposi’s sarcoma as well as of two AIDS-related lymphoproliferative syndromes. His research group is focusing their energy on understanding the molecular mechanisms of immune evasion employed by KSHV. This will improve our understanding of KSHV pathogenesis and provide insights into basic cellular and immunological processes. Additionally, this could lead to new-antiviral strategies and the ability to exploit viral function as a tool with medical relevance.


Marian Feldman, Assistant Professor in Near Eastern Studies, is a scholar of Bronze Age culture in the eastern Mediterranean and is experienced as a field archeologist. Her current research examines luxurious prestige items - gold, ivory, faience, and alabaster - that were exchanged among the rulers
of the Near East and eastern Mediterranean during the 14th and 13th centuries BCE. These items include furnishings from palaces and royal burials such as the Tomb of Tutankhamun. Professor Feldman places specific emphasis on international art styles and cross-cultural interactions. Her work takes her to Syria, Turkey, Egypt, and Greece.

Matthew Francis, Chemistry, *Modified Viral Capsids as Targeted Delivery Vectors for Anticancer Agents*

Matthew B. Francis, Assistant Professor, Chemistry, is interested in self-assembling networks of inorganic nanocrystals from modified cytoskeletal proteins, functionalized viral capsids for drug delivery and 3-D nanomaterial construction, and new synthetic methods for site-specific protein modification. Research in the Francis group is focused on the development of new synthetic methods for the construction of nanoscale materials. The central strategy involves the attachment of new functional components to specific locations on structural proteins, and the subsequent self-assembly of these conjugates into new types of materials with useful electronic and biological functions.

Anne-Lise Francois, English, *Open Secrets: The Literature of Uncounted Experience*

Anne-Lise Francois, Assistant Professor, English focuses her teaching and research on (mostly) 19th-century British, American and European (French and German) fiction, poetry and thought, with some excursions into the 17th, 18th, and early 20th centuries. She has taught courses on the modern period in British and American literary history, Emily Dickinson, William Wordsworth, George Eliot and Thomas Hardy, as well as seminars and graduate courses in the Comparative Literature Department on European Romanticism and aesthetic theory, and most recently, on the writing and epistemology of love.

Jay T. Groves, Chemistry, *Surface Chemistry on Cell Membranes*

Jay T. Groves, Assistant Professor, Chemistry, is interested in how cells interact with each other and their environment through myriad membrane associated receptors and signaling molecules. In addition to individual receptor-ligand binding, spatial rearrangement of receptors into complex patterns is rapidly emerging as a broadly significant aspect of cell recognition, with a quantitative investigation of the physical characteristics and principles governing molecular reorganization events during initial stages of cellular recognition and signaling. His research group is also developing a variety of hybrid bio-solidstate devices which incorporate fluid membranes. The basic goal is to construct chip-based components which can manipulate, control, and measure membranes and associated molecules.


Carla Hudson Kam, Assistant Professor, Psychology, Developmental; Cognition, Brain, and Behavior, is interested in first and second language acquisition, mechanisms of language acquisition, role and importance of input in acquisition, relationship of constraints on memory and learning to language
form, grammatical theory and issues of linguistic representation, language processing, language contact, causes of language change, the formation of pidgin and creole languages, bilingualism.

**Alessandra Lanzara**, Physics, *Unlocking the Mystery of Materials at the Nanoscale by Enhancing the Investigation of Electronic Structure*

Alessandra Lanzara, Assistant Professor, Physics, focuses her research interest toward an understanding of the underlying physics in complex novel materials and nanostructures, where the conventional picture for an electron does not hold anymore and the electrons are now dressed by the different degrees of freedom. Emphasis will be given to the electronic, magnetic and structural properties and the interplay between them in these systems. This project utilizes a combination of novel advanced techniques, to probe different aspect of the physic of complex materials and their elementary excitations. In particular we will use Angle resolved photoemission spectroscopy, Spin Resolved Photoemission spectroscopy, Coherent Soft X-ray scattering and Extended x-ray Absorption spectroscopy (EXAFS).

**Song Li**, Bioengineering, *Engineering of Functional Muscle in vitro Using Mesenchymal Stem Cells and Micropatterned Polymers*

Song Li, Assistant Professor of Bioengineering, is interested in vascular cell and tissue engineering, stem cell engineering, mechano-chemical signal transduction, biomimetic matrix and molecules, bioinformatic applications in tissue engineering, and molecular dynamics. His current research includes topics in cardiovascular and skeletal system and involves collaborations and partnership with other groups in universities and industry. His group’s research on cell engineering, biomimetic molecules and mechanotransduction may provide rational basis and tools for the design and improvement of engineered tissues and biomaterials.

**Maria Mavroudi**, History, *Bilingualism in Greek and Arabic: Evidence from the Manuscripts*

Maria Mavroudi, Assistant Professor, History, Center for Middle Eastern Studies, Program for Medieval Studies - Ancient History, Byzantine History.

**James O’Brien**, EECS, *Combined Audio and Visual Stimulation for Synthetic Environments*

James O’Brien, Assistant Professor, Computer Science Division of the Department of Electrical Engineering and Computer Sciences, is generally interested in most areas of Computer Graphics and Animation. His primary area of research involves the physically based simulation of complex deformable systems to generate motion for use in computer generated animation.

**Isha Ray**, ERG, *From Wells to Well-Being? Water for Women in the Developing World*

Isha Ray, Assistant Professor, Energy and Resources Group, is interested in the politics and economics of water, on-farm water use, common property resource management, transnational river conflicts and access to water for the rural and urban poor - especially in developing countries. In
addition to research and teaching, she has extensive work experience in the non-profit sector on sustainable rural development in India, and international development- and freshwater-related issues.

**Bryan Wagner**, English, *Disturbing the Peace: Black Vagrancy and the Grounds of Racial Difference*

Bryan Wagner, Assistant Professor, English, focuses his general research interests on American and African American Literature. His special research topics are critical race studies, popular culture, urban studies, and labor history. His teaching interests are American and African American writing; critical race studies; popular culture; literatures of migration and urbanization; post-slavery societies; labor history.
2003 Award Recipients

**Dorothy Beam,** English, *Purple Pleasures: Highly Wrought Fiction by 19th-Century American Women*

Dorothy Beam, Assistant Professor in the Department of English, specializes in the area of nineteenth-century American literature. She recently completed her Ph.D. at the University of Virginia. Her dissertation, *Purple Pleasures: Highly Wrought Fiction by Nineteenth-Century American Women Writers,* explores the ways in which the sentimental novel and the domestic ethos competed with a more radical mode of feminine expression that contemporary reviewers call the "highly wrought novel." Her recovery of these novels revises our understanding of nineteenth-century fiction, particularly fiction written by women. Professor Beam comes to Berkeley with a significant amount of teaching experience.

**Oscar Dubon,** Materials Science Engineering, *Synthesis of Ferromagnetic Semiconductors*

Oscar Dubon received his M.S. and Ph.D. in Materials Science and Mineral Engineering from UC Berkeley, after which he conducted postdoctoral fellow research at Harvard, studying metal-mediated growth of semiconductors, low-temperature molecular beam epitaxy, homoepitaxial growth of As delta-doped silicon mediated by Pb overlayers, dopant activation in heavily doped Si, desorption dynamics of Pb from the Si surface. His experimental techniques included Rutherford backscattering spectrometry (RBS), ion channeling, and low energy electron diffraction (LEED). Professor Dubon's research encompasses the areas of electronic materials processing, low-temperature molecular beam epitaxy (MBE), growth and properties of group IV alloys, ion-beam and laser processing of ferromagnetic semiconductors, synthesis of semiconductor nanostructures.

**Jack Glaser,** Public Policy, *The Effect of Knowledge of the Possibility of Death Sentence on Jurors’ Judgments of Guilt*

Jack Glaser received his Ph.D. in psychology from Yale University in 1999. He is a social psychologist whose primary research interest is in stereotyping, prejudice, and discrimination. He studies these intergroup biases at multiple levels of analysis. For example, he investigates the unconscious operation of stereotypes and prejudice using modern, computerized methods, and is investigating the implications of such subtle forms of bias for discrimination law. He is also interested in the police practice of racial profiling, especially as it relates to the psychology of stereotyping, and the self-fulfilling effects of such stereotype-based discrimination. Additionally, Professor Glaser conducts research on a very extreme manifestation of intergroup bias – hate crime – and has carried out analyses of historical data as well as racist rhetoric on the Internet to challenge assumptions about economic predictors of intergroup violence. Another area of interest is in electoral politics and political ideology. He is specifically interested in the role of emotion (as experienced and expressed) in politics, and in the psychological underpinnings of liberalism and conservatism. In addition to teaching and conducting research at GSPP, Professor Glaser has become involved in training California State judges in the psychology of stereotyping, prejudice, and discrimination, and how they might operate implicitly, and undermine fairness, in the courtroom.

Alexander Katz received his Ph.D. from the California Institute of Technology in 1999. His research interests include the study of a progressive trend in materials research, driven in part by the continuing miniaturization of technology, towards the synthesis of materials at a resolution complementary to an individual molecule of interest. His research philosophy deals with the rational design of materials on this length scale for applications in adsorption, catalysis, nucleation and chemical sensing. Professor Katz’s research objective is to synthesize amorphous materials that possess a precise functional group arrangement within a pore whose size and shape is controlled over the length scale of several Ångstroms to nanometers.

Botond Koszegi, Economics, *Economic Models of Utility from Anticipation*

Botond Koszegi, a recent graduate of MIT, joined the Berkeley Economics faculty in 2000 specializing in Pure and Applied Economic Theory and Public Finance. While Professor Koszegi has wide-ranging interests, his dissertation focuses on the economics of self delusion, specifically self-serving biases. For example, he argues that as individuals develop well being from positive self images, they tend to ignore key information which does not reinforce such favorable self assessment. This phenomenon leads us to view ourselves as more capable than our abilities actually allow. Professor Koszegi’s dissertation also addresses the economics of self-control problems with respect to addiction and retirement decisions. Botond Koszegi also has a wide range of teaching experience in both mathematics and economics and has received Harvard’s Bok Center Award for Excellence in Teaching.

Joel Moore, Physics, *Theory of Collective Quantum Phenomena in Nanostructured Materials*

Joel Moore received his Ph.D. from MIT in 2000 and joined the Berkeley Physics Department in 2002 as an Assistant Professor from Bell Labs where he was a postdoctoral researcher. His main interest is strongly correlated condensed matter systems. Professor Moore’s work explaining the magnetic field induced splitting of the Kondo resonance has had a strong impact on the fields of mesoscopic physics and correlated electron systems. Currently he is working on the physics of zero-, one-, and two-dimensional correlated electron systems, especially as revealed in nonequilibrium measurements, and on a self-consistent theory of the quantum Hall plateau transition.

Greg Niemeyer, Art Practice, *Interactive Voice Box Simulation*

Greg Niemeyer studied Classics and Photography in Switzerland before he came to the US in 1992. Through photography, Greg experienced the contest between reality and ideal in his perception of the world, especially in documenting the 1991-1992 collapse of the GDR and in photographing a story about the perception of time among Catholic monks. Based on these experiences, he understands media art as a "reality engine", as a possible source of increased experience of our reality. Because of the ability of computers to document and display a wider array of information than traditional photography, Professor Niemeyer engaged information technology as a key component of his
creative practice. He enrolled in Stanford’s MFA program in New Genres in 1996 with the intention to explore science and information technology as a context for art. In 1997, he founded SUDAC, the Stanford University Digital Art Center, in anticipation of the need for an academic space dedicated to the practical and theoretical exploration of information technology and art. Seeking a stronger community of digital media artists, Greg Niemeyer moved to UC Berkeley in 2001 to join Shawn Brixey’s and Linda Williams growing program in Digital Media at the Departments of Art Practice and Film Studies. His courses focus on computer graphics animation ogallala.berkeley.edu. Here, Professor Niemeyer also found the academic context to study the cultural implications of digital media, in particular of CG simulations. These studies will lead to a book publication with co-author Celia Pierce currently titled "Transfusion: Transgressions in Physical and Virtual Architecture”. In the interest of forming a more communicative digital art community, Professor Niemeyer serves on the boards of CCAC (Digital Media), SMAC (San Francisco Museum of Modern Art Media Arts Council), GenArt and GroundZero.

**Per Jakob Palsboll, Environmental Science, Policy and Management, Molecular Scatology**

Per Jakob Palsboll is an assistant professor of ecosystem science in the UCB Conservation Genetics Laboratory at Ecosystem Sciences. His research focuses on the evolution of natural populations, based upon collection and analyses of empirical data (nucleotide sequence data as well as microsatellite genotypes) in conjunction with population genetic computer simulations. The research has so far concentrated on cetaceans (whales, dolphins, and porpoises) working towards interspecific comparisons, but is currently expanding to include other marine organisms in order to address more fundamental issues that have arisen from the cetacean work. His research has contemporary as well as historical components. Traditional population genetic and phylogeographic approaches address the historical components. But, with an individual-based approach, molecular methods are fully capable of addressing contemporary aspects as well as in this manner complementing the historical perspective.

**Eliot Quataert, Astronomy, Supernovae and the Birth of Compact Objects**

Eliot Quataert received his B.S. in Physics from MIT in 1995 and a Ph.D. in Astronomy from Harvard in 1999. He was a postdoc in the School of Natural Sciences at the Institute for Advanced Study for 2 years before coming to Berkeley in 2001. Professor Quataert’s research interests include compact objects, particularly black holes and the accretion of matter onto black holes, plasma astrophysics, and high energy astrophysics more generally. He sometimes works on the solar wind and solar corona and, even less frequently, on the structure of protoplanetary disks, and the migration and evolution of planets in such disks. In the past he has studied helioseismology (the oscillations of the sun) and tidal effects in close binary star systems.

**Ananya Roy, City and Regional Planning, The Feminization of Policy: A New Development Paradigm?**

Ananya Roy is an Assistant Professor in the Department of City and Regional Planning where she teaches in the fields of comparative urban studies and development planning. She holds a B.A. (1992) in Comparative Urban Studies from Mills College, a M.C.P. (1994) and a Ph.D. (1999) from the
Department of City and Regional Planning at the University of California at Berkeley. From 1993 to 1998, she was Executive Coordinator of the International Association for the Study of Traditional Environments (IASTE), a research organization housed in the College of Environmental Design at UC Berkeley. In 1996, she was a visiting lecturer in the Department of Sociology at Mills College, teaching courses in urban sociology.

**Jennifer Michel Spear**, History, *Race, Sex, and Social Order in Colonial New Orleans*

Jennifer Spear received a Ph.D. from the University of Minnesota in 1999 and is a specialist on the history of Colonial America. Her dissertation and most of her published work thus far deals with the issues of race, gender, and class in Louisiana under French and Spanish rule. She currently is at work revising her dissertation with the working title "Intimacies of Colonial Politics: Race, Sexuality, and Social Order in Colonial Louisiana." The project concentrates on the interaction of Europeans, Africans, and Native Americans and the construction of a racialized social order. Spear has extensive teaching experience as a teaching assistant at Minnesota, an instructor at Macalester College, and as an Assistant Professor at Dickinson College. She has taught a wide range of classes: American Indian history, the Peoples of Early America, U.S. History at Minnesota, courses on gender in early American and 20th century U.S. Women’s history at Macalester, and offerings on American History to 1865, early American history, Native People of Eastern North America, Racial Meanings in American History, and African-American history at Dickinson.

**Niek Veldhuis**, Near Eastern Studies, *Digital Corpus of Cuneiform Lexical Texts*

Niek Veldhuis is an accomplished scholar in Assyriology, with primary expertise in Sumerian along with impressive strengths in Akkadian. Hired as an Assistant Professor in 2002, Dr. Veldhuis received his Ph.D. from the University of Groningen, and held there a prestigious Royal Netherlands Academy of Arts and Sciences Research Fellowship in Assyriology. Professor Veldhuis’ long-range research projects include studies of religion, literature, and scholarship in ancient Mesopotamia, and a computer project to digitize all of the cuneiform lexical texts.

**Kipling Will**, Environmental Science, *Policy and Management, Poison Beetles*

Kipling Will is an Assistant Professor in the ESPM Division of Insect Biology. His research interests center on the systematics, taxonomy and natural history of insects. In his research he draws on morphological data obtained from a variety of specimen preparation and dissection methods. Professor Will studies characteristics comparatively using various imaging techniques and illustrations. These data can then be cast as phylogenetic characters and combined with molecular sequence data to develop phylogenetic hypotheses. All available data contribute to monographic revisions that include the description of new species and development of keys for identification. Professor Will’s focus taxon is ground beetles (Coleoptera: Carabidae) and primarily taxa in the tribe Pterostichini. However, his work is at all levels from species to subfamilies within the family. He is particularly interested in morphology, the chemical defense system and other chemical production systems, biogeographical patterns and reproductive biology. He intends his research to further the cause of systematics, which he believes is to expand knowledge and understanding of the natural
world and provide necessary basic knowledge for other biological studies. In order to develop a broader understanding of insects, Professor Will emphasizes field work and observation of the living animals whenever possible.
2002 Award Recipients

Noam Sobel, Neuroscience, Odortopy: Are Odors Spatially Mapped in the Brain?

Noam Sobel joined the Berkeley faculty in January 2001 as an Assistant Professor in the Helen Wills Neuroscience Institute and the Department of Psychology. His BA and MA are from Tel Aviv University, 1991 and 1995 respectively, and his doctorate is from Stanford in 1999. He spent a year as a postdoc at Cal Tech before coming here. Professor Sobel is a neurobiologist who studies the olfactory system in humans. Before arriving at Berkeley, he had published seminal papers on olfaction in Nature and the Journal of Neuroscience. He had also been awarded the Donald B. Lindsay Award from the Society for Neuroscience in recognition of his having produced the best Ph.D. thesis in behavioral neuroscience in the country. He has continued this outstanding level of innovation and productivity since his arrival on campus. He has built one of the finest olfactory laboratories in the country, including an excellent psychophysiology facility. He has also designed and constructed a state-of-the-art olfactometer for precise control of odor delivery (one of the greatest difficulties in research in this area). In addition, he has also MRI-compatible devises for controlled delivery of olfactory stimuli to subjects in the magnet. In his short career he has first-authored 10 publications and has two articles in press in the journals PNAS and Neuron. He has won many fellowships in his graduate and postdoctoral career and is now a Searle Scholar.

Karsten Weis, MCB: Cell & Developmental Biology, Regulation and Dynamics of the Ran GTPase Cycle

Karsten Weis received his Ph.D. degree in 1996 from the European Molecular Biology Laboratory (EMBL) in Heidelberg, Germany. He then became a postdoctoral fellow at the University of California, San Francisco, which was an endowed position and thus carried considerably more autonomy and prestige than a regular postdoctoral fellowship. Thus, while conducting a junior faculty search, the University of California, Berkeley recruited Professor Weis as an Assistant Professor and he arrived on campus in January 1999. Since that time, he has established himself as a gifted faculty member of the Department of Molecular and Cell Biology. He runs an active research laboratory that explores the mechanism of nucleocytoplasmic exchange and is already moving into a position of leadership in his field.

Dirk Trauner, Chemistry, Molecular Recognition of Potassium Channels

Dirk Trauner was born in Linz, Austria in 1967. After studying biology and then chemistry, he received his Diploma in 1994 from the Freie Universitat in Berlin, Germany. In 1997, he obtained a Ph.D. from the University of Vienna, Austria, where he worked with Professor Johann Mulzer on the synthesis of morphine alkaloids and the chemistry of ketenes. Following a brief stint in the Austrian Army, he joined the laboratories of Professor Samuel J. Danishefsky at the Memorial Sloan-Kettering Cancer Center in New York. During his postdoctoral studies, he developed a total synthesis of halichlorine, a potent inhibitor of a cell adhesion molecule, and laid the foundations for the synthesis of another highly biologically active molecule, pinnaic acid. Professor Trauner is currently an
assistant professor of chemistry at the University of California, Berkeley. His research interests span the fields of organic synthesis, molecular recognition, and neurobiology.

**Steven Boggs, Physics, Test Flight of the Nuclear Compton Telescope**

Steven Boggs received his Ph.D. from Berkeley in 1998, where he held a NASA graduate student research fellowship. He went on as a Millikan Postdoctoral Fellow at the California Institute of Technology before returning to join the Berkeley Physics Department as an Assistant Professor in July 2000. Most of his work is in experimental high energy astrophysics, developing gamma-ray telescopes to study some of Nature's most exotic creations, such as black holes, neutron stars, and supernova explosions.

**Dan Stamper-Kurn, Physics, In-situ Imaging of Spinor Bose-Einstein Condensates**

Dan Stamper-Kurn pursued his undergraduate studies at the University of California at Berkeley as a National Merit and Citizens' Foundation Scholar. He wrote his undergraduate thesis with Professor P.B. Price on the isotopic abundance of ultra-heavy cosmic rays and graduated with highest honors in 1992. He then explored a career in environmental science as a research assistant in the Energy and Environment Division of the Lawrence Berkeley Laboratory, studying the effects of urban climatology on energy use. In 1994, Professor Stamper-Kurn began graduate studies at MIT, joining the group of Professor Wolfgang Ketterle as a NSF and JSEP Graduate Fellow, several months before the first creation of Bose-Einstein condensates in atomic gases. This experimental team was the first to observe Bose-Einstein condensation in a sodium gas and to demonstrate the coherence of Bose-Einstein condensates in creating the first atom laser. Dan then led groundbreaking research of the properties of Bose-Einstein condensates, including studies of dynamic processes and sound propagation, the demonstration of an optical trap for Bose-Einstein condensates, experiments on spinor Bose-Einstein condensates, and studies of light scattering. For this work, Professor Ketterle was awarded the Nobel Prize in Physics in 2001. Professor Stamper-Kurn’s work was recognized by the 1998 New Focus Student Award, and the 2000 APS Division of Atomic, Molecular and Optical Physics Outstanding Thesis Award. After the completion of his PhD, Professor Stamper-Kurn developed cavity QED experiments with single trapped neutral atoms as a Millikan Postdoctoral Fellow with Professor H. Jeff Kimble at Caltech. In 2001, Professor Stamper-Kurn returned to UC Berkeley as an assistant professor, where he is pursuing the creation of novel mesoscopic and macroscopic quantum systems using ultra-cold atoms. He was selected as an Alfred P. Sloan Fellow for 2001 - 2003.

**Mia Fuller, Italian Studies, Mussolini’s Citizens: Living in Italy’s Fascist-Era ‘New Towns’, From 1928 to the Present**

Mia Fuller received her Ph.D. in Cultural Anthropology from UC Berkeley, where she held a National Science Foundation Graduate Fellowship. After teaching at the University of Louisville and Rice University, she became an Assistant Professor in UC Berkeley’s Department of Italian Studies in 2000. With the support of a Fulbright Scholar Grant, a Rome Prize, and other fellowships, she has combined fieldwork with archival research in her work on architecture and city planning in the


Ramona Naddaff received a PhD in Philosophy from Boston University in 1994. She is currently researching a book on censorship and the novel in 19th and 20th-century France, England and the United States. Her forthcoming study, "Exiling the Poets: The Production of Censorship in Plato's Republic" (University of Chicago, Fall 2002), examines the relation, forged through the mechanism of censorship, between philosophy and literature. Drawing on this work, she is researching philosophical and literary theories of lying from Plato to Derrida. She is also the general editor of a four volume series on Postwar French Theory (The New Press, 1995-2003) and coeditor of Fragments for a History of the Human Body (Zone Books, 1989). Her areas of interest are Ancient Greek philosophy and literature, Politics and the novel, 20th century French thought, and History of philosophy.

**Jennifer Johnson-Hanks**, Demography, Reproductive Intentions and Fertility Rates in Developing Countries

Assistant Professor Jennifer Johnson-Hanks was born in Ketchikan, Alaska. She attended school in Swaziland and Germany before earning her BA in anthropology at UC Berkeley in 1994. She completed her MA (1996) and her Ph.D. (2000) in anthropology at Northwestern University, with grants from the National Science Foundation, the Social Science Research Council, and the Population Council, among others. Professor Johnson-Hanks joined the UC Berkeley faculty in July 2000 immediately after finishing her degree. Her research and teaching interests include fertility, nuptiality, education, social organization, qualitative methods, and Africa.

**Edward Miguel**, Economics, Pre-School Health and Education in Urban India

Edward Miguel, Assistant Professor in the Department of Economics, received his Ph.D. in Economics at Harvard University in 2000. He seeks to understand the impact of tropical disease on economic development, and in particular, on educational outcomes and labor productivity in India and Kenya. Professor Miguel also works in the political economy of development, on topics including public finance decentralization, ethnic divisions and social capital.

**Kurt M. Cuffey**, Geography, Improved Precipitation Isotope Analyses for Climate Change Studies

Kurt Cuffey, Assistant Professor in the Department of Geography, received his PhD (Geological Sciences) in 1999 from the University of Washington. He seeks to improve our understanding of physical and chemical processes that determine how Earth's surface environment operates as a system and changes through time. Professor Cuffey maintains strong interests both in understanding modern environments and reconstructing past environments. His research efforts emphasize environmental change of polar regions, with a focus on glaciologic problems. The choice of polar
glaciology reflects the unique and powerful contributions that this subdiscipline makes to environmental change research. Ice core reconstructions of environmental history offer the most comprehensive, varied, and high-resolution view yet achieved of past environments. The ice sheets themselves are a major control on global sea level and albedo, and on high-latitude atmospheric and oceanic circulations, and on physical landscape characteristics. No other topographic features of this size and importance are changeable on such short time scales.
2001 Award Recipients

Cheryl J. Briggs, Integrative Biology, *Indirect Effects of Colonization of Native Insects onto Non-native Plant Species in California.*

Professor Briggs received her Ph.D. in Biology from UC Santa Barbara, where she was the recipient of the Lancaster Medal for best Ph.D. thesis of the year and she received her M.S. in Electrical Engineering from Princeton University. On her appointment as Assistant Professor in 1996 at UCB, her dean remarked: "Outside recommendations carry the superlatives that one wishes to see in new faculty at early stages of their careers because they suggest that her contributions are fundamental ones that will influence her field." One reviewer commented that "Quite simply, exciting science happens when she is around". Her Hellman project involves a pilot study to gain preliminary evidence about the prevalence of apparent competition between non-native and native species and the frequency with which non-native species act as a refuge from parasitism for herbivorous insects. Hellman funds will provide graduate and undergraduate research assistance, materials, supplies and travel to field sites to UC reserves.

Matthew Welch, Molecular and Cell Biology, *Regulation of Actin Nucleation and Actin Based Motility by the Wiscott-Aldrich Syndrome Protein.*

Prior to his appointment at UCB in 1998 as Assistant Professor, Welch received his Ph.D. in Molecular and Cell Biology from UCB and is the recipient of the Leukemia & Lymphoma Society Special Fellowship and a NIH Postdoctoral Fellowship. One reviewer concluded that Welch is "extremely bright, …a very clear thinker and highly critical, …honest and forthright," adding that he ranks "among the very best postdoctoral fellows" he has experienced. Welch’s Hellman project goal is to elucidate the role of two specific proteins in actin nucleation and actin polymerization-based motility, which may lead to the development of novel therapeutic agents to treat human disease. The Hellman Award will cover graduate research assistance, purchase costs for a computer as well as chemical, biochemistry, microscopy, molecular biology and tissue culture supplies.

David Schaffer, Chemical Engineering, *Chemically Engineering Adeno-Associated Viral Vehicles for Enhanced Gene Delivery*

Professor Schaffer received his Ph.D. in Chemical Engineering from MIT in April of 1998, and was appointed as an Assistant Professor at Berkeley the same year. He is involved in building a research program that applies engineering principles to problems in cell biology and bioengineering. One reviewer remarked "Dave’s skills in pursuing independent research are exceptional… (he) possesses the qualities necessary for outstanding success in academic research and teaching, and has the potential for growing into a leader in biological aspects of chemical engineering.” In his Hellman project, Schaffer’s research will attempt to merge chemistry and biology in order to enhance viral gene delivery vehicles, as this interdisciplinary approach may lead to new, highly effective molecular medicines. The Hellman Award will allow the purchase of a critical cooled CCD camera, which will interface with the microscope, along with funds for production and materials.
Peidong Yang, Chemistry, Nanorod Superstructures

Professor Yang received both his Ph.D. and M.A. in Chemistry from Harvard University and is an Alfred P. Sloan Fellow and recent recipient of the Research Innovation Award. His Berkeley appointment began in 1999, at which time his department chair remarked "Each of the outside reviewers comment in detail on his research accomplishments, the significance of which can be gauged by his publication record, which is truly astounding for someone at this stage in his career." In his Hellman project, Yang will study the self-assembly of uniform oxide and gold nanorods with variable aspect ratios (the ratio of length/diameter). As noted in his proposal, "if these one dimensional nanoscale building blocks can be ordered and rationally assembled... they will offer fundamental scientific opportunities." The Hellman Award will cover graduate assistance, electron microscope expenses, Chemical Society Meeting travel expenses, and chemical supplies.

Khalid Mosalam, Civil and Environmental Engineering, Innovative Rehabilitation and Computational Modeling of Monumental Structures Using Polymer Composite Systems

Prior to his appointment at Berkeley in 1997, Professor Mosalam received his doctorate at Cornell University, with his doctoral thesis awarded Best Student Paper by the Earthquake Engineering Research Institute. A significant contributor to the field of structural engineering through his research, he has integrated, in a balanced and innovative manner, advanced concepts related to experimental methods, computational mechanics, structural analysis and reliability. One reviewer noted that "in terms of intellectual capability and knowledge of structural mechanics, he (Professor Mosalam) is among the top 5 doctoral students in structures whom I have known in 20 years at Cornell." His Hellman project centers on a major challenge to the structural engineering community: to resolve the conflict between conservative preservation of structural integrity of vulnerable yet valuable buildings considered unsafe in their present status, and salvaging maximum architectural heritage. Hellman funds will provide both graduate and undergraduate research assistance, cover construction and testing of specimens, and travel and publication costs.

Antje Hofmeister, Plant and Microbial Biology, Molecular Mechanisms of Bacterial Development

Professor Hofmeister received her Ph.D. in Microbiology from Philipps University in Germany where she received the Lise-Meitner Prize from the German Ministry of Arts and Sciences and the Thesis prize from the German Society of Microbiology. Appointed Assistant Professor at Berkeley in 1997, she is highly regarded by senior colleagues. One reviewer stated, "Hofmeister is simply the best of the best." Hofmeister's Hellman project proposes research that will generate new, basic knowledge about the molecular mechanisms that generate cellular diversity and will provide new insights into how soil microorganisms respond to changes in their environment. The Hellman Award will provide for a postdoctoral researcher, conference travel, the purchase of a Spectrophotometer and DNA Thermal Cycler, and other expenses.

Christine F. Wildsoet, Optometry, The How and Why of Ocular Growth Regulation: Some Lessons from the Chick and Their Significance for Human Myopia (Short-sightedness)
Professor Wildsoet received her Doctor of Philosophy from the University of Queensland in 1992 prior to her appointment to UCB in 1999. She is specifically interested in Myopia, including animal models and human myopia and refractive development research. Frequently an invited speaker at international conferences and congresses, Wildsoet also impressed her reviewers as one of just a few individuals who lead the field in animal myopia work. Her Hellman project, using chicks as models who share a finely tuned mechanism for regulating ocular growth with humans, is of significance due to the increase of human myopia, which can lead to blindness. Wildsoet cites that in some Asian communities, the prevalence of myopia is as high as 90%. Hellman funds will cover the purchases of a Keratron Scout topographer, a Power refractomer and other lab equipment.

Ying Qing Chen, Biostatistics, Statistical Analysis of Long-term Progressive Schizophrenia Deterioration

Dr. Chen received his Ph.D. of Philosophy, from Johns Hopkins University where he received the Margaret Merrell Award for Excellence in Student Research. He is also the recipient of the Thomas Charlmers Award for Best Student paper at the Society for Clinical Trials in 1999. His appointment to UCB as Assistant Professor began in 1999. One reviewer commented: "Chen is very bright, energetic and ambitious… a hard worker…. and would probably rank in the upper third of our graduate students in terms of academic promise." Another wrote: "Chen has been one of the top graduate students in this department over the past five years." The goal of this Hellman project is to develop quantitative methods for detection of the pattern of schizophrenia progression and develop user-friendly computer software to implement the quantitative methodologies. This is significant because, as Professor Chen notes, "the development of appropriate methodologies and tools are falling behind; results based on inappropriate techniques can be misleading, and more seriously, the consequences can lead to incorrect clinical decision making or public health policy making." The Hellman Award will cover graduate research assistance, travel and supplies.

Carolyn Huie Hofstetter, Education, Test Accommodations for English Language Learners: Do They Yield Valid Inferences?

Prior to becoming an Assistant Professor at Berkeley in 1998, Dr. Hofstetter received her Ph.D. in Education from UCLA and her M.A. in Political Science from San Diego State University, and she was a Spencer Fellow while at UCLA. Her "solid understanding of design and analysis issues" supports her interest area in methodology of research with an emphasis on evaluation. One reviewer believed Hofstetter to be "one of the very best graduate students from UCLA over the last three decades." Another remarked Hofstetter is "a model of intelligence. She has a bold personality, limitless creativity, and solemn goals for achievement." Her Hellman project will focus on the administration of one test accommodation where non-technical, linguistically difficult terms and grammatical constructions in the math section have been identified and simplified for English language learners. Hellman funds will provide graduate research assistance, honorariums, software and supplies.

Kate van Orden, Music, Music and Military Virtue in Early Modern France
Dr. van Orden received her Ph.D. in 1996 from the University of Chicago and has been awarded a Townsend Center Junior Faculty Fellowship, a President’s Research Fellowship and an AAUW Fellowship prior to her UCB appointment as Assistant Professor in 1996. Dr. van Orden’s research in the connections of music and power in the late sixteenth century are considered potentially very important to her field. One reviewer remarked, "I am convinced that Kate van Orden is going to be one of the outstanding musicologists of her generation." Her Hellman project will allow her to continue her research, which studies the "humanizing" of the French military aristocracy at the end of the Resistance. "Overall, my approach turns musicology toward history and anthropology, taking music to be an active shaper rather than a passive reflector of culture..." Hellman funds will allow for updated computer equipment, as well as research and publication expenses.

David S. Lee, Economics, Empirical Analyses of Unionization and its Economic Consequences: Evidence from Union Representation Elections

Dr. Lee received his Ph.D. in Economics from Princeton University and has received Fellowships from the Alfred P. Sloan Foundation and the National Science Foundation prior to his appointment at UC Berkeley in 2000. Lee’s specific interest lies in labor economy and he is described by one reviewer as "...an exceptional talented and promising young economist." In his Hellman proposal, Dr. Lee will address the influence of unionization on the survival of business establishments; determine if there is evidence that unionization alters employment levels; and determine if unionization alters output and productivity and a firm’s valuation in the stock market. Hellman Funds will allow computer data processing, software, research assistance, and other assorted expenses.

Kaipeng Peng, Psychology, Culture and Cognition

Professor Peng received his Ph.D. and M.S. in Psychology from the University of Michigan before joining the Berkeley faculty in 1997. This year, he was nominated to the U.S. National Committee on Psychological Science by the American Psychological Association. His research focuses on the interface between cultural, social, personality and cognitive psychology. One reviewer described Peng as "one of the brightest social psychologists I know...a truly original thinker, both theoretically and methodologically." Dr. Peng's Hellman project is "designed to employ a common theoretical framework that human ethnicity are social and cultural creations, and will test hypotheses about the depths and scopes of differing cultural backgrounds on cognitive processes." The Hellman Award will provide funding for lab equipment, subject fees, travel and research assistants.
2000 Award Recipients

Rebecca Heald, MCB: Cell and Developmental Biology, *Reconstituting mitotic spindle assembly in vitro using Caenorhabditis elegans*

Dr. Heald received her Ph.D. in 1992 from Harvard Medical School, and was subsequently a postdoctoral fellow at the European Molecular Biology Laboratory in Heidelberg, Germany until her appointment at UC Berkeley in 1997. Dr. Heald works in the area of cytoskeleton dynamics and cell cycle regulation, and reviewers have described her research as "ground-breaking". In her Hellman proposal, Dr. Heald explains: "The long-term goal of the project is to elucidate the principles that underlie spindle assembly and function, and to identify and study the roles of individual proteins involved. Our approach is to study this process in the test tube, by preparing cellular extracts that can reconstitute spindle assembly in vitro." She notes: "a molecular understanding of spindle assembly and function could lead to new therapies for human disease." Hellman funds will allow for a postdoctoral fellow and laboratory supplies and equipment.

Qiang Zhou, MCB: Biochemistry and Molecular Biology, *Recruitment of human positive transcription elongation factor P-TEFb to cellular promoters*

Professor Zhou received a B.S. in biology from the University of Science and Technology in Hefei, China. He earned his Ph.D. from the University of California at Los Angeles in 1992, and was a Postdoctoral Fellow at the Massachusetts Institute of Technology prior to his appointment at UC Berkeley in 1996. Zhou’s research interests focus on the biochemistry of HIV gene expression. Described by reviewers as "a truly gifted young scientist" with an "incisive intellect and great promise", his research has the potential to lead to new strategies for AIDS therapy. His Hellman project will investigate the general mechanism of gene regulation at the stage of elongation, an important eukaryotic gene expression control step which is still poorly understood. The Hellman Award will provide funding for a staff research assistant and essential lab supplies.

Kristie Boering, Chemistry/Geology & Geophysics, *Measuring Isotopes in the Stratosphere: From Ozone Depletion to the Global Biosphere*

Professor Boering received her Ph.D. in Physical Chemistry from Stanford in 1991, followed by a postdoctoral research fellowship and a Research Associate appointment at Harvard. She subsequently joined the Berkeley faculty as an Assistant Professor in 1998. Her research interests are in the field of atmospheric chemistry and dynamics. Photochemical processes that alter the isotopic compositions of chemically and radiatively important trace gases in the atmosphere are investigated through lab experiments, numerical modeling, and measurements taken from aircraft and high-altitude scientific balloons. Funding from the Hellman Family will provide for a research fellow to develop a safe, fast, and environmentally sound technique for the analysis of the isotope composition of carbon dioxide in the stratosphere, furthering our understanding of ozone loss.
Xu Liang, Civil and Environmental Engineering, A Study Linking Climate, Water Resources Management, Agriculture, and Engineering Economics

Professor Liang received her B.S. and M.S.E. degrees in hydraulic engineering from Chengdu University of Science and Technology in China; she received a M.S.C.E. in Environmental Science and Engineering and a Ph.D. in hydrology and water resources in 1994 from the University of Washington. After postdoctoral work at Princeton and a position as Research Scientist at the Joint Center for Earth Systems and Technology (NASA/University of Maryland), she joined the Berkeley faculty in 1998. Liang’s research is broadly based in the areas of soil-plant-atmosphere interactions, hydrological issues in land surface modeling, the role of land surface representation in global and regional climate change modeling, and propagation of uncertainties in remote sensing data through land surface parameterization schemes used in numerical weather prediction and climate studies. Her Hellman award will support a graduate student and cover assorted research expenses. As she states in her proposal, "Natural environmental events such as severe weather can be socially and economically devastating the primary goal of this project is to improve the prediction of floods and to make better planning and management of water resources at local scales by incorporating the effects of large scale climate dynamics on local precipitation."

Christopher Vulpe, Nutritional Sciences, Monitoring the metabolic response of plants to metals using cDNA microarrays

Professor Vulpe received a B.S. in biology from MIT in 1986, a Ph.D. in biochemistry/genetics in 1994 and a M.D. in 1996 from the Medical Scientist Training Program at UCSF. After two years as a clinical molecular genetics fellow at UCSF, he joined the Berkeley faculty as an assistant professor in 1998. His research involves identification and characterization of the genes involved in iron and copper transport and metabolism in mammalian systems. Speaking of his graduate research, reviewers state: "he almost single-handedly cloned the gene for Menke’s diseasedone at a time when there were few tools available for these types of endeavor" Professor Vulpe summarizes his Hellman proposal as follows: "We are currently developing a new method, metabolic genomics, to assess exposure to toxins by monitoring the expression of multiple genes by using cDNA microarrays. We will evaluate this method in A.thaliana using exposure to copper, an essential yet toxic metal, as a modelmetabolic genomics in plants holds great promise as a means to monitor environmental sites for the presence of excessive concentrations of metals." The Hellman Award will provide support for a visiting plant biologist and essential laboratory supplies.

Marti Hearst, Information Management & Systems, Automated Usability Evaluation for Information-Centric Web Sites

Professor Hearst earned her Ph.D. in computer science from Berkeley in 1994. She was subsequently employed as a researcher at Xerox PARC before joining the Berkeley faculty as an assistant professor in 1997. Her work concerns user interfaces for information access. Reviewers have described her as "one of the most innovative and productive researchers in the field." Her Hellman proposal notes that "an estimated 90% of web sites provide inadequate usability", and asks "How can the design and
evaluation of the usability of web sites be improved?" Her Hellman project involves investigating the field of automated usability evaluation, specifically, the creation of Monte Carlo simulations for evaluating web sites. Hellman funding will support a computer science Ph.D. Student to assist in the project.

**Shawn Brixey, Digital Art Practice, "Eon" for the Beall Center for Art and New Media, UC Irvine**

Professor Brixey received his Bachelor of Fine Arts from the Kansas City Art Institute in 1985, and a M.S. in Advanced Visual Studies from MIT in 1988. Prior to his appointment at Berkeley in 1998, Brixey was an assistant professor at both the University of Kentucky in Lexington and the University of Washington in Seattle, as well as the Director of the University of Washington's Laboratory for Animation Arts. An artist of international stature, Brixey works at "the emerging interface of art, science, and technology", with particular interest in digital media technology. Professor Brixey's Hellman proposal, titled "Eon", is related to a digital arts project commissioned by the Beall Center for Art and New Media at UC Irvine, scheduled for 2001. The project uses sonoluminescence--the process by which sound in water can be converted directly into light--and the internet. The project will allow museum and internet visitors to send short poetic e-mails (in five different languages) to the museum, and have them converted into text encoded ultrasound. This high frequency sound source in turn modulates a small vessel of water, creating a miniature "starlike" light source at its center. As visitors create light-encoded with their text--a live digital video will transmit the phenomena to a projector in the exhibition space, while simultaneously streaming it to the web. Museum visitors will be able to use specially designed headphones to listen directly to the light source, hearing their own text or the voices of the net based visitors as they are emitted from the light. Net visitors in turn can hear the e-mail poetry from around the planet that is being decoded from the light source. Hellman funds will provide for the computing equipment needed for this exhibition.

**Jennifer Miller, English, La3amon’s Brut and English Historiography; Multilingualism in Medieval Britain**

Professor Miller earned a B.A. from the University of Utah, and a M.A. with distinction from the University of Virginia before receiving a Rhodes Scholarship to Oxford in 1988, where she completed her Ph.D. She was appointed at Berkeley in 1994. A medievalist trained in a dozen languages, she has been commended for her impeccable scholarship and "the sheer intellectual force and grace displayed in her writing". Miller's Hellman proposal relates to the book manuscript she is currently completing, titled La3amon’s Brut and English Historiography, as well as to a second project, a study of multilingualism in Medieval Britain. Access to medieval manuscripts are the foundation and central focus of her research, and require travel to England. Her Hellman Award will make possible direct extended access to these medieval manuscripts.

**Nicholas Paige, French, Mysteries of Culture in Early Modern France**

Professor Paige earned his Ph.D. from the University of Pennsylvania in 1996, and was appointed to Berkeley as an assistant professor the same year. His thesis focuses on 17th century spiritual autobiographies, and on the construction of the modern individual self as it emerges from the matrix
of the religiously-defined subject. Paige's Hellman project is an exploration of the enigmatic figure of the detective in early modern French culture, and the birth of a literature of crime, the mystery novel. His goal is to provide a broader cultural history of the mid-seventeenth to mid-eighteenth centuries, an overlooked and formative period. Hellman funds will allow for travel to various libraries in France, and a lap-top computer for use in his research there. Paige has also been praised as a teacher, and is described as a "vitaly stimulating presence in the classroom."

**Jack Gallant, Psychology, Role of Human V4 in Form Vision and Attention**

Professor Gallant earned his B.A. in psychology at UCB Berkeley, and a Ph.D. in Psychology at Yale. He was Senior Research Fellow at the California Institute of Technology and in the Department of Anatomy and Neurobiology at Washington University School of Medicine before his 1995 appointment as an assistant professor at Berkeley. Gallant has been described as one of a new breed of behavioral scientists who jointly study cognitive phenomena and their underlying neurological mechanisms. His research focuses on neurophysiological, psychophysical, and computational studies of the primate visual system. Described as "a genuinely creative scientist with broad intellectual interests and a knack for identifying important questions in neuroscience", Gallant's Hellman proposal seeks to assess the specific role of human V4 (a cortical area of the visual system) in shape perception and visual attention, as well as to determine whether human area V4 is functionally homologous to V4 in the macaque monkey. The preliminary data gathered in this study will be used to support a proposal to the National Institute of the Humanities (NIH).

**David Henkin, History, Going Postal: Mail Culture in 19th Century America**

Dr. Henkin received his Ph.D. from Berkeley in 1995, and was a visiting assistant professor of History at Stanford until his appointment at Berkeley in 1997. Henkin is a cultural historian of the early nineteenth century United States. His doctoral dissertation was a study of reading as experienced by the population of New York City in the ante-bellum period, revised and published by Columbia University Press as City Reading: Written Words and Public Spaces in Antebellum New York. Henkin's current research project "charts the emerging culture of sending, reading, and expecting mail during the early years of regular and affordable postal service in the United States." Hellman funding will allow him to accelerate this research, with help from a research assistant and travel to archives on the East Coast. Henkin won the "Outstanding Graduate Student Instructor Award while a student at Berkeley, and he has been described as a particularly gifted teacher.

**Laura Perez, Ethnic Studies, Contemporary Chicana Art Books**

Professor Perez earned her Ph.D. in 1990 from Harvard University in Romance Languages and Literatures. After serving as an assistant professor at the University of Michigan and at California State University, Long Beach, Perez was appointed to Berkeley as an assistant professor in 1994. Perez's interests are in Latin American literature, specifically Chicana/Chicano literature and visual representation as spiritual and activist media. Her Hellman award will be used for her research manuscript on contemporary Chicana art practices, Altarities: Politics and the Spiritual in Chicana Art. The book uses the example of altar-building as a means to characterize the hybrid poetics and
politics of Chicana artists and writers. Reviewers have commented that "Laura's research gracefully cuts across disciplinary and territorial boundaries", and have called her scholarly writing "simply stunning." Funding will help defray the printing costs involved in reproducing approximately one hundred black and white and color images.

Priya Raghubir, Haas School of Business, *Money, Money, Money: It's not the same by another name*

Professor Raghubir received her B.A. from St. Stephen's College of Delhi University in 1983, and a M.B.A. in marketing and finance from the Indian Institute of Management in Ahmedabad in 1985. After work in the private sector, she attended New York University, where she received a Ph.D. in marketing in 1994. After serving as an Assistant Professor at the Hong Kong University of Science and Technology, she joined the Berkeley faculty in 1996. Professor Raghubir has extensive training in social psychology, and her research interests focus on better understanding of consumer behavior in terms of spending, brand choice, responses to surveys, and other related topics. Professor Raghubir's Hellman project examines the "Attitudes, Inferences, and Behavioral Responses to Credit Card Information", exploring what she describes as "if, when and why the mode of payment affects the amount of payment." Funding from her Hellman award will support field surveys and laboratory and field experiments to investigate the notion that money is treated differently as a function of its form.
1999 Award Recipients

**Nan Crystal Arens**, Integrative Biology, *Can Species Richness and Community Stability Predict Propensity for Extinction? Plant Communities Across the Cretaceous-Tertiary Boundary*

Dr. Arens received her Ph.D. in Biology from Harvard University in 1993, and was appointed as Assistant Professor at Berkeley the same year. She is also Curator of Fossil Plants at the UC Museum of Paleontology. Arens is a paleobotanist who combines strong training in both biology and geology. Her research centers on understanding how environmental change shapes the evolutionary trajectories of vascular plant lineages. Her Hellman funds will be used to provide for expenses related to field work in Eastern Montana.

**Eileen Lacey**, Integrative Biology, *Evolution of Behavioral and Genetic Diversity in Subterranean Rodents*

Dr. Lacey received her Ph.D. in 1991 from the University of Michigan, and was appointed as an Assistant Professor at Berkeley in 1996. She is also Assistant Curator of Mammals at the UC Museum of Vertebrate Zoology. Dr. Lacey specializes in the behavioral ecology and evolution of subterranean rodents, and her studies have clear and important implications for a general understanding of social evolution in animals. Her Hellman funds will be used to support field research in southwestern Argentina. The avenues she is proposing to explore will provide the requisite preliminary data for a larger proposal to the National Science Foundation.


Dr. Burgmann received his Ph.D. in Geomechanics and Crustal Deformation from Stanford University in 1993, served as Assistant Professor at UC Davis from 1995-98, and was appointed Assistant Professor at Berkeley in 1998. Professor Burgmann is best known for his analysis of the structure and deformation in the Santa Cruz Mountains associated with the 1989 Loma Prieta earthquake. This one-year investigation will provide funding for travel to Nepal, and data for future funding requests to NSF and/or NASA.

**Douglas Dreger**, Geology & Geophysics, *Three Dimensional Analysis of the Earthquake Rupture Process*

Dr. Dreger received his Ph.D. in Geophysics 1992 from the California Institute of Technology. He was an assistant research seismologist at the Berkeley Seismological Laboratory from 1993-96, and was appointed Assistant Professor at Berkeley in 1996. His expertise lies in the analysis of waveforms from modern broadband digital seismic recordings, as collected by state of the art regional seismic networks, for the primary purpose of unraveling the time and space evolution of the rupture process.
in large earthquakes. Further understanding of the physics of this process will improve the ability to predict strong ground motions for future earthquakes.

**William Holzapfel, Physics, Prototype 90 GHz Receiver for the CBI Telescope**

Dr. Holzapfel received his Ph.D. in Physics from Berkeley in 1996, and was appointed as Assistant Professor at Berkeley in 1997. His area of expertise is in experimental astrophysics. In this particular project, the development of receivers will enable researchers to exploit much of the enormous scientific potential offered by the SZ (Sunyaev-Zel’dovich) effect, providing invaluable information on the evolution of large scale structure and the cosmological parameters which describe our universe. The Hellman award will be used for the design and testing of a GHz receiver. Construction of the prototype receiver is essential to Holzapfel’s continuing research on distant clusters of galaxies.

**Jeffrey Long, Chemistry, Toward Molecular Data Storage: Design and Synthesis of Metal-Cyanide Cluster Magnets**

Dr. Long received his Ph.D. in Chemistry from Harvard University in 1995, and after a year as a Post-doctoral fellow at Harvard, was appointed as Assistant Professor at Berkeley in 1997. His research interests involve the structural systematization of solid state chemistry, growth and nucleation of solids, and study of molecular clusters. The award from the Hellman Family Faculty Fund will enable Long’s research team to accumulate further preliminary results essential for obtaining long-term extramural support.

**Ronald Cohen, Chemistry and Geology & Geophysics, Nitrogen Oxides: Measuring Trends in a Primary Indicator of Atmosphere**

Dr. Cohen received his Ph.D. in Chemistry from Berkeley in 1991, and after serving as a Postdoctoral Fellow and Research Associate at Harvard University, was appointed as an Assistant Professor at Berkeley in 1995. His research interests include chemical controls over atmospheric oxidants, and the role of oxidants in controlling surface UV and climate. Funds from the Hellman Award will be used for a project involving small scientific balloons which carry measurement instruments to the top of the troposphere, as well as for the development of new technology to measure atmospheric trends in the range of 2% / year in global Nitrogen Oxide concentrations.

**James Landay, Electrical Engineering & Computer Sciences, Computer-aided Drawing for the Visually Impaired**

Dr. Landay received his Ph.D. in Computer Science from Carnegie Mellon University in 1996, and was appointed as an Assistant Professor at Berkeley in 1997. His area of research expertise is user interfaces, and his focus has been on developing tools for user interface designers. The purpose of his Hellman project is to enable the visually impaired to more easily use a computer for drawing. The special devices currently used are generally expensive and not portable. The interface solution proposed by Professor Landay would assist the visually impaired create drawings for communicating ideas or simply for expressing themselves artistically.
**Eva Harris**, Public Health, *The Role of Interferon in the Infection of Human Cells by Dengue-2 virus*

Dr. Harris received her Ph.D. in Molecular and Cell Biology from Berkeley in 1993, and was appointed as an Assistant Professor here in the School of Public Health in 1998. Dr. Harris received a MacArthur Foundation "genius" award in 1997 for her work bringing modern molecular techniques to the field in developing countries. Dr. Harris has been described as being "one of a very small number of scientists in the world who has the ability to combine basic molecular biology research with applied work, to develop a truly novel and visionary infectious-disease discipline." It is estimated that nearly 100 million people are infected with the dengue virus per year; as no vaccine currently exists, Dr. Harris' project seeks a better biological understanding of the effects of the virus infection at the cellular level, in order to work towards more effective prevention and control.

**Anne A. Cheng**, English, *The Melancholy of Race*

Dr. Cheng received her Ph.D. in Comparative Language from UC Berkeley in 1994, and after a year at Harvard as an Assistant Professor, was appointed at Berkeley in 1995. Her areas of expertise include East Asian literature, Film Studies, and the theoretical and pedagogical issues in Ethnic Studies. Cheng's manuscript *The Melancholy of Race* has been accepted for publication by Oxford University Press; reviewers have described the manuscript and its author as "timely, tremendously important, smart, and eloquent--a leader of her generation--[It] will change the way people think about race, assimilation, nation-building, and the politics of literary analysis." The Hellman Award will help with production, research, and travel costs related to the book.

**Kevis Goodman**, English, *Passionate Work: Georgics of the Feelings, 1746-1815*

Dr. Goodman received her Ph.D. in English Language and Literature from Yale University in 1994, and after three years at Yale as an Assistant Professor, was appointed at Berkeley in 1997. Goldman's area of specialization is 18th-century British Literature, and she has been described as "one of the most deeply educated and intelligent critical voices of her generation in 18th-century and Romantic studies." Her Hellman Award will help her complete the manuscript draft of her book, *Passionate Work: Georgics of the Feelings, 1746-1815*, which is under advance contract to Stanford University Press.

**Colleen Lye**, English, *Naturalizing the Pacific Rim: American Literature 1882-1945*

Dr. Lye received her Ph.D. in English from Columbia University in May of 1999. She was appointed Acting Assistant Professor at Berkeley in 1997. Her field of expertise is Asian American Studies, and her work has been described as "clearly brilliant", and "of major importance to Asian, American, and Asian American literary studies, and it will quickly earn her a prominent and secure 'place' among the first rank of those who are mapping the intersections of these fields." Her Hellman Award will be used for research assistants, travel, and other expenses related to completing her book.

**Mary Ann Smart**, Music, *Mimomania: The Gestural Language of Nineteenth-Century Opera*
Dr. Smart received her Ph.D. in Musicology from Cornell University in 1994, and was appointed as an Assistant Professor at Berkeley the following year. She has been described as "an extraordinarily talented young scholar" and "the best musicologist of her generation." Her work focuses principally on nineteenth century opera, and in her words, "examines the ways composers use both voice and musical accompaniment to conjure bodily presence in operatic performance." The Hellman funds will be used for archival research and travel related to her book.

Cathryn Carson, History, History of Science in Nuclear Waste Management

Dr. Carson received her Ph.D. in the History of Science from Harvard University in 1995, and after a Mellon Postdoctoral Fellowship at Stanford University, joined the Berkeley faculty as an Assistant Professor in 1997. Her research combines a technical mastery of science (Dr. Carson received a Master's in Physics from Harvard in 1993), with a deep knowledge of European History, with special emphasis on Germany. Her Hellman project will focus on the conceptual transformation of the scientific problem posed by nuclear waste over the last 50 years. This archival research, both in the U.S. and in Germany, will contribute to proposals for large grants needed for later stages of her project.
1998 Award Recipients

Yang Dan, Molecular and Cell Biology: Neurobiology, Reading the Neural Code in the Mammalian Visual System

Dr. Dan received her Ph.D. in Neurobiology from Columbia University in 1994 and was appointed as Assistant Professor at Berkeley in January of 1997. She has already established a productive and dynamic laboratory and is making rapid progress in her research. She has two major projects underway: (i) development of combined physiological, optical, and computation techniques for optimal construction of visual inputs and recording from multiple thalamic neurons to understand visual information processing, and (ii) the use of a novel computational technique to understand the coding of visual information by complex cells in the visual cortex.

John Battles, Environmental Science, Policy and Management, Does the Early Detection of Neighboring Plants Improve the Survival and Growth of Forest Trees

Dr. Battles received his Ph.D. in Forest Science from Cornell University in 1994 and began his career at Berkeley in 1995 as Assistant Professor. Dr. Battles’ research activities are in the area of forest dynamics, specifically how forests change in response to disturbances. He is examining important questions related to the effects of pollutants and fire on changes in forest compositions, providing new insights into how to control the growth and maintenance of forests. He has already published extensively from his dissertation work and, since coming to Berkeley, has begun new research centered both in the Sierra Nevada and in Chile.

Ignacio Chapela, Environmental Science, Policy and Management, Species-Specific Carbon Processing by Fungi in Coniferous Forests

Dr. Chapela received his Ph.D. in Biological Sciences from the University of Wales, U.K. in 1987. Before coming to Berkeley in 1995, Dr. Chapela was a visiting scientist at the Center for the Environment at Cornell University, and the Founder and Scientific Director of the Mycological Facility in Oaxaca, Mexico. Dr. Chapela has now made excellent progress in establishing his research program at Berkeley in the area of fungal ecology. His research areas deal with symbiotic relationships between fungi and plants and animals as well as general problems relating to questions in biodiversity.

Suzanne Fleiszig, Optometry, Development of novel therapies for Pseudomonas aeruginosa infection

Dr. Fleiszig received her Ph.D. from the University of Melbourne, Australia, in 1990. Before coming to Berkeley as an Assistant Professor in 1994, Dr. Fleiszig spent three years as Research Fellow in Medicine at both Harvard Medical School and Brigham and Women’s Hospital. Dr. Fleiszig’s research relates to understanding how pseudomonas infects the cornea of the human eye. Her
interest is centered on mechanisms both at the cellular and molecular level. Her research focuses on how the cornea resists infection and how, in a small number of cases, contact lens wear can lead to pseudomonas infection and corneal ulcers.

**Jack Colford**, Public Health, *Application of Density Equalized Map Projections to Evaluate Spatial Clustering of Cryptosporidiosis in San Francisco*

Dr. Colford received an M.D. from Johns Hopkins School of Medicine in 1985 and a Ph.D. in Epidemiology from UC Berkeley in 1996. He served one year as an Assistant Adjunct Professor of Epidemiology and Biostatistics at UCSF before joining the Berkeley faculty. Dr. Colford’s research interests have focused on waterborne infectious diseases, with particular attention to the risk factors for cryptosporidiosis, a life-threatening and, in AIDS patients, untreatable gastrointestinal illness caused by the parasite, Cryptosporidium parvum.

**Fenyong Liu**, Public Health, *Development of ribozymes as novel gene-targeting agents*

Dr. Liu received his Ph.D. in Biochemistry and Molecular Biology from the University of Chicago in 1992. He spent three years as a Parke-Davis postdoctoral fellow at Yale University before being appointed to the Berkeley faculty as Assistant Professor in 1995. Dr. Liu’s research focuses on viruses of substantial importance to human health (Herpes simplex virus 2 and cytomegalovirus) and has potentially very important applications to the development of new therapeutic agents for and approaches to combating a wide array of viral infections.

**Stephen Best**, English, *Fugitive Properties: Slavery, Technology, and the Lure of the Material in American Culture*

Dr. Best was appointed as an Acting Assistant Professor at Berkeley in 1995, while he was completing his dissertation for a Ph.D. in English. He received his Ph.D. from the University of Pennsylvania in 1997. Dr. Best’s writing and research cuts across a wide range of interests (literature, film, mass and popular culture, critical theory, and technology) and allows him to teach across a diverse curriculum in American literary and cultural studies, African-American literary and cultural studies, and literary theory. Dr. Best has held a number of fellowships, including a National Ford-Mellon Undergraduate Fellowship at Williams College and a Mellon Dissertation Fellowship at Pennsylvania, prior to coming to Berkeley, and a Humanities Research Institute Fellowship in the spring of 1997.

**Junko Habu**, Anthropology, *Development of Sedentism Among Prehistoric Hunter-Gathers in Japan*

Dr. Habu received her Ph.D. in Anthropology from McGill University in 1996 and joined the Berkeley faculty that same year. She is an authority on East Asian archaeology with particular expertise in the Jomon period (10,000 to 300 B.C.) of Japanese prehistory. Her main research interest has been to understand the settlement ecology of Jomon period hunter gatherers in central Japan. She is also an accomplished scholar in the field of ceramic analysis. Three awards at McGill University and an award for the best article in the journal Quarternary Research attest independently to the high quality
of her research. Dr. Habu has compiled an impressive record of publications, in both Japanese and English.

**Xin Liu, Anthropology, Moral mathematics: luck, fortune, and authority in late socialist China**

Dr. Liu received his Ph.D. from the School of Oriental and African Studies at the University of London in 1995 and accepted an appointment at Berkeley as an Assistant Professor the same year. Dr. Liu has produced several papers since his appointment. One widely praised paper identifies a new form of symbolic capital in post Maoist China today: mobility and status achieved through travel, especially international travel. His area of expertise and research has expanded the range of specializations in the Anthropology department. In addition to his contributions to qualitative research in the areas of Chinese ethnography, practice theory, theories of change, modernization, and political resistance, Dr. Liu is also a well trained statistician.

**Laurie Wilkie, Anthropology, 1998 Archaeological Excavations at Clifton Plantation, Bahamas**

Dr. Wilkie received her Ph.D. in Archaeology from UCLA in 1994 and joined the Department of Anthropology at Berkeley in 1995. Dr. Wilkie’s research interest has focused on the interpretive interface between archaeological material culture and the historical and ethnographic records. She has studied the material evidence for social and ethnic diversity in late-nineteenth and early twentieth-century California, as well as doing archaeological research on historical slave communities in the Bahamas.

**Peter Zinoman, History, Vu Trong Phung and Literary Modernism in Vietnam**

Dr. Zinoman was appointed as Acting Assistant Professor in the Department of History at Berkeley in 1995, while he was completing his dissertation. He received his Ph.D. in History from Cornell University later that same year and his appointment was regularized to Assistant Professor in 1996. Dr. Zinoman is an authority on Vietnamese history, culture, and archives, and an expert in the field of Vietnamese literature. He has established a strong teaching record and offers courses which substantially enrich the department's curriculum. He has published in a number of important journals on Southeast Asian Studies and has been invited to share his scholarly work at several conferences and other venues since his appointment at Berkeley.

**Aditya Behl, South and Southeast Asian Studies, Rasa and Romance: The Avahdhi Sufi Premakhyans**

Dr. Behl was appointed as Visiting Assistant Professor at Berkeley in 1994, while he was completing his dissertation. He received his Ph.D. in History of Religions from the University of Chicago in 1995. Dr. Behl came to Berkeley with one published, edited book to his credit, and has since completed three additional translations and three book reviews. He is currently revising his dissertation entitled "Rasa and Romance" into book form. The book is a study of Sufi poetic romances that provides analysis of their unique merging of the worlds of Hindu and Muslim India in the medieval and pre-modern periods. Dr. Behl is unusual, if not unique, in his command of both the linguistic skills and the literary theory to undertake such a study.
1997 Award Recipients

**Zi Qiang Qiu**, Physics, *Synthesis and Characterization of Magnetic Nanostructures*

Qiu is an experimental Condensed Matter physicist who specializes in the study of magnetic thin films. After establishing a remarkable record of research at both Johns Hopkins University (where he received his Ph.D.) and the Argonne National Laboratory, Qiu joined the Berkeley faculty in 1993 as an Assistant Professor. After joining the Physics Department, he began an ambitious project to build state-of-the-art equipment to grow and study thin films consisting of multilayers of magnetic and nonmagnetic metals. With the help of two graduate students, the equipment has been completed and is producing new and interesting results. Qiu has also established successful collaborations with several groups at the Lawrence Berkeley National Laboratory.

**Lars Bildsten**, Physics & Astronomy, *Temporal Variability in Stellar Astrophysics*

Bildsten is a theoretical astrophysicist who obtained his MS and Ph.D. degrees from Cornell University. He spent three years at Caltech as a postdoctoral fellow before coming to Berkeley in 1994. Bildsten's research interests focus on the generation of x-rays by neutron stars. His Hellman proposal is for two related projects, "the first being a theoretical study of the effects of rapid rotation on stellar oscillations in massive stars, and the second an observational search for magnetic white dwarfs in wide binaries. These projects are related, as "it now seems to be the case that a large fraction of the massive stars evolve into the magnetic white dwarfs."


McCusker earned his Ph.D. in Chemistry from the University of Illinois at Urbana-Champaign in 1992. He was a Postdoctoral Fellow at the University of North Carolina at Chapel Hill before joining Berkeley's faculty in 1994. McCusker is a physical chemist whose research interest focuses on two areas: (1) ultrafast dynamics of excited states of transition metal complexes and (2) the effects of electron exchange coupling on the photophysics and photochemistry of metal-containing systems. His Hellman funds will be used to gather preliminary results on a research proposal as a precursor for a full proposal to the NIH.

**Susan Marqusee**, Molecular and Cell Biology, *Biological Sciences Dissection of the Protein Folding Problem*

Marqusee received both a Ph.D. in the Department of Biochemistry at Stanford and an MD from the Stanford Medical School before taking a Postdoctoral position at MIT. She was subsequently appointed as an Assistant Professor at Berkeley in 1992. Marqusee's research is in the general field of structural biology, specifically that of protein folding and the determination at the chemical level of
how amino-acid side chains encode folding, stability, and function. It is a crowded and competitive field, but Marqusee has clearly earned the respect of her peers for her ideas and potential. She has received many invitations to present her work at other institutions and annual meetings, and is a regular reviewer of journals in her field.

Lisa A. Pruitt, Mechanical Engineering, *Surface Modification of UHMWPE for wear resistance of Total Knee Replacements*

Pruitt received her Ph.D. in Materials Science and Engineering from Brown University before joining the Berkeley faculty as an Assistant Professor in 1993.

Pruitt's research area is fatigue failure of polymeric materials, particularly as applied to bio-medical applications. At Berkeley, she has developed a research program aimed at improving the long-term structural integrity of orthopedic polymers, and established a major experimental facility for testing these materials. Her research has resulted in several archival journal and refereed conference papers, as well as an invitation to be the keynote speaker for the prestigious 7th International Fracture Conference in 1997.

John G. Flannery, Optometry, *Gene Therapy Approaches to Treatment of Inherited Retinal Degenerations*

Flannery received his Ph.D. in Neuroscience from UC Santa Barbara. After holding both Postdoctoral Fellow and Assistant Research Ophthalmologist positions at UCLA, Flannery served as an Assistant Professor in the School of Medicine at the University of Florida before joining the Berkeley faculty in 1994.

Flannery's research is directed at understanding the basic mechanisms of the retinal degenerations which account for a significant portion of human vision loss and blindness, and developing gene therapy approaches to prevent or delay the degeneration of the retina.

Allen Goldstein, Environmental Science, Policy and Management, *A Field-Based Study of Sierra Nevada Forest Response to Anthropogenic Ozone and Nitrogen Deposition*

Goldstein received his Ph.D. in Chemistry from Harvard in 1994, and was appointed at Berkeley as an Assistant Professor and Assistant Biogeochemist in 1995 after a year at Harvard as a Post-doctoral Fellow. His general research area is the investigation of the biological and anthropogenic controls on active trace gases and atmosphere-biosphere feedbacks, with particular emphasis on changes in the gas composition of the atmosphere in response to new and changing technologies. His Hellman proposal involves studying six forested areas in the Sierras to measure the responses of forests to ozone stress and enhanced nitrogen deposition.

Priya Joshi, English, * Gifts of Empire: British Popular Fiction & the Development of the Novel in India*

Joshi received her Ph.D. in English and Comparative Literature from Columbia University in 1995. She joined the Berkeley faculty as an Assistant Professor the same year. Joshi’s primary scholarly
efforts since her appointment have been devoted to revising and expanding her dissertation, which treated "the deployment of the English novel in 19th century colonial India and the subsequent emergence of the genre in 20th century Indian letters." This research has been done using archives in both London and India. Joshi has been praised for her wide-ranging and sophisticated grasp of contemporary theoretical methodologies, her mastery of established modes of close textual criticism, and her lucid prose. Her command of languages includes Hindi, Urdu, Sanskrit, French, Spanish, and Modern Greek.


McWhorter received his Ph.D. from Stanford University in 1993, and served as an assistant professor at Cornell before joining the Berkeley faculty in 1995. McWhorter’s revised dissertation, Towards a New Model of Creole Genesis, is now in press. The work focuses on the origins and descriptions of Creole languages, and is considered path-breaking and central to the theoretical debate of the field. The Hellman Award will allow him to travel to Martinique and French Guiana to study the French creole of Martinique and to investigate the African contribution to French-based creoles. The knowledge gained through this research will also contribute to the textbook which McWhorter is under contract to write.

**Anne Nesbet**, Slavic Languages and Literatures/Film, *The Dialectical Image*

Nesbet received a Ph.D. in Comparative Literature from Berkeley, and joined the faculty as an Assistant Professor in the Department of Slavic Languages and Literatures in 1992. Her research at the time focused on Russian and East German Literature. After agreeing to teach a course in Soviet film during her second semester at Berkeley, she discovered that what she had thought of as a "pleasant detour" became what she now considers "the passionate focus of her research". Describing herself as a film historian, Nesbet’s current research examines the work of Soviet film director Sergei Eisenstein, delving deeply into the film theories of the 1920’s through the 1940’s. Her command of languages includes Russian, German, French, and Latin.

**Darcy Grimaldo Grigsby**, History of Art, *Painting Empire in Post-Revolutionary France*

Grigsby received her Ph.D. from the University of Michigan in 1995, and joined the Berkeley faculty as an Assistant Professor that same year. Specializing in French art of the early nineteenth century, Grigsby brings an interest in cultural anthropology and in theories of nationalism and orientalism to her research. She has been praised for her "remarkable ability to bring politics and history to bear on a painting."


Schurman received a Ph.D. in Sociology from the University of Wisconsin, Madison in 1993, and joined the Berkeley Faculty that same year. Schurman’s research interests are in economic development processes, particularly in Latin America; the study of the organization and operation of
natural resource industries, and a variety of themes pertaining to environmental and natural resource sociology. She has been praised for her "broad-ranging theoretical grasp, her methodological abilities, and her tenaciousness in collecting rigorous data under very difficult conditions", and "her capacity to teach social science as theory and method in an interdisciplinary framework."
1996 Award Recipients

Tracy Handel, Molecular and Cell Biology, *De Novo Design of Membrane Proteins.*

Handel received a Ph.D. in Chemistry in 1989 from the California Institute of Technology, and worked as a Senior Scientist for Dupont Merck Pharmaceuticals before joining Berkeley in 1994. The recipient of many prestigious awards, her current research focuses on the development of groundbreaking computational algorithms to synthesize integral membrane proteins and predict their structure. Such predictions would allow scientists to inhibit the development of proteins involved with numerous human diseases, including AIDS. Her research program is well advanced, with a strong outlook for continued productivity.

Alan Sachs, Molecular and Cell Biology, *Functional Interactions Between Messenger RNA 5’ and 3’ Ends*

Sachs received his Ph.D. in Cell Biology from Stanford University in 1987 before earning an M.D. from Stanford Medical School in 1988. He joined Berkeley in 1992 after spending 3 years as a research fellow at MIT. Sachs’ research focuses on the function of the poly(A) tail in yeast. His peers find his research exciting, edifying, and innovative. He has also authored research articles for numerous top-ranked journals and magazines.

Roya Maboudian, Chemical Engineering, *Understanding and Manipulating Surface Forces in Silicon Micro-Mechanical Devices.*

Maboudian received her Ph.D. in Applied Physics from the California Institute of Technology in 1989, and was appointed as an assistant professor at Berkeley in 1993. Maboudian’s work on tribology, semi-conductors and other topics has received nation-wide recognition, including the National Science Foundation’s Young Investigator Award. Her current research, on the microscopic effects of friction and lubrication, should lead to a new generation of highly-durable motors and electric devices. She is the co-author of over 30 scientific papers and is highly sought-after for symposium and seminar presentations.

Yeon-Kyun Shin, Chemistry, *Mechanism of Cell-Viral Membrane Fusion Induced by HIV gp120-gp41.*

Shin came to the United States in 1985 with a B. Sc. degree in Chemistry from Seoul National University, and received his Ph.D. at Cornell University in 1990. He published eight papers as a result of his work at Cornell, and after a post-doctoral position at UCLA, came to Berkeley in 1993 as an Assistant Professor. During his first year at Berkeley he set up a first-rate laboratory, with an active research group using the new facilities. His research approach uses a new technique of site-directed spin labeling, a very powerful method for studying membrane proteins.

Sedlak earned his B.S. degree at Cornell in 1986 and his Ph.D. in Water Chemistry at the University of Wisconsin in 1992. From 1992-94 he was a post-doctoral fellow at the Swiss Federal Institute for Environmental Science and Technology. He joined the faculty in 1994 as an Assistant Professor. Sedlak has made a good start in establishing an innovative research program. His current research involves the design of new methods of safely disposing hazardous petroleum by-products. His research provides a valuable link between chemistry and engineering.

David Weiss, Physics, *Experiments with Cold Trapped Atoms*

David Weiss received his Ph.D. in Physics from Stanford University in 1993. He spent one year as a post-doctoral fellow at Berkeley before joining Berkeley’s Physics faculty in 1994. Weiss is a very promising young experimental atomic physicist. His areas of interest include atom trapping, atomic clocks, and Bose-Einstein condensates. He is also the recipient of an Office of Naval Research Young Investigator Award. Weiss’ current research involves the development of novel methods of cooling atoms with lasers.

Mark Van der Laan, Biostatistics, *Optimal Methods for Estimation of Survival Distributions with Censored Data and Many Covariates*

van der Laan received his Ph.D. from the University of Utrecht, Netherlands in 1993, and joined the faculty at Berkeley in 1994. van der Laan’s main research interest concerns censored and missing data, one of the most common and complicated features of epidemiologic data analysis. He has also produced important contributions to stochastic geometry. He is well on his way to becoming an internationally recognized scholar in the field of Biostatistics.

Martin Jones, Philosophy, *Metaphysics and Quantum Theory*

Jones received a Ph.D. in Philosophy from Stanford University in 1991, and joined Berkeley’s faculty in 1992. A highly-regarded specialist in the philosophy of physics, his current research focuses on the metaphysical implications of quantum theory. His work is expected to add original and incisive insight to classic metaphysical topics such as causation, mind and body, reality, and identity.

Paolo Mancosu, Philosophy, *From Brouwer to Hilbert: Philosophy of Mathematics in the 1920’s*

Mancosu earned his Ph.D. in Philosophy from Stanford University in 1989. After serving as a research fellow at both Oxford and the Technische Universität in Berlin, he was an Assistant Professor at Yale before joining the Berkeley faculty in 1995. His primary areas of interest are logic and the philosophy of mathematics. He is fluent in four languages. Widely praised for his extraordinary understanding of pre-nineteenth century mathematic philosophy, his current research examines the foundations of mathematics in the 1920’s and its influence on early twentieth century philosophers of mathematics. A forthcoming book, based on his research, is expected to add critical
insight into the development of the philosophy of mathematics and to make available previously untranslated articles from Dutch, French, and German.

**Katherine Snyder**, English, *Bachelors, Narrative, and the Novel*

Snyder received her Ph.D. in English from Yale University in 1993 and was appointed an assistant professor at Berkeley the same year. She is rapidly developing a nationwide reputation as an imaginative, subtle, and extremely well written scholar of the modern novel. Snyder's work on Henry James, for example, has received universal praise and admiration. Her areas of specialization include representations of gender and narrative structure. Snyder's current work-in-progress analyzes the social role of popular representations of 'bachelorhood' in the mid to late 19th century. Her impressive array of research makes her a highly promising scholar.

**Nada Eissa**, Economics, *The Econometrics of Differences-in-Differences Regression Models*

Eissa received her Ph.D. in Economics from Harvard University in 1995, and was appointed as an Assistant Professor at Berkeley that same year. Her dissertation received the National Tax Association Annual Dissertation Award in 1995. Eissa's research interests deal with the economic relationship between taxation, transfer policy, and labor markets. She is the author of numerous journal articles and regularly presents her work at symposiums nationwide.

**Mariane Ferme**, Anthropology, *State Failures and "Moral" Reforms in Sierra Leone: A Historical and Cultural Study*

Ferme received a Ph.D. in Anthropology from the University of Chicago in 1992, and was appointed to the Berkeley faculty in 1993 as an Assistant Professor of Anthropology. She is fluent in four languages and functional in five others. Her areas of specialization include symbolic anthropology, feminist theory, and cultural theory. Based on field work in West Africa and the Middle East, she has produced several highly original journal articles and an ethnographic film.

**Carol Redmount**, Near Eastern Studies, *Of Silts and Marls: Analysis of Modern Egyptian Pottery and Implications for Ancient Egyptian Ceramics*

Redmount received her Ph.D. in Eastern Languages and Civilizations from the University of Chicago in 1989. She is currently the principal investigator and co-director of the Tell el-Muqdam Project, one of the largest archaeological excavation projects in a hitherto under-explored area of the Egyptian Delta. Redmount's fieldwork has lead to the discovery of pottery samples that will be the touchstone of future studies of Egyptian civilization between the 4th and 7th century B.C. Jones has also introduced several novel field techniques for analyzing the style, composition, and age of archaeological samples with a greater degree of accuracy.
1995 Award Recipients

**Carla D’Antonio**, Integrative Biology, *Species interactions and community change in a montane meadow ecosystem*

D’Antonio received her Ph.D. in Biological Sciences from UC Santa Barbara in 1990 and spent a year as a postdoctoral researcher at Stanford University before coming to Berkeley in 1991. Her research deals with plant population and community ecology, and focuses on the causes and consequences of the invasion of natural ecosystems by alien plant species. She has published several peer-reviewed papers, two book chapters, and reviews. She is already becoming a recognized authority in her field and is much sought-after for seminar and symposium presentations.

**Ehud Y. Isacoff**, Molecular and Cell Biology: Neurobiology, *Regulation of synapse development and plasticity by K+ channels*

Isacoff received his Ph.D. in Electrophysiology in 1987 from McGill University in Montreal and specialized in biophysics. He was appointed an assistant professor at Berkeley in 1993. Isacoff soon began to establish himself as one of the leaders in the field of molecular genetic analysis of ion channels and their role in synaptic plasticity. He has excellent plans for his future research and has attracted some of the very best graduate and undergraduate students to his laboratory. He is expected to make substantial contributions to the development of the field.

**Martin Head-Gordon**, Chemistry, *Local Theories of Quantum Chemistry.*

Head-Gordon received a Ph.D. in Theoretical Chemistry from Carnegie-Mellon University in 1989. He was a postdoctoral fellow at AT&T; Bell Laboratories before being appointed at Berkeley in 1992. He has made a fine start in his research in theoretical computational chemistry. He carries out quantum mechanical calculations for molecular structures and energy states, and has published several papers and a monograph on his work. He is noted for being an effective collaborator with both theorists and experimentalists.

**Susan J. Muller**, Chemical Engineering, *Novel Experimental Studies of Extensional Flows of Polymeric Liquids*

Muller received her Ph.D. in Chemical Engineering from MIT in 1986. She was appointed an assistant professor at Berkeley in 1991 after working on the technical staff at AT&T; Bell Laboratories. She has established a first-rate laboratory for her research on polymer characterization and complex fluid flow measurements. She has published several refereed papers. Her recent elegant work has received admiration from leaders in the field, particularly her experimental work on flow behavior of solutions with different solvent properties.
James W. Kirchner, Geology & Geophysics, *Measuring changes in erosion rates due to land use*

Kirchner received his Ph.D. in Energy and Resources from UC Berkeley in 1990. He was appointed an assistant professor in 1991, following a year as a research fellow at the California Institute of Technology. His research is in two general areas: watershed geochemistry and geomorphology. He has made important contributions to the study of acid rain, erosion rates in watersheds, and transport of sediments by rivers. His original research and publications are considered bold by the reviewers, as he tests his theories with cleverly and carefully conceived studies.

Oliver M. O’Reilly, Mechanical Engineering, *A Feasible Investigation of Satellite Dynamics*

O’Reilly received a Ph.D. in Theoretical and Applied Mechanics from Cornell University in 1990. After two years of postdoctoral research at the Swiss Federal Institute of Technology in Zurich, he was appointed an assistant professor at Berkeley. His research in the dynamics of axially moving systems and non-linear dynamical systems theory has resulted in several articles in archival publications. He is noted for his independence in choice of research topics and ability to make both theoretical and experimental contributions.

Panayiotis Papadopoulos, Mechanical Engineering, *A Study of Constitutive Models in Finite Plasticity*

Papadopoulos received his Ph.D. in Civil Engineering from Berkeley in 1991 and was appointed an assistant professor in 1992. His research is in the area of computational contact mechanics and computational plasticity. He has already produced several major archival publications and has demonstrated an outstanding and original research capability.

Katherine Bergeron, Music, *Decadent Enchantments: Gregorian Chant and Modern Aestheticism*

Bergeron received a Ph.D. in Musicology from Cornell University in 1989 and was appointed an assistant professor at Berkeley in 1993. She is recognized as one of the brightest and most thought-provoking young scholars in the field of musicology and is known for her wide-ranging intellectual interests. She has published several articles and reviews, one of which has received considerable reputation among musicologists. Her studies on Gregorian chant and modern aestheticism are expected to add to her growing stature in the field of musicology.

Eric Naiman, Comparative Literature, *Slavic Languages and Literature Monumental Intimacy: Privacy and the Shaping of Soviet Life*

Naiman received his Ph.D. from Berkeley in 1991 and was appointed an assistant professor in 1992. He also received a J.D. from Yale Law School in 1984. Naiman is highly regarded as a promising literary scholar who has already published a number of articles in various national and international journals. His scholarly work involves not only literature but also cultural studies in a broader sense, including legal discourse, psychoanalytic theory, and socio-political theory.

Sharon Inkelas, Linguistics, *The Lexical Phonology of Turkish*
Inkelas received a Ph.D. in Linguistics from Stanford University in 1989 and was appointed an assistant professor at Berkeley in 1992. The strength of Inkelas’ work derives from her ability to provide original analyses of important issues in the areas of phonology and morphology and their interface. She is actively producing substantive new work and has established herself as one of the most influential and sought after younger scholars in the field.

Lucia F. Jacobs, Psychology, *Seasonal changes in spatial behavior, spatial learning and the hippocampus*

Jacobs received a Ph.D. in Evolution and Ecology from Princeton University in 1987 and was appointed at Berkeley in 1993. She is a pioneering researcher in the area of evolutionary psychology. Her research focuses on the ecology and evolution of learning in a cross-disciplinary and cross-species approach. She already has built a record of distinguished scholarship and is considered one of the finest young scientists who can understand evolutionary, ecological, physiological and psychological aspects of behavior and use them in creative ways to define and solve interesting problems.

Kathleen James, Architecture, *Dynamic Functionalism: The Architecture of Erich Mendelsohn, 1918 - 1933*

James received her Ph.D. in History of Art from the University of Pennsylvania in 1990 and was appointed an assistant professor at Berkeley in 1992. She is an architectural historian whose research program focuses on modern European architecture, particularly German. She is repositioning the architect Mendelsohn among those most associated with German modernism of the 1920s and 30s, namely Gropius and Mies van der Rohe. James has already established herself as an important new scholar in the history of 20th century architecture.

Pedro A. Noguera, Education, *Confronting the Urban in Urban Education: Overcoming the Obstacles to Urban School Reform Through Community Partnership*

Noguera received his Ph.D. in Sociology from Berkeley in 1989 and was appointed assistant professor in 1990. His research centers on two major interests: social issues and conditions that affect educational policy and practice in the United States, and political sociology in Grenada and the Caribbean. Noguera brings the theoretical perspectives of political sociology to bear upon problems of social change and educational equity, including the sociopolitical dynamics of urban school systems.

Christina Shannon, Economics, *Market Distortions in Equilibrium Analysis*

Shannon received a Ph.D. in Economics from Stanford University in 1992 and was appointed at Berkeley the same year. She is a very promising young economic theorist pursuing an ambitious research program in the area of mathematical economics. After only three years on campus, Shannon’s research record is rated as outstanding, and she is expected to build on this strong beginning. She is regarded as deep, original and thoughtful, in addition to being extremely well-trained in economics and mathematical techniques. Shannon is viewed as a star in the making.