A lifelong Illinois resident, **Congresswoman Judy Biggert** combines a wealth of experience as a legislator, lawyer, community leader, and small business owner to serve the suburban Chicago residents of Illinois' 13th District in the US House of Representatives.

Since her first election to Congress in 1998, Judy has spearheaded efforts to advance U.S. competitiveness in areas ranging from supercomputing to alternative energy technologies. She also has authored legislation to advance science and math training, and to provide greater educational opportunities for homeless children. Having taken on several ranking positions within the Financial Services Committee, Judy also consistently works to incorporate fiscal responsibility and sound economic principles in the government's response to weaknesses in the U.S. financial marketplace. Voted by her peers as one of the ten most bi-partisan Republican members of the House, Judy has led the Congressional Women's Caucus in areas like domestic violence and health research; and promoted judicial and legislative cooperation through the Congressional Judicial Caucus.

In the 112th Congress, Judy is a member of three committees -- Financial Services, Education and the Workforce, Science, Space and Technology – and of six subcommittees. She serves as Chairman of the House Financial Services Subcommittee on Insurance, Housing and Community Opportunity

Cited by Glamour as one of the "New Female Power Players" and by Fortune as one of "The Picks of Congress' New Litter," Judy met and matched expectations. During her first term in office, two of her initiatives became law: the Cybertipline legislation made it easier to report and track down computer-based sex crimes against children, and another initiative that increased penalties for traffickers of club drugs such as Ecstasy.

Judy has maintained her strong legislative track-record under the Congressional majorities of both parties. During the 110th Congress, she successfully secured bipartisan passage and enactment of several top legislative priorities, including the Genetic Information Nondiscrimination Act, which prohibits health insurers and employers from discriminating on the basis of a person's genetic information. The President also signed into law her Energy Tech Transfer Act, which will help move breakthrough energy technologies out of the laboratory and into the marketplace, helping individuals and businesses dramatically reduce their energy usage. Finally, through her work as Co-Chair of the Missing and Exploited Children's Caucus, she secured enactment of legislation to help find and protect missing and runaway youth.

Judy began her legislative career in 1992, when she was elected to the Illinois House of Representatives to serve the newly created 81st District.

A lifetime of community service prepared Judy for the challenges of public office. She served as President of the Board of Education of Hinsdale Township High School District 86 and Chairman of the Village of Hinsdale Plan Commission. She has also served as Chairman or President of the Hinsdale Assembly of the Hinsdale Hospital, the Hinsdale Antiques Show, the Visiting Nurses Association of Chicago, the Junior League of Chicago, the Traveler's Aid Society and the Salt Creek Ballet. She also has served as a Sunday School teacher, an Assistant Soccer Coach in the American Youth Soccer Organization, and as President of the Oak School PTA.

A graduate of Stanford University and Northwestern University School of Law, Judy began her legal career as clerk to the Honorable Luther M. Swygert, U.S. Court of Appeals for the 7th Circuit. While

raising her four children, Judy ran a home-based private law practice specializing in real estate, estate planning and probate law. She is a member of the American Bar Association, the Illinois State Bar Association, the DuPage Bar Association, and the DuPage Association of Women Lawyers.

Judy was born in Chicago on August 15, 1937 and attended New Trier High School in Winnetka, Illinois. She and her husband Rody are the parents of four children and the grandparents of nine grandchildren.

Senator Jeff Bingaman was born on October 3, 1943. He grew up in the southwestern New Mexico community of Silver City, in a family with deep small town roots. His father was a science professor at Western New Mexico University, and his mother taught in the public schools.

After graduating from Western (now Silver) High School in 1961, Jeff attended Harvard University and earned a Bachelor of Arts degree in government in 1965. He then entered the Stanford University School of Law, where he met, and later married, fellow law student, Anne Kovacovich.

Upon earning his law degree from Stanford in 1968, Jeff and Anne returned to New Mexico and had their son, John. Jeff served in the Army Reserves from 1968 to 1974.

After one year as New Mexico Assistant Attorney General and eight years in private law practice, Jeff was elected Attorney General of New Mexico in 1978. In 1982, he won election to the United States Senate. He was re-elected to a fifth Senate term in 2006, becoming the third longest-serving U.S. Senator in New Mexico history.

Jeff is one of the most senior Democrats in the United States Senate. His seniority, along with his leadership positions on key committees, has allowed him to champion issues important to New Mexican families and communities.

Congressman Daniel Lipinski is a proud native and Representative of Illinois' Third Congressional District. The district includes large parts of south and southwest Chicago, as well as several suburban communities in west and southwest Cook County. All of these neighborhoods and the families who call them home make the Third District one of the most diverse and vibrant areas in the entire country.

As a skilled legislator, Congressman Lipinski has fought tirelessly for the residents of the district, as well as all Americans, by leading the way in improving our nation's schools, making the healthcare system more accessible and transparent, strengthening Social Security and Medicare, protecting the American worker, improving our nation's transportation and infrastructure, and ensuring our families' safety and security.

To advance the interests of the Third District, Congressman Lipinski is a member of two House Committees: Transportation and Infrastructure and Science and Technology. The most-senior Chicago-area member of the House Committee on Transportation and Infrastructure, Congressman Lipinski serves on the Subcommittee on Aviation and the Subcommittee on Railroads, Pipelines, and Hazardous Materials. In the Committee on Science and Technology, Congressman Lipinski is Ranking Member of the Subcommittee on Research and Science Education and sits on the Subcommittee on Technology and Innovation.

Prior to his election to the House of Representatives, Congressman Lipinski taught Political Science at the University of Tennessee and at the University of Notre Dame. He served on the staff of former Minority Leader Richard Gephardt and on the staffs of four Illinois Congressmen. He also served on the staffs of the House Administration Committee and the House Democratic Policy Committee and worked for the U.S. Department of Labor and the Illinois General Assembly's Commission on Intergovernmental Cooperation.

Congressman Lipinski earned a Bachelor's Degree in Mechanical Engineering from Northwestern University, a Master's Degree in Engineering-Economic Systems from Stanford University, and a PhD in Political Science from Duke University.

Congressman Lipinski and his wife, Judy, currently reside in Western Springs, IL.

Congresswoman Zoe Lofgren

Personal Information

- Born on December 21, 1947 in San Mateo, California
- Married to John Marshall Collins
- Mother of two children, Sheila and John Collins

Education

- K-12 public schools, Palo Alto, California
- B.A., Political Science, Stanford University, 1970
- J.D., cum laude, University of Santa Clara School of Law, 1975

Professional Career

- Served as Staff Assistant to her predecessor, Congressman Don Edwards, 1970-1978; Worked on impeachment proceedings, the Equal Rights Amendment, and creation of the Don Edwards National Wildlife Refuge in the South San Francisco Bay
- Practiced immigration law as a partner in the firm of Webber & Lofgren, 1978-1980

- Taught immigration law at University of Santa Clara School of Law, 1977-1980
- Served on Santa Clara County Board of Supervisors, 1981-1994

U.S. Congress

- Elected in 1994 as only freshman Democrat from west of the Rocky Mountains
- Serves as Chair of the 34 Member California Democratic Congressional Delegation

Dr. Tilak Agerwala is vice president, Systems at IBM Research. He is responsible for developing the next-generation technologies for IBM's systems, from microprocessors to commercial systems and supercomputers, as well as novel supercomputing algorithms and applications. Dr. Agerwala joined IBM at the T.J. Watson Research Center and has held executive positions at IBM in research, advanced development, development, marketing and business development. His research interests are in the area of high performance computer architectures and systems. Dr. Agerwala received the W. Wallace McDowell Award from the IEEE in 1998 for "outstanding contributions to the development of high performance computers." He is a founding member of the IBM Academy of Technology. He is a Fellow of the Institute of Electrical and Electronics Engineers. He received his B.Tech. in electrical engineering from the Indian Institute of Technology, Kanpur, India and his Ph.D. in electrical engineering from the Johns Hopkins University, Baltimore, Maryland.

Dr. Paul Alivisatos serves as Director of the Lawrence Berkeley National Laboratory. Additionally, he is Professor of Chemistry and Materials Science, and the Larry and Diane Bock Professor of Nanotechnology at the University of California, Berkeley. He attended the University of Chicago, receiving a Bachelor's degree in Chemistry with Honors and a Ph. D at the University of California, Berkeley. Dr. Alivisatos is a member of the US National Academy of Sciences and of the American Academy of Arts and Sciences, and is the Editor of the American Chemical Society Journal Nanoletters.

Dr. Alivisatos is a leader in the study of the optical, electrical, and structural properties of colloidal nanocrystals, and their applications in biological imaging and renewable energy technologies.

Ivan Amato has been a science writer, editor, and communicator since the mid-1980s. For much of that time he worked independently as a freelancer and has written for many publications, among them *Time, Fortune, Wired, Technology Review,* and the *Washington Post*. He has covered science for National Public Radio and has written for Discovery's Science Channel. Amato also has written several books, including *Stuff: The Materials the World is Made of*, which was chosen as a New York Times Notable Book, and the coffee table book, *Super Vision; A New View of Nature,* which is a celebration of science imagery. He also has worked on the staffs of magazines, including *Science News* and *Science*. In addition to continuing his freelance work, he now is a senior communications officer with the Pew Health Group. Additionally, he recently organized the DC Science Café, which offers DC residents and visitors engaging discussions each month about the science and technology of our times.

Paula S. Apsell got her start in broadcasting at WGBH Boston, where she was hired fresh out of Brandeis University to type the public broadcaster's daily television program logs—a job that Apsell notes is now, mercifully, automated. Within a year, she found her way to WGBH Radio, where she developed the award-winning children's drama series, *The Spider's Web,* and later became a radio news producer. In 1975, she joined WGBH's NOVA, a science documentary series that has set the standard for science programming on television.

In 1985, she was asked to take over the reins at NOVA where she is now Senior Executive Producer and Director of the WGBH Science Unit. As well as overseeing the production of NOVA documentaries and miniseries for television, she has directed the series' diversification into other media—most notably online, where NOVA is the most visited site on PBS.org. NOVA can also be found in classrooms nationwide, where it is the most widely used television series among high school teachers.

In January 2005, Apsell introduced a NOVA spinoff in *NOVA scienceNOW,* a critically acclaimed science newsmagazine hosted by Dr. Neil deGrasse Tyson. Other recent signature NOVA and Science Unit productions include *The Elegant Universe, Origins, Einstein's Big Idea, Forgotten Genius* and the large format feature *Shackleton's Antarctic Adventure*.

Apsell has been recognized with numerous individual awards for her work, including the Bradford Washburn Award from the Museum of Science, Boston; the Carl Sagan Award given by the Council of Scientific Society Presidents; the American Institute of Physics Andrew Gemant Award; the Planetary Society's Cosmos Award; the International Documentary Association's Pioneer Award; the National Space Club of Huntsville Media Award; and the New York Hall of Science Distinguished Service Award for Public Understanding of Science.

Dr. Neal R. Armstrong is Professor of Chemistry & Biochemistry and Optical Sciences at the University of Arizona (UA), where he has been located since 1978. He is a recipient of an Alexander von Humboldt Senior Research Prize at Technische Universität Dresden and the Max Planck Institute für Polymer Forschung – Mainz (2002), a Galileo Circle Fellow for the College of Science at UA (2011), and a UA Leading Edge Researcher Innovation Day Award (2011). Professor Armstrong is the Director of the Center for Interface Science: Solar Electric Materials, an Energy Frontier Research Center funded by the U.S. Department of Energy, Office of Science, Office of Basic Energy Sciences, under Award Number DE-SC0001084. His research interests include the characterization of critical interfaces in emerging energy conversion, light emitting, and sensor technologies, using photoemission spectroscopies, scanning probe microscopies, and electrochemistry, and the development and characterization of new molecular electronic and energy conversion materials.

Dr. William F. Brinkman was confirmed by the Senate on June 19, 2009 and sworn in on June 30, 2009 as the Director of the Office of Science in the U.S. Department of Energy. Dr. Brinkman brings decades of experience in managing scientific research in government, academia, and the private sector to the post. Prior to joining DOE, he was a Senior Research Physicist in the Physics Department at Princeton University where he played an important role in organizing and guiding the physics department's condensed matter group for the proceeding eight years.

He joined Bell Laboratories in 1966 and after a brief sojourn as the Vice President of Research at DOE's Sandia National Laboratories, where he oversaw the expansion of its computer science efforts, Dr. Brinkman returned to Bell Laboratories in 1987 to become the executive director of its physics research division. He advanced to the Vice President of Research in Bell Laboratories in 2000, where he directed research to enable the advancement of the technology underlying Lucent Technologies' products. Brinkman led a research organization that developed many of the components and systems used in communications today, including advanced optical and wireless technologies.

Dr. Benjamin L. Brown joined the Office of the Deputy Director for Science Programs as Senior Science and Technology Advisor in September 2008. His responsibilities include advising the Deputy Director on science program management and policy issues, and providing coordination and analysis of budget, scientific, technical, programmatic, and operational issues regarding the SC Program Offices and national laboratories. Ben also currently serves as a primary liaison to the Office of Basic Energy Sciences, the Office of Fusion Energy Sciences, and the Office of Project Assessment. During the twelve months prior to his joining DOE Ben worked on energy and climate policy as an AAAS Congressional Fellow in the office of U.S. Senator Ken Salazar. Ben is an experimental atomic, molecular, and optical physicist who received his Ph.D. in Optics from the University of Rochester and his A.B. in physics *magna cum laude* from Harvard University. His doctoral research was carried out at the University of Oxford, where he was in residence for three years following the move of his thesis advisor from Rochester to Oxford. After graduating in 2005 he spent two years at the National Institute of Standards and Technology in Gaithersburg, Maryland as a National Research Council postdoctoral research associate working in the Laser Cooling and Trapping Group. Ben's postdoctoral and doctoral research focused on the use of lasers to control quantum systems.

Dr. Michelle Buchanan is the Associate Laboratory Director (ALD) for Physical Sciences at Oak Ridge National Laboratory (ORNL). In this role she is responsible for the Chemical Sciences, Materials Science and Technology, Physics, and the Center for Nanophase Materials Sciences research divisions. She is also the Program Manager for the Basic Energy Sciences Program at ORNL. Prior to assuming the role of ALD, she served as the Director of the Chemical Sciences Division, Associate Director of the Life Sciences Division and Group Leader for Organic and Biological Mass Spectrometry at ORNL. She is also an adjunct

professor in the Department of Chemistry at the University of Tennessee. She has over 150 scientific publications and reports, holds two patents, and was editor of a book on Fourier transform mass spectrometry. She has held positions in the Analytical Chemistry Division of the American Chemical Society and the American Society for Mass Spectrometry. She was recently named a Fellow by the American Chemical Society. She has served as North American Editor of *Biological Mass Spectrometry* and as a member on the editorial boards of *Analytical Chemistry, Organic Mass Spectrometry, Journal of Mass Spectrometry, Biological and Environmental Mass Spectrometry,* and *Frensenius' Journal of Analytical Chemistry.* She has also served on numerous advisory boards for Universities and for major research centers; current board memberships include Vanderbilt University, the University of North Carolina, Cornell University, Boston University, and the University of Tennessee. Over the past decade, she has worked at the national level helping to define basic research needs in a number of key energy-related areas.

Dr. David Carlson invented the ion depletion process in inorganic glasses in 1971 and the amorphous silicon solar cell in 1974 both while working at RCA Laboratories. He has received numerous awards including the Ross Coffin Purdy Award (American Ceramic Society), the Morris N. Liebmann Award (IEEE), the Walton Clark Medal (Franklin Institute), the William R. Cherry Award (IEEE) and the Karl W. Boer Medal (International Solar Energy Society and the University of Delaware). Dr. Carlson became the Vice President of the Thin Film Division of Solarex (an Amoco subsidiary) in 1988, and he became the Chief Scientist of BP Solar in 1994. He is a fellow of the IEEE and a member of the American Physical Society, the American Vacuum Society, and Sigma Xi. He has published more than 150 technical papers and has been issued 26 U.S. patents.

Dr. Emily Carter is the Founding Director of the Andlinger Center for Energy and the Environment at Princeton University, the Gerhard R. Andlinger Professor in Energy and the Environment, and Professor of Mechanical and Aerospace Engineering and Applied and Computational Mathematics. She earned her B.S. (Chemistry) from UC Berkeley in 1982 and a Ph.D. (Chemistry) from Caltech in 1987, spent a brief postdoc at CU Boulder, and then was on the UCLA faculty for 16 years in Chemistry and later also Materials Science and Engineering. She moved to Princeton in 2004, where she is also associated with Chemistry, Chemical Engineering, and three interdisciplinary institutes. The author of over 240 publications, she has delivered over 400 invited lectures worldwide. Her scholarly work has been recognized by numerous honors, including election in 2008 to both the American Academy of Arts and Sciences and the National Academy of Sciences, and in 2009 to the International Academy of Quantum Molecular Science. Her current research is focused entirely on enabling discovery and design of materials for sustainable energy, including converting sunlight to electricity and fuels, providing clean electricity from solid oxide fuel cells, clean and efficient combustion of biofuels, and optimizing lightweight metal alloys for fuel-efficient vehicles.

Dr. Yet-Ming Chiang is Kyocera Professor in the Department of Materials Science and Engineering at Massachusetts Institute of Technology (MIT). He holds S.B. and Sc.D. degrees from MIT, where he has been a faculty member since 1984. His work focuses on advanced materials and their role in clean energy technologies, medical devices, "smart" structures, and micro/nano electronics. He is a member of the U.S. National Academy of Engineering, and a Fellow of the American Ceramic Society and the Materials Research Society. He is a recipient of the American Ceramic Society's Ross Coffin Purdy, R. M. Fulrath, and F. H. Norton awards, has published about 200 scholarly articles and a textbook on ceramic materials, and holds about 25 issued patents (excluding substantially identical foreign filings). Chiang is a co-founder of four companies: American Superconductor Corporation (NASDAQ: AMSC), A123 Systems (NASDAQ: AMSC), Entra Pharmaceuticals, and 24M Technologies. He serves or has served on numerous study panels including the U.S. Department of Energy's Energy Efficiency and Renewable Energy Advisory Committee (ERAC) and Basic Energy Sciences Advisory Committee (BESAC), and the National Materials and Manufacturing Board (NMMB), and the National Nanotechnology Initiative (NNI) Working Group of the President's Council of Advisors in Science and Technology (PCAST).

As United States Secretary of Energy, **Dr. Steven Chu** is charged with helping implement President Obama's ambitious agenda to invest in clean energy, reduce our dependence on foreign oil, address the global climate crisis, and create millions of new jobs.

Dr. Chu is a distinguished scientist and co-winner of the Nobel Prize for Physics (1997). He has devoted his recent scientific career to the search for new solutions to our energy challenges and stopping global climate change - a mission he continues with even greater urgency as Secretary of Energy.

Prior to his appointment, Dr. Chu was the Director of the Department of Energy's Lawrence Berkeley National Lab, where he led the lab in pursuit of alternative and renewable energy technologies. He also taught at the University of California as a Professor of Physics and Professor of Molecular and Cell Biology. Previously, he held positions at Stanford University and AT&T Bell Laboratories.

Dr. Chu's research in atomic physics, quantum electronics, polymer and biophysics includes tests of fundamental theories in physics, the development of methods to laser cool and trap atoms, atom interferometry, the development of the first atomic fountain, and the manipulation and study of polymers and biological systems at the single molecule level. While at Stanford, he helped start Bio-X, a multi-disciplinary initiative that brings together the physical and biological sciences with engineering and medicine.

The holder of 10 patents, Dr. Chu has published nearly 250 scientific and technical papers. He remains active with his research group and has recently published work on general relativity and single molecule biology and biophysics that includes sub-nanometer molecular imaging with optical microscopy, cadherin adhesion, neural vesicle fusion, and nerve growth factor transport. About 30 alumni of his research group

have gone on to become professors in their own right and have been recognized by dozens of prizes and awards.

Dr. Chu is a member of the National Academy of Sciences, the American Philosophical Society, the Chinese Academy of Sciences, Academia Sinica, the Korean Academy of Sciences and Technology and numerous other civic and professional organizations. He received an A.B. degree in mathematics, a B.S. degree in physics from the University of Rochester, and a Ph.D. in physics from the University of California, Berkeley as well as honorary degrees from 15 universities.

Dr. George Crabtree is Senior Scientist and Distinguished Fellow in the Materials Science Division at Argonne National Laboratory and Distinguished Professor of Physics, Electrical, and Mechanical Engineering at University of Illinois-Chicago. He has published more than 400 papers in leading scientific journals and has given over 100 invited talks at national and international scientific conferences. His research interests include materials science, sustainable energy, nanoscale superconductors and magnets, vortex matter in superconductors, and highly correlated electrons in metals. He has led workshops for the Department of Energy on hydrogen, solar energy, superconductivity, materials under extreme environments, basic science supporting energy technology, and computational materials and chemistry for economic competitiveness, and he has co-chaired the Undersecretary of Energy's assessment of DOE's Applied Energy Programs. He is a member of the National Academy of Sciences and has testified before the U.S. Congress on the hydrogen economy and on meeting sustainable energy challenges.

Dr. Patricia M. Dehmer is the Deputy Director for Science Programs in the Office of Science at the U.S. Department of Energy (DOE). In this capacity, Dr. Dehmer is the senior career science official in the Office of Science, which is third largest Federal sponsor of basic research in the United States, the primary supporter of the physical sciences in the U.S., and one of the premier science organizations in the world.

From 1995 to 2007, Dr. Dehmer served as the Director of the Office of Basic Energy Sciences (BES) in the Office of Science. Under her leadership, the BES budget more than doubled in size to $1.2B annually. She built a world-leading portfolio of work in condensed matter and materials physics, chemistry, and biosciences. A five-year effort to relate fundamental research in these disciplines to real-world problems in energy - including problems in fossil energy and carbon dioxide sequestration, nuclear energy, renewable energy, energy efficiency, energy transmission and storage, and the mitigation of environmental impacts of energy use - facilitated greater integration of basic and applied research across DOE. During this period, Dr. Dehmer also was responsible for the planning, design, and construction phases of more than a dozen major construction projects totaling $3 billion.

Before joining DOE, Dr. Dehmer spent 21 years as a research scientist at Argonne National Laboratory, achieving the rank of Argonne Distinguished Fellow in 1992. She is the author of more than 125 peer-

reviewed scientific papers and is a Fellow of the American Physical Society and the American Association for the Advancement of Science.

The University Of California Board Of Regents appointed **Dr. Donald Depaolo** Associate Laboratory Director for Energy and Environmental Sciences of Lawrence Berkeley Lab on April 1, 2011, a position that he served in an acting capacity since June 1, 2010. As Associate Lab Director of Energy and Environmental Sciences, DePaolo oversees the Chemical Sciences, Environmental Energy Technologies, Materials Sciences, and Earth Sciences Divisions.

Don DePaolo began his term in Berkeley in 1988 as a UC Berkeley Professor of Geochemistry in the Department of Earth and Planetary Science, with a joint appointment in the Earth Sciences Division at Berkeley Lab. DePaolo was officially announced as the Earth Sciences Division Director in 2007, a position he still holds. DePaolo established and is the director of the Center for Isotope Geochemistry, a joint research facility between Berkeley Lab and UC Berkeley. In Spring of 2009, DePaolo became the Director of the Center for Nanoscale Control of Geologic CO2 (EFRC). DePaolo is also the Class of 1951 Professor of Geochemistry in UC Berkeley's Department of Earth and Planetary Science. He is a member of the National Academy of Sciences and the American Academy of Arts and Sciences.

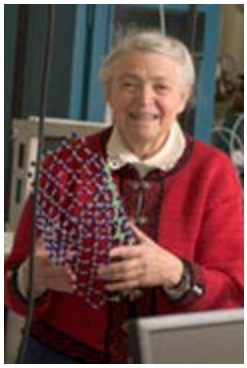
DePaolo attended SUNY Binghamton and received a Bachelor of Science degree with Honors in 1973. He received a PhD in Geology from the California Institute of Technology in 1978.

Dr. Kazunari Domen received B.S.c. (1976), M.S.c. (1979), and Ph.D. (1982) honors in chemistry from the University of Tokyo. Dr. Domen joined Chemical Resources Laboratory, Tokyo Institute of Technology in 1982 as Assistant Professor and was subsequently promoted to Associate Professor in 1990 and Professor in 1996. Moving to the University of Tokyo as Professor in 2004.

Domen has been working on overall water splitting reaction on heterogeneous photocatalysts to generate clean and recyclable hydrogen. In 1980, he reported NiO-SrTiO3 photocatalyst for overall water splitting reaction, which was one of the earliest examples achieving stoichiometric H2 and O2 evolution on a particulate system. In 2005, he has succeeded in overall water splitting under visible light (400 nm<λ<500nm) on GaN:ZnO solid solution photocatalyst.

His research interests now include heterogeneous catalysis and materials chemistry, with particular focus on surface chemical reaction dynamics, photocatalysis, solid acid catalysis, and mesoporous materials.

Dr. Persis S. Drell is Professor and Director at SLAC. She received her B.A. in mathematics and physics from Wellesley College in 1977, and her Ph.D. in atomic physics from the University of California, Berkeley, in 1983. She then switched to high-energy experimental physics and worked as a postdoctoral scientist with Lawrence Berkeley National Laboratory. She joined the faculty of the Physics Department at Cornell University in 1988. In 2000, she became head of the Cornell high-energy group; in 2001, she was named deputy director of Cornell's Laboratory of Nuclear Studies. In 2002, Dr. Drell accepted a position as Professor and Director of Research at SLAC. Her current research activities are in particle astrophysics. In 2007 she was named Director at SLAC. Dr. Drell is a fellow of the American Physical Society, a member of the American Academy of Arts and Sciences, and a member of the National Academy of Sciences.



Dr. Mildred Dresselhaus is an Institute Professor of Electrical Engineering and Physics at MIT. She is the recipient of the National Medal of Science and 28 honorary degrees worldwide. She has served as President of the American Association for the Advancement of Science, Treasurer of the National Academy of Sciences, President of the American Physical Society, and Chair of the Governing Board of the American Institute of Physics. She is also a member of the National Academy of Engineering, the American Philosophical Society, and a Fellow of the American Academy of Arts and Sciences. She served as the Director of the Office of Science at the U.S. Department of Energy. Professor Dresselhaus' research over the years has covered a wide range of topics in Condensed Matter and Materials Physics. She is best known for her work on carbon science and carbon nanostructures, as well as nanoscience and nanotechnology more generally. She is also one of the researchers responsible for the resurgence of the Thermoelectrics research field through her early work on low dimensional thermoelectricity in the early 1990's.

Dr. Karina Edmonds was appointed Technology Transfer Coordinator for the U.S. Department of Energy (DOE) in April 2010 by Secretary of Energy Dr. Steven Chu. Created by the Energy Policy Board Act of 2005, this is the first time that the Department has appointed a full-time person to fill this role. Dr. Edmonds is responsible for working with the Department's National Laboratories to accelerate the process of moving discoveries from the laboratory to the private sector, ensuring that America's scientific leadership translate into new, high-paying jobs for America's families.

Dr. Edmonds joined the DOE after working at the Jet Propulsion Laboratory (JPL) at California Institute of Technology where she served as Director of JPL Technology Transfer. While at JPL, Dr. Edmonds also held positions in the Strategic Intellectual Assets Management Office as Senior Technology Transfer Specialist and in the Strategic University Research Partnership Office as Manager before finally becoming the Director of JPL Technology Transfer. In that position, her job duties included licensing technologies developed at both JPL and Caltech to industry and start-ups, managing the JPL patent portfolio, assisting Caltech start-ups, and managing prosecution of

Caltech's patent filings. Dr. Edmonds is a registered patent agent with the U.S. Patent and Trademark Office.

Prior to her work at JPL, she worked as Principal Investigator at TRW, Inc. for internal research and development efforts. During her tenure there, she co-authored two patent applications in the area of noise reduction for the automotive environment.

Dr. Edmonds received a bachelor's degree in mechanical engineering from the University of Rhode Island. She holds master's and doctorate degrees in aeronautics with a minor in material science from the California Institute of Technology in Pasadena, California.

Dr. Robin Grimes is Professor of Materials Physics in the Materials Department at Imperial College, Director of the Imperial College Centre for Nuclear Engineering and Director of the Rolls Royce University Technology Centre in Nuclear Engineering. In 2000 he spent a year at Los Alamos National Laboratory as Bernd T. Matthias Scholar. His primary research interest is the application and development of computer simulation techniques to predict structural and dynamic properties of nuclear materials including mechanisms of radiation damage, nuclear fuel performance and waste form behavior. He is the Principle Investigator of the UK Research Councils multi-university nuclear research coordination initiative, a member of the Royal Society Working Group on Nuclear non-proliferation and the Specialist Advisor to the House of Lords review of Nuclear Research Requirements for the UK (2011). He has authored over 200 peer-reviewed publications and is on the editorial board of the Journal of Nuclear Materials.

Dr. Brent Gunnoe received a B.A. in chemistry from West Virginia University, where he performed research focused on early transition metal chemistry under the direction of Professor Jeffrey Petersen. In 1997, he received a Ph. D. in inorganic chemistry from the University of North Carolina at Chapel Hill working with Professor Joseph Templeton on application of chiral group VI complexes toward stereoselective ligand transformations. After postdoctoral work at the University of Virginia with Professor W. Dean Harman, Dr. Gunnoe began as an Assistant Professor at North Carolina State University in 1999, where he was the recipient of a National Science Foundation CAREER Award, the Sigma Xi Faculty Research Award and an Alfred P. Sloan Research Fellowship. In 2008, he returned to the University of Virginia as full professor, where he is serving as director of the Center for Catalytic Hydrocarbon Functionalization and associate editor for the journal *ACS Catalysis*. In addition to research, he has received recognition for his efforts in teaching and advising including serving as a Beckman mentor and receiving the Park Scholar Outstanding Mentor Award and the LeRoy and Elva Martin Award for Teaching Excellence.

Dr. John Hennessy joined Stanford's faculty in 1977 as an assistant professor of electrical engineering. He was named the inaugural Willard R. and Inez Kerr Bell Professor of Electrical Engineering and Computer Science in 1987. He served as director of the Computer Systems Laboratory, chair of computer science, dean of the School of Engineering, and provost prior to being inaugurated as Stanford University's 10th president in 2000. In 2005, he became the inaugural holder of the Bing Presidential Professorship.

Dr. Hennessy is a recipient of the 2000 IEEE John von Neumann Medal, the 2000 ASEE Benjamin Garver Lamme Award, the 2001 ACM Eckert-Mauchly Award, the 2001 Seymour Cray Computer Engineering Award, a 2004 NEC C&C Prize for lifetime achievement in computer science and engineering, and a 2005 Founders Award from the American Academy of Arts and Sciences. He is a member of the National Academy of Engineering and the National Academy of Sciences, and is a fellow of the American Academy of Arts and Sciences, the Association for Computing Machinery, and the Institute of Electrical and Electronics Engineers.

He has lectured and published widely and is the co-author of two internationally used undergraduate and graduate textbooks on computer architecture design. Dr. Hennessy earned his bachelor's degree in electrical engineering from Villanova University and his master's and doctoral degrees in computer science from the State University of New York at Stony Brook.

Dr. Catherine T. "Katie" Hunt is R&D Director in Innovation Sourcing & Sustainable Technologies at The Dow Chemical Company. Dr. Hunt is actively building collaboration teams across Dow with universities, companies, national labs and government agencies (esp., DOE and DOD) focused on accelerating the pace of innovation. Katie began her career as a senior scientist in analytical research at Rohm and Haas in 1984 after completing an NIH Postdoctoral Fellowship at Yale University. During her 25 years at Rohm and Haas, Katie held positions of increasing responsibility, from research scientist to process chemist to plant laboratory manager to Director of their worldwide Analytical and Computational Competency Network (better known as ACNET) and ultimately, Corporate Sustainability Director and Leader for Technology Partnerships.

She is especially proud of the **RetroFIT Philly** "Coolest Block" Contest project with the City of Philadelphia, the Energy Coordinating Agency of Philadelphia, The Dow Chemical Company and The Dow Foundation. For details visit: www.retrofitphilly.com.

Dr. Eric D. Isaacs is President of UChicago Argonne, LLC, and Director of Argonne National Laboratory.

Before becoming Argonne Director, Isaacs served as Argonne's deputy laboratory director for programs, with responsibility for leading the laboratory's strategic planning process and overseeing the laboratory-directed research and development program as well as its educational programs.

Earlier he distinguished himself both as director of the Center for Nanoscale Materials at Argonne and as professor of physics in the University of Chicago's James Franck Institute. During his 13-year tenure at Bell Laboratories, he was a member of the technical staff, director of the Materials Physics Research Department and director of the Semiconductor Physics Department.

He received a Ph.D. degree from the Massachusetts Institute of Technology in 1988 in the area of magnetic semiconductors and was a postdoctoral fellow at Bell Laboratories (1988-1990) studying magnetism and correlated electronic systems, mostly with synchrotron-based X-ray techniques.

Dr. Marc Kastner received his SB in Chemistry and his PhD in Physics, both from the University of Chicago. After one year as a Harvard Research Fellow, he joined the Department of Physics at MIT 1973 where he became the Donner Professor of Physics in 1989. In 1993, he was appointed director of the Center for Materials Science and Engineering at MIT, which became the largest of the NSF Materials Research Science and Engineering Centers. He left that position to become Head of the Department of Physics in 1998, and he became Dean of the School of Science in 2007.

Kastner's early research focused on the electronic and optical properties of amorphous semiconductors, especially chalcogenide glasses. Although the atoms in these materials are not arrayed on a crystal lattice, they are still useful for electronic and optical memories. He invented a model that relates the electronic properties of these materials to their chemical bonding. He has also studied the physics of high temperature superconductors, especially the relationship of their magnetic properties to their electron transport. In 1990 Kastner's group fabricated the first semiconductor single-electron transistor. His group continues to use these devices as tools to study the quantum mechanical behavior of electrons confined to nanometer dimensions. In particular, his group discovered the Kondo effect in these nano-structures, a state in which electrons inside and outside the transistor are quantum mechanically entangled. The single-electron transistor allowed the study of the Kondo effect out of equilibrium, which was not possible in other Kondo systems. Kastner has served as Chair of the Solid State Sciences Committee and as Chair of the Board on Physics and Astronomy of the National Research Council.

Dr. Steven Koonin serves as the Undersecretary for Science in the U.S. Department of Energy, a post he has held since May, 2009. He brings to the post a distinguished career as a university professor and administrator at the California Institute of Technology (Caltech) as well as experience in industry.

Undersecretary Koonin received his B.S. in Physics from Caltech in 1972, and received his Ph.D. in Theoretical Physics from Massachusetts Institute of Technology (MIT) in 1975. Dr. Koonin joined the Caltech faculty in 1975 and served the seventh provost of Caltech from 1995 to 2004.

As the Chief Scientist at BP between 2004 and early 2009, Dr. Koonin developed the company's long-range technology strategy for alternative and renewable energy sources and played a central role in establishing the Energy Biosciences Institute.

He is a member of the Council on Foreign Relations and the Trilateral Commission and a fellow of the American Physical Society, the American Association for the Advancement of Science, and the American Academy of Arts and Sciences. He was elected to membership in the National Academy of Sciences in 2010.

Dr. Koonin has been involved in scientific computing throughout his career and is a strong advocate for research into renewable energies and alternate fuel sources.

Dr. Nathan Lewis, George L. Argyros Professor of Chemistry, has been on the faculty at the California Institute of Technology since 1988 and has served as Professor since 1991. He has also served as the Principal Investigator of the Beckman Institute Molecular Materials Resource Center at Caltech since 1992, and is the Principal Investigator of the Joint Center for Artificial Photosynthesis, the DOE's $122 MM Energy Innovation Hub in Fuels from Sunlight. He was on the faculty at Stanford, as an assistant professor from 1981 to 1985, and as a tenured Associate Professor from 1986 to 1988. Dr. Lewis received his Ph.D. in Chemistry from the Massachusetts Institute of Technology.

Dr. Lewis has been an Alfred P. Sloan Fellow, a Camille and Henry Dreyfus Teacher-Scholar, and a Presidential Young Investigator. He received the Fresenius Award in 1990, the ACS Award in Pure Chemistry in 1991, the Orton Memorial Lecture award in 2003, the Princeton Environmental Award in 2003 and the Michael Faraday Medal of the Royal Society of Electrochemistry in 2008. He is currently the Editor-in-Chief of Energy & Environmental Science. He has published over 300 papers and has supervised approximately 60 graduate students and postdoctoral associates.

His research interests include artificial photosynthesis and electronic noses.

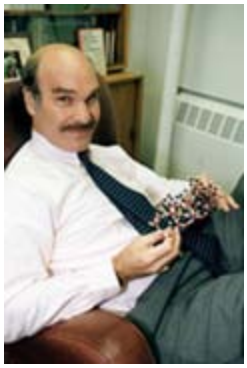
Dr. Mark M. Little was named Senior Vice President and Director of GE Global Research in October 2005, becoming the ninth director in the organization's 105 year history. Mark is responsible for leading one of the World's largest and most diversified industrial research and technology organizations.

At Global Research, some 2,500 people from virtually every major scientific and engineering discipline focus on the company's long-range technology needs. The organization has research facilities in the United States, India, China and Germany, working in collaboration with GE businesses around the world. Prior to becoming Research Director, Little was Vice President of GE Energy's power generation segment headquartered in Schenectady, New York. GE Energy is a world leading supplier of power generation equipment including gas, steam, wind and hydro turbine-generators, turnkey power plant services, gasification technologies and IGCC (integrated gasification combined cycle).

Mark joined GE in 1978, starting out in the Company's Turbine Business. After holding several management positions in engineering, he was named Product General Manager for generators in 1989. In 1991, he became General Manager – Business Development for GE Energy, responsible for strategic planning and joint venture development. In 1992, he was appointed Product General Manager for gas turbines and in 1994 was named Vice President, Power Generation Engineering. In 1997, Mark became Vice President GE Power Generation, responsible for the turbine, generator, and power plants business. In 2004, the hydro and wind turbine businesses were added to his portfolio.

Dr. Celia Merzbacher is Vice President for Innovative Partnerships at the Semiconductor Research Corporation (SRC), a nonprofit industry consortium that invests in university research. She is responsible for developing new areas of business and partnerships with stakeholders in government and the private sector. Currently, she is involved with growing SRC's Energy Research Initiative, which was launched in 2010. Prior to joining SRC, Dr. Merzbacher was Assistant Director for Technology R&D in the White House Office of Science and Technology Policy (OSTP), where she coordinated and advised on a range of issues, including nanotechnology, technology transfer, technical standards, and intellectual property. She also served as Executive Director of the President's Council of Advisors on Science and Technology (PCAST). Previously, Dr. Merzbacher was on the staff of the Naval Research Laboratory in Washington D.C. where she held positions as a research scientist and technology licensing executive. Dr. Merzbacher currently represents SRC on the National Academies Government-University-Industry Research Roundtable and the Alliance for Science and Technology Research in American. She served on the Board of Directors of the American National Standards Institute and led the U.S. delegation to the OECD Working Party on Nanotechnology.

Dr. William D. Phillips is a physicist at the National Institute of Standards and Technology in Gaithersburg, MD, where he leads the Laser Cooling and Trapping Group in the Atomic Physics Division of NIST's Physics Laboratory. The group is part of the Joint Quantum Institute, a cooperative research enterprise of NIST and the University of Maryland. In 1997 Phillips shared the Nobel Prize in Physics "for development of methods to cool and trap atoms with laser light."



Dr. Mark Ratner is Dumas University Professor at NU. Ratner is interested in structure and function at the nanoscale, and theory of fundamental chemical processes. He tries to bring together structure and function in molecular nanostructures, based on theoretical notions, on exemplary calculations, and (very importantly) on collaborations with experimentalists and other theorists, in the US and around the world. Areas of interest include molecular electronics, electron transfer, self-assembly, nanoscience and technology, energy systems and processes, and theories of quantum dynamics. He spends as much time trout fishing as possible.

Ratner is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, the International Academy of Quantum Molecular Sciences and the Royal Danish Academy of Sciences. He received the Langmuir Award and the Feynman Award. He has honorary doctorates from the University of Copenhagen and from the Hebrew University of Jerusalem. He has chaired the Department at Northwestern, has been on the Faculty Teaching Honor Roll at Northwestern eleven times, and taught roughly five thousand students in General Chemistry in the last dozen years.

He received his BA and PhD from Harvard and NU, respectively.

Dr. Jean-Marie Tarascon (1953) is presently professor at the University of Picardie (Amiens), but most of his career was done in the USA, first at Cornell University (1980), then at Bell Laboratories and finally at Bellcore until 1994 where he developed the plastic Li-ion technology. He is the creator of the European network of excellence ALISTORE-ERI who is headed till 2010 prior to take over the directorship of the new LABEX "STORE-EX" and become in charge of the recently created French network on electrochemical energy storage energy (RS2E). His research deals with new electrode materials, obtained via eco-efficient processes for the development of sustainable and "greener" Li-ion batteries.

He is Author of about 70 patents and more than 520 publications, recipient of many awards, the last in line being his nomination at the college de France in 2010 to hold the chair on Sustainable energy and the recipient of the 2011 ENI "Protection of the Environment" Prize.

Dr. Alan Taub is Vice President, Global Research & Development, for General Motors Company. In this post, he leads GM's global R&D organization, advanced technical work (ATW) activity, and global science offices.

Dr. Taub received his bachelor's degree in materials engineering from Brown University and master's and Ph.D. degrees in applied physics from Harvard University. He spent 15 years in research and development at General Electric, where he earned 26 patents, authored more than 60 papers, and ultimately managed the GE materials properties and processes laboratory. He also worked at Ford Motor Company for eight years, where he was manager of the materials science department, manager of North American vehicle crash safety, and manager of vehicle engineering for the Lincoln brand. He joined GM R&D as executive director in 2001 and was appointed to his current post in July, 2009.

Dr. Taub was elected to membership in the National Academy of Engineering in 2006. He serves on the Operating Council for the United States Council for Automotive Research (USCAR) and the Executive Steering Committee for the FreedomCAR Partnership. He also is Vice Chair for the Visiting Committee on Advanced Technology (VCAT) advisory board for the National Institute of Standards and Technology (NIST). In addition, Taub serves on advisory boards for the University of Michigan, Massachusetts Institute of Technology, Northwestern University, and the University of California, Berkeley.

Dr. Taub has been selected to receive the 2011 Acta Materialia Materials & Society Award. He was awarded the Charles S. Barrett Medal from ASM International's Rocky Mountain Chapter in 2010. He received the Materials Research Society's Special Recognition Award in 2004 and Woody White Service Award in 2002. He also received the Brown University Engineering Alumni Medal in 2002. He was a member of the USCAR Automotive Composites Consortium from 1993 to 1997 and served with the PNGV Materials Tech Team from 1995 to 1997. He was recognized with the ASM Alfred H. Geisler Award for Young Metallurgist in 1987. He was elected to Tau Beta Pi and Sigma Xi in 1976 and received the AIME Morris Cohen Award for Materials Science Undergraduate in 1975.

Dr. Jeff Wadsworth has been President and CEO of Battelle Memorial Institute since January 2009. Battelle is the world's largest nonprofit research and development organization, executing about $6B of work annually and employing about 21,000 people. Formed in 1925 as a charitable trust and headquartered in Columbus, Ohio, Battelle counts among its successes the development of the Xerox machine, pioneering work on the compact disc, and a number of innovations in medical technology, telecommunications, environmental waste treatment, homeland security, and transportation. Battelle has spun off new ventures and companies in fiber optics, pharmaceuticals, energy, electronics, and informatics. Its principal businesses today are fee-for-service contract research, laboratory operations, and commercial ventures, executing more than 5,000 projects for some 1,500 industrial and government clients throughout the world.

Jeff formerly led Battelle's Global Laboratory Operations business, where he oversaw the management or co-management of six national laboratories of the U.S. Department of Energy, representing more than

$3B in annual business (Pacific Northwest National Laboratory, Brookhaven National Laboratory, National Renewable Energy Laboratory, Oak Ridge National Laboratory, Idaho National Laboratory, and Lawrence Livermore National Laboratory), and the Department of Homeland Security's National Biodefense Analysis and Countermeasures Center. He also led the development of partnerships with the private sector in Kuala Lumpur, Malaysia, and the expansion of Battelle's operations into Japan, Korea, and India. In March 2009, a consortium including Battelle was awarded a contract to manage the National Nuclear Laboratory of the United Kingdom's Department of Energy and Climate Change.

Jeff was educated at Sheffield University in England, where he studied metallurgy, earning a bachelor's degree in 1972 and a Ph.D. in 1975. He was awarded a Doctor of Metallurgy degree in 1991 for his published work and received the highest recognition conferred by the university, an honorary Doctor of Engineering degree, in July 2004.

Jeff came to the United States in 1976 and has worked at Stanford University, Lockheed Missiles and Space Company, and Lawrence Livermore National Laboratory. In 2002, he joined Battelle and served as a member of the White House Transition Planning Office for the U.S. Department of Homeland Security. From 2003 to June 2007, Jeff was director of Oak Ridge National Laboratory, the Department of Energy's largest multipurpose science laboratory.