

Speaker Bios for Focus the Nation, UC Berkeley

January 31, 2008, International House

9 am – 10:15 am

Welcome

Nathan Brostrom, Vice Chancellor-Administration, UC Berkeley

Vice Chancellor-Administration Nathan Brostrom joined the University of California, Berkeley leadership team on March 1, 2006. His position combines the duties of two previous vice chancellors, one in business and administrative services and one in budget and finance. As Vice Chancellor -- Administration, he is responsible for advising the Chancellor and the Executive Vice Chancellor and Provost on all budget and resource management, health and human services, and fiscal planning matters, both operating and capital. He is responsible for managing the campus's annual operating budget of more than \$1.3 billion and he is responsible for a division that is the largest provider of services to campus staff and a significant provider of services to UC Berkeley students.

9 am to 10:15

The Future of the Planet: 2007 Nobel Peace Prize to IPCC

Inez Fung, Professor of Atmospheric Science, ESPM. Co-Director of the Berkeley Institute of the Environment

A principal research activity of Inez Fung is the carbon dioxide cycle. Fung's lab uses details of the atmospheric CO2 distribution (e.g. the difference in hemispheric loading, the changes in the seasonal amplitude over time), together with atmospheric transport models to deduce the location of the carbon sink. Fung hypothesizes that the terrestrial biosphere of the northern hemisphere may be as important as the oceans as a repository for anthropogenic CO2. Another research focus is the dust cycle. Fine dust particles lofted from arid surfaces are transported long distances. While airborne, they reflect sunlight, but may, depending on their sizes and composition, absorb terrestrial radiation.

When deposited to the surface oceans, the iron in the dust may be the critical limiting micronutrient for marine productivity in some ocean regions. To tackle this problem, she is combining mineralogic information about soil particles, satellite and in-situ observations, atmospheric circulation models and ocean biology models to gain an appreciation of the many roles of dust.

Dr. Fung has received numerous awards for her work on Climate Change, including the Roger Revelle Medal, American Geophysical Union in 2004. She was the Richard and Rhoda Goldman Distinguished Professor in Physical Sciences from 1997-2002 and became a member of the US National Academy of Sciences in 2001. As a contributing author to the Intergovernmental Panel on Climate Change she shared the 2007 Nobel Peace Prize.

William Collins, Professor in Residence – Earth and Planetary Science.

Dr. Collins' expertise is on the interactions of clouds and aerosols with solar and terrestrial radiation and the role of clouds and aerosols in climate change. As a contributing author to the Intergovernmental Panel on Climate Change she shared the 2007 Nobel Peace Prize.

William Nazaroff, Professor Environmental Engineering, Chair of the Energy and Resources Group

Professor Nazaroff's research group aims to understand the physical and chemical processes that govern air pollutant concentrations and fates. The goal is to develop the information needed to assess and control human health effects from air pollutant exposures. Dr. Nazaroff's research is conducted through laboratory-scale experiments plus numerical and analytical modeling. The following topics are being addressed: (a) interactions between pollutants and surface materials; (b) air movement and pollutant dispersion in indoor environments; and (c) characterization and control of air pollutant exposures. Dr. Nazaroff's students work closely with research staff of the Indoor Environment Department at Lawrence Berkeley National Laboratory. Professor Nazaroff teaches the popular course "Climate Change Mitigation" (CE 107) which explores climate change science and solutions and co-teaches CE 292A, "Technologies for Sustainable Societies" with Professor Arpad Horvath.

John Chiang, Assistant Professor – Departments of Geography and Earth and Planetary Science.

Dr. Chiang's research focuses on large-scale tropical atmosphere, ocean, and land systems and its interactions with the global climate. His favorite ocean-atmosphere-land interaction is pictured above (and usually with a good book and piña colada in hand). An early interest was on the large-scale convective climate of the tropical Atlantic, which possesses a remarkable property of being exquisitely sensitive to change; and in changing, become agents of climate change elsewhere. This got Chiang thinking about the larger role the tropics play in the global climate system, in particular the way it responds to, and feeds back on, climate forcing. This line of questioning has led him to consider ocean-atmosphere interactions in different ocean basins, and the interactions between them; to interactions between the extratropics and tropics, considering processes as far removed as the thermohaline circulation, and building ice sheets. Past climates motivate much of his research, as it offers valuable clues on the linkages between various climate processes and just how susceptible our climate is to change. Chiang's ultimate goal is to understand how the global climate reorganizes in the face of climate forcings, past and future; while that goal is still in the far distance, all signs point to the tropical climate as key.

Prof. Nathan Sayre, Assistant Professor – Department of Geography.

Assistant Professor Nathan Sayre joined our Faculty as of July 1, 2004 as a human geographer with interests in the transformation and management of the earth's environment. He brings to our program an expertise in the management and ecology of rangelands, social theory and the transformations of Western rangelands under the influence of livestock production, urbanization and conservation.

Prior to coming to Berkeley he was a Post-doctoral Research Associate with the USDA-Agricultural Research Service, Jornada Experimental Range, Las Cruces, New Mexico.

He is currently completing a book on the Malpai Borderlands Group, a community-based conservation effort led by ranchers in far southeastern Arizona and southwestern New Mexico. His current research focuses on the political ecology or rangelands along the border in northwestern Mexico.

Professor Sayre's teaching interests and philosophy reflect a broad training in the social sciences and more specialized expertise in Western environmental history, range ecology and management, and pastoralism. Future courses may include: history of environmental thought, nature and culture, conservation geography, ecology and economics in Western environmental history, philosophical and methodological issues in human and cultural geography, and field study.

10:20am - 10:50 am

Keynote: Climate Policy in California and the Nation

Fran Pavley, Former California State Assemblywoman

Fran Pavley has served three terms in the California State Assembly. She became known as one of the most effective legislators in Sacramento. Serving with integrity and vision, the former Mayor of Agoura Hills and long time public school teacher, had over 70 of her bills and resolutions become law. During her tenure in the Assembly, Fran focused on education, the environment, consumer protection, public safety and creating a clean, secure energy future for California and the U.S. Her landmark legislation on global warming has become a model for other states and countries to follow.

For example, 11 other states and Canada have modeled their laws after Fran's Clean Car Regulations, AB 1493, (also known as the Pavley Bill). As the author of the "Global Warming Solutions Act of 2006" (AB 32), there will now be a cap on greenhouse gas emissions emitted from California. This will help spur an increased investment in alternative fuels, renewable energy and clean technologies. Her leadership on the most important environmental issue facing our world in the 21st Century has been recognized by many entities, including being selected as one of Scientific American's Top Technology Leaders in Transportation, and receiving the 2006 California League of Conservation Voters "Global Warming Leadership Award" along with former Vice President Al Gore

11 am – noon

Climate Solutions – Institutional, Local, Individual

With panelists from Cal Climate Action Partnership, City of Berkeley, Berkeley Energy and Resources Collaborative, Chancellor's Advisory Committee on Sustainability, and the Berkeley Institute of the Environment

Moderated by:

Daniel Kammen, Professor of Energy and Resources, Public Policy, and Nuclear Engineering. Co-director of the Berkeley Institute of the Environment. Director of the Renewable and Appropriate Energy Laboratory

Dan Kammen founded and directs the unique Renewable and Appropriate Energy Laboratory, cited by many as the only 'one stop' site for energy science and engineering projects that are merged with energy finance and economics, sociology, market, and environmental impact studies. Recent RAEL contributions include: (i) significantly supporting and strengthening the burgeoning solar photovoltaic industries in East Africa, that have become the free-market model for a large number of nations; (ii) bringing the potential of continent-wide sustainable biofuel industries with major energy and health impacts to the attention of world leaders; (iii) highlighting the job benefits of clean energy investments, a story that became central to the adoption of clean energy standards in a number of states as well as a focal point of several national election campaigns; and (iv) focusing national attention on the federal under-investment in energy research, development, and deployment. He is co-author of Should We Risk It? Exploring Environmental, Health and Technological Problem Solving (Princeton University Press, 1999) and over 100 technical and refereed publications.

3:30 pm - 4 pm

Steven Chu, Director, Director, Lawrence Berkeley National Laboratory

Steve Chu became Berkeley Lab's sixth Director on August 1, 2004. He is also Professor of Physics and Professor of Molecular and Cell Biology at the University of California, Berkeley. He received the Nobel Prize in Physics in 1997, an honor he shared with Claude Cohen-Tannoudji of France and United States colleague William D. Phillips. Their discoveries were instrumental in the study of fundamental phenomena and in measuring important physical quantities with unprecedented precision. Dr. Chu has become active in the energy area and is co-chairing an international InterAcademy Council (IAC) study, "*Lighting the way: Toward a Sustainable Energy Future; Transitioning to Sustainable Energy*."

Born in St. Louis and raised in New York, Dr. Chu earned an A.B. in mathematics and a B.S. in physics from the University of Rochester, a Ph.D in physics from UC Berkeley, and ten honorary degrees. He maintains a vigorous research program and directly

supervises a team of graduate students and postdoctoral fellows. He is author or co-author of more than 200 articles and professional papers, and over two dozen former members of his group are now professors at leading research universities around the world.