



Blue  
Planet  
Prize

**FOR IMMEDIATE RELEASE**  
June 18, 2013

## **2013 BLUE PLANET PRIZE: ANNOUNCEMENT OF PRIZE WINNERS**

### **Dr. Taroh Matsuno ( Japan )**

Dr. Matsuno has made a major contribution to international awareness of global warming and climate change. His paper, "Quasi-Geostrophic Motions in the Equatorial Area," which helped to explain the El Niño phenomenon and to elucidate climate change, is just one of many research accomplishments.

### **Dr. Daniel Sperling ( USA )**

Dr. Sperling is recognized internationally as a leading expert on transportation, technology, fuels assessment, and policy, with a focus on energy and the environment. He has devoted his career to mitigating climate change and accelerating the global transition to cleaner, more efficient transportation and energy.

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This year marks the 22nd awarding of the Blue Planet Prize, the international environmental award sponsored by the Asahi Glass Foundation, chaired by Tetsuji Tanaka. Two Blue Planet Prizes are awarded to individuals or organizations each year that make outstanding achievements in scientific research and its application, and in so doing help to solve global environmental problems. The Board of Directors and Councillors selected the following recipients for this year.

#### **1. Dr. Taroh Matsuno ( Japan )**

**Principal Scientist, Research Institute for Global Change, Japan Agency for Marine-Earth Science and Technology**



Demonstrating his leadership in achievements in climate science research, particularly in research on climate change predictions using the Earth Simulator, Dr. Matsuno has helped shed light on the issues of global warming and climate change. He also helped increase awareness of governments and society toward the serious impact of climate change on the world through his international activities in the Intergovernmental Panel on Climate Change (IPCC) and World Meteorological Organization (WMO).

#### **2. Dr. Daniel Sperling ( USA )**

**Professor, University of California, Davis**



Dr. Sperling has conducted research on the impact of transportation on the environment, addressing vehicle technology, fuels, and human behaviour, and has been a pioneer in opening up new fields of study to create more efficient, low-carbon, and environmentally beneficial transportation systems.

Dr. Sperling is also a policy leader, playing a key role in designing California's climate change and air pollution policies, which have influenced technologies offered by automobile manufacturers and other businesses in Japan and around the world, and are a model for creating sustainable urban transport and land use systems.

Both recipients will be awarded a certificate of merit, a commemorative trophy and a supplementary award of 50 million yen.

The awards ceremony will be held on October 30, 2013 (Wednesday), at the Palace Hotel (Chiyoda Ward, Tokyo). The commemorative lectures by the prize recipients will be held at the United Nations University (Shibuya Ward, Tokyo) on October 31 (Thursday).

\*This press release may also be viewed on our web site at [www.af-info.or.jp](http://www.af-info.or.jp) from 14:00, June 18, 2013. The photos of the recipients are available from the web site of the Asahi Glass Foundation.

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## Report on the Selection Process (22nd Annual Prize, 2013)

A total of 650 nominators from Japan and 650 nominators from other countries recommended 106 candidates. The fields represented by the candidates, in order of number, were environmental economics and policy making (26), ecology (24) atmospheric and earth sciences (17), and Compound area (13).

The candidates represented 27 countries; 22 persons, 20 percent of the total, were from developing countries.

After individual evaluation of the 106 candidates by each Selection Committee member, the committee was convened to narrow down the field. The results of their deliberation were examined by the Presentation Committee, which forwarded its recommendations to the Board of Directors and Councillors. The Board formally resolved to award the Prize to **Dr. Taroh Matsuno** and **Dr. Daniel Sperling**.

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## Profile of the 2013 Blue Planet Prize Recipient

### Dr. Taroh Matsuno ( Japan )

#### Climate research:

Dr. Matsuno has engaged in research on climatology and atmosphere dynamics. His strong leadership was chiefly exhibited in development of an earth system model, leading to successful development of the model called the Earth Simulator. This resulted in outstanding accomplishments in clarification of global warming. He issued theoretical forecasts based on the model he constructed resulting from research on equatorial waves – the wave motion of air and ocean in the tropics. His forecasts were confirmed in actual observation and then used for clarifying El Niño. The model resultantly proved practical. Other notable study outcomes include clarification of the mechanism of sudden temperature rises in the stratosphere. He still leads young researchers, advancing the development of new numerical prediction models and improving climate models for global warming forecasting.

#### International contribution to solving global environment issues:

Through his international activities at the IPCC and WMO, Dr. Matsuno distinguished himself in increasing interest in and awareness of global warming among governments and society. He has participated in and contributed to numerous different international activities related to climate research. Notably, he made an important contribution to the preparation of the fourth report on the IPCC, specifically in peer review, compiling a summary for policymakers, and preparation of a general report in Working Group 1. He also served as a member of such prominent organizations as the World Climate Research Program.

### Biographical Summary

Born October 17, 1934

- 1962: Assistant, Faculty of Science, The University of Tokyo
- 1966: Assistant professor, Faculty of Science, Kyushu University (Atmospheric physics, Department of Physics)
- 1968-1969: Guest researcher, Atmospheric Sciences, University of Washington, USA
- 1969-1970: Guest researcher, Geophysical Fluid Dynamics Program, Princeton University, USA
- 1971: Assistant professor, Faculty of Science, The University of Tokyo (Meteorology, Department of Earth Physics)
- 1977-1978: Guest researcher, National Center for Atmospheric Research (NCAR), USA
- 1984: Professor at the aforesaid center (same position as above)
- 1991: Professor, Center for Climate System Research, The University of Tokyo (Head of the center)

- 1994: Professor, Graduate School of Environmental Science, Hokkaido University
- 1997: Head of Frontier Research System for Global Change, National Space Development Agency of Japan/Japan Marine Science and Technology Center (multiple offices)
- 1998: Retired from office of professor, Hokkaido University  
Head of Frontier Research System for Global Change, National Space Development Agency of Japan/Japan Marine Science and Technology Center (one office)
- 2004: Head of Frontier Research Center for Global Change, Japan Agency for Marine-Earth Science and Technology
- 2005: Specially appointed researcher at the aforesaid center (name of office changed to specially appointed senior researcher in 2007)
- 2009: Specially appointed senior researcher for the Global Warming Projection Research Project for Contribution to AR5 of IPCC, Japan Agency for Marine-Earth Science and Technology (to the present)

#### **Awards**

- 1999: Carl-Gustaf Rossby Research Medal (fundamental contribution to the theory of waves and wave mean flow interaction in geophysical systems)
- 2010: The 55th International Meteorological Organization Prize

## **Dr. Daniel Sperling ( USA )**

Daniel Sperling is recognized internationally as a leading expert on transportation technology and fuels assessment, energy and environmental aspects of transportation, and transportation policy. He is the founding director of the Institute of Transportation Studies at the University of California, Davis (ITS-Davis). An accomplished researcher, teacher, author, and policy maker, he has devoted his career to accelerating the transition to cleaner, more efficient transportation solutions the globe needs to mitigate climate change.

Throughout his career, Dr. Sperling has led by example. He is equally at home in the classroom educating and mentoring the next generation of researchers, engineers and policy makers; in the halls of the U.S. Congress testifying on a pressing policy matter; and advising the leaders of the world's largest automakers and fuel companies. His unique ability to bridge these different worlds – academia, government and industry – and bring together the greatest thinkers and strategists has helped him develop new vehicle and fuels policies that are models for the world.

Dr. Sperling's own research merges his formal education in transportation engineering, economics, and environmental science with a deep understanding of policy development and human behavior. As early as 1982, Dr. Sperling was exploring the technical feasibility and environmental implications of alternative fuels, how they were produced, how consumers would respond to and use them, how vehicles performed with these fuels, and the policies that would help these fuels thrive or die in the marketplace. Dr. Sperling's pursuit of interdisciplinary research that links technology, policy, and consumer behavior has had a profound effect on the way we think about next generation fuels and vehicles.

His 1988 book, "New Transportation Fuels" (University of California Press) laid the foundation for ITS-Davis's pioneering STEPs (Sustainable Transportation Energy Pathways) research program and much of his thinking on alternative fuels. It articulated Dr. Sperling's passion for integrating previously disconnected research and policy discussions involving vehicles, fuels, land use, and consumers and using lifecycle assessment techniques to solve global transportation challenges. Dr. Sperling's integrated approaches using comprehensive lifecycle methods is now widely accepted as best practice.

Twenty years later, Dr. Sperling's 2009 book, "Two Billion Cars: Driving Toward Sustainability," co-authored with Deborah Gordon, examined the environmental impacts of America's love affair with cars and the policies that have kept us dependent on petroleum. Despite its serious topic, the book reflects Dr. Sperling's optimism and offers a roadmap for a more sustainable future that promises advances in zero-emission vehicle technologies, innovations in low-carbon fuels, and approaches to neighborhood design that ensure livable and more environmentally friendly communities.

Most recently, Dr. Sperling has been recognized internationally for developing California's Low Carbon Fuel Standard (LCFS), a revolutionary policy that will transform the global oil industry and transportation fuels. The LCFS is the first broad-based policy to tackle head-on the carbon impact of transportation fuels. Dr. Sperling and the late professor Alex Farrell together headed a team of students and faculty from UC Davis and UC Berkeley who collaborated on the design of this groundbreaking policy in 2007. They worked closely with petroleum, biofuel, and electricity companies, environmental advocates, and government policymakers to assure that it would be both effective and acceptable. The policy is a durable, science-based framework that harnesses market forces through a credit trading program and does not pick winners. It is the first major policy that addresses (and regulates) greenhouse gases over a fuel's lifecycle, in this case from fuel production to use in a vehicle. The standard is already being implemented in California and in more limited form in Europe and British Columbia, and is under consideration

elsewhere. Dr. Sperling also has co-lead a national research team, funded by private foundations, to create a similar template for a U.S. policy.

Since 2007, Dr. Sperling has held the automotive engineering seat on the California Air Resources Board, the agency responsible for developing and implementing regulations that protect public health and air quality in the state. His chief responsibilities are oversight and design of the state's climate change, alternative fuels, vehicle travel and land use, and vehicle emissions programs. Just as California's clean cars policies have had a direct impact on automobile manufacturers in Japan and around the world, its clean fuels and climate policies are poised to impact the world's approach to transportation and energy policy, potentially changing urban development around the world. In his position as policy maker, Dr. Sperling has contributed thoughtful, science-based expertise to the Board, thereby guiding real and lasting public policy in California and beyond.

Dr. Sperling's accomplishments extend beyond his academic contributions to policy in California, the U.S. and elsewhere (including China, India, and Europe). They include new ways of thinking about global development and strategies to address climate change. With half the world's population now living in cities, where most of the world's energy and resources are consumed, it is urgent that we rethink urban policy from the perspective of the environment and sustainability.

Dr. Sperling is the first Blue Planet Prize laureate in the field of transportation. Recognizing Dr. Sperling with this award highlights the importance of bridging research and policy making, and restraining climate change around the world. It brings worldwide attention to environmental conservation and the importance of using science to inform policy.

### **Biographical Summary**

Born March 27, 1951 in Albany, New York

1973 : Graduated from Cornell University

1982 : Earned Ph.D. in Transportation Engineering from University of California, Berkeley  
Professor, Civil Engineering and Professor, Environmental Science and Policy,  
University of California, Davis (and; continues in both positions today)

1991 : Founded UC Davis Institute of Transportation Studies; continues to serve as its director

1997 : Founded UC Davis Transportation Technology and Policy Graduate Group

2006 : Founded UC Davis Energy Efficiency Center (first university-based energy efficiency center in the United States)

2012 : Founded and serves as Faculty director, UC Davis Policy Institute for Energy, Environment, and the Economy

### **Awards**

1996 : Distinguished Public Service Award from the University of California, Davis

1997 : "Clean Air Award" by the American Lung Association of Sacramento

2002 : Carl Moyer Memorial Award for Scientific Leadership and Technical Excellence by the Coalition for Clean Air (California)

2003 : Finalist for World Technology Award for Energy (Corporate Category, Institute of Transportation Studies, University of California, Davis)

2004 : Named Lifetime National Associate of the National Academies

2008 : Barry McNutt TRB Award for Best Paper in Energy

2009 : Robert M. Zweig Public Education Award from the National Hydrogen Association

2010 : Heinz Award with Special Focus on Global Change

## Remarks from the Award Recipients upon Notification of their Selection

### **Dr. Taroh Matsuno**

It is a great honor to receive the Blue Planet Prize, which bears a long tradition. My winning this award has been attributed for advancing climate change research in Japan and for the contribution to joint international research. I am receiving this prize not individually but as representing all my comrades with whom I have researched climate change – particularly the many both experienced and young researchers who have obtained internationally top-level findings through organizational climate change forecasting experiments. I also express my gratitude to the associates who, aware of the importance of these issues, have supported this research that acquired an environment that enabled the world's highest level of research.

Regarding climate change, United States resident Dr. Shukuro Manabe was awarded the first Blue Planet Prize. Dr. Manabe established the theory concerning global warming due to increase in greenhouse gases that led to today's research, and paved the way to a new field of climate research using computer models. There were in fact so many other Japanese-born researchers of the same generation as Dr. Manabe who moved to the U.S. during the tough research circumstances after the war and have led the world in this field of study. I, being the first generation to have passed that era and yet continue research in Japan, believed it was my responsibility to take the seeds of research that my predecessors have developed and mature them in my country. I am extremely pleased that the results of such efforts have been recognized this time around. I owe this to my many comrades with whom I have continually worked since my days at The University of Tokyo, and to whom I express my deepest gratitude.

### **Dr. Daniel Sperling**

I am deeply honored to receive the Blue Planet Prize. Many of my heroes have won this award, and I am humbled to join this distinguished group. Whatever I have accomplished is due largely to my many brilliant and passionate colleagues and students. I have benefitted from their extraordinary contributions. Inspired by them and by this Prize, I am committing the rest of my career to leveraging the tremendous reservoir of knowledge embedded in universities to enhance public policy, in particular policy that shifts the world away from the pending disaster of climate change. This year the world passed an ominous threshold—the concentration of carbon dioxide in the atmosphere exceeded 400 parts per million for the first time in human civilization. Humans are engaged in a risky experiment that need not end in disaster. Solutions are all around us. New technologies and new behaviors will transform our cities and energy systems. Policies are needed to stimulate innovation and encourage those changes in behavior, leading us to a tipping point of sustainable development. It is not easy, but with great effort we can recover our healthy blue planet.

## **Message to the Japanese public**

### **Dr. Taroh Matsuno**

I have been blessed with this privilege of receiving the Blue Planet Prize. I am happy to know that my efforts to advance research collectively in Japan on global warming and climate change have gained recognition.

While we believe that mankind must consume fossil fuels at least throughout this century for it to continue its prosperity, there is, on the other hand, the danger that carbon dioxide emissions left untouched will pose a critical risk to the global climate, and the issue of global warming concerns resolving this dilemma. I hope that climate science will play a role in the search to find the best solution for the entire world as we think not only of Japan but also of emerging economies and developing nations.

### **Dr. Daniel Sperling**

I am deeply honored and extremely grateful for this recognition. This award inspires me to intensify my efforts to seek solutions to the greatest threat to our planet—climate change. I fear for the future, but I have great faith in the creativity of humans. That creativity will only be realized if all of us—government and industry, scientists and politicians, and citizens of the world—work together toward a common purpose. My small role is to bring science to policy. Together we can accomplish the impossible.