



Press Release

July 24, 2009

The Winner of the 2009 (17th) International Cosmos Prize,
Commemorative of Expo '90 is:

Dr. Gretchen Cara Daily
Professor, Stanford University

On June 30th, 2009, the International Cosmos Prize Committee (Chairperson: Dr. Akito Arima) selected Dr. Gretchen C. Daily, Professor, Stanford University (44), as the winner of the 2009 (17th) International Cosmos Prize. The decision to award the prize to Dr. Daily was reached after considering the recommendations submitted by the International Cosmos Prize Screening Committee of Experts (Chairperson: Dr. Masahiro Kato).

Dr. Gretchen Daily is a researcher who has provided us with a comprehensive picture of the value of biodiversity-based ecosystem services, upon which human society is dependent. She has made a vital contribution to international initiatives such as the U.N. Millennium Ecosystem Assessment, and played a leading role in launching the "Natural Capital Project," which is a result of the fusion of ecology and economics, in order to promote the sustainable utilization of natural capital.



This picture is at the following URL:

<http://www.expo-cosmos.or.jp/2009.jpg>

Selection Process

(1) 2009 International Cosmos Prize Nominees

146 nominations (from 24 countries)

< Breakdown by Year >

Candidates since 2007: 43

Candidates since 2008: 47

Candidates since 2009: 56

(Candidacy is valid for three years.)

< Breakdown by Country >

Japan (50), the United States (24), the United Kingdom (11), Australia (8), Germany (5), Canada (3), the Netherlands(3), France(2), India(2), Vietnam(2), Kenya(2), China(2), Brazil(2), Turkmenistan (2), Finland(1), Ireland(1), Denmark(1), Greece(1), Malaysia (1), Indonesia(1), Pakistan.(1), Mongolia(1), Costa Rica.(1), Benin(1), Argentina(1)

(2) Selection Process

The International Cosmos Prize Screening Committee of Experts met four times between January and June of 2009 in order to evaluate candidates for the prize. After careful deliberations, the winner was selected at the International Cosmos Prize Committee on June 30.

Others

(1) Award Ceremony

An award ceremony will be held at Izumi Hall in Shiromi, Chuo-ku, Osaka on Tuesday, October 27, 2009.

(2) Others

The prizewinner shall be awarded a certificate of merit, a medallion, and a monetary prize of 40 million yen

Attached documents:

Curriculum Vitae

Photograph

Motive for the Prize

Comments (on receiving the Prize) by the winner

Prizewinners 1993-2008

The International Cosmos Prize Committee, the Screening Committee of Experts

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Curriculum Vitae

Name: Gretchen Cara Daily

Date of Birth: 19 / October / 1964 (Born in Washington DC)

Nationality: U.S.A

Education:

1986 B.S. in Biological Sciences, Stanford University
1987 M.S. in Biological Sciences, Stanford University
1992 Ph.D. in Biological Sciences, Stanford University

Employment:

1992—1995 Winslow/Heinz Postdoctoral Fellow, Energy and Resources
Group, UC Berkeley
1995—2002 Bing Interdisciplinary Research Scientist,
Dept. Biological Sciences, Stanford University
2002—2005 Associate Professor (Research), Dept. Biological Sciences and
Sr. Fellow, Institute for International Studies, Stanford
University
2005—present
Professor, Department of Biology, Stanford University
Senior Fellow, Woods Institute for the Environment
Director, Center for Conservation Biology

Awards:

2008 the Sophie Prize, the Sophie Foundation, Norway

Major Publications:

1997 “Nature’s Services: Societal Dependence on Natural Ecosystems”, Island Press,
Washington, DC. Daily, GC, Ed.
2002 “The New Economy of Nature: The Quest to Make Conservation Profitable”, Island
Press, Washington, DC. Daily, GC and K Ellison.

Motive for the Prize

Dr. Gretchen Daily is a researcher who has provided us with a comprehensive picture of the value of biodiversity-based ecosystem services, upon which human society is dependent. She has made a vital contribution to international initiatives such as the U.N. Millennium Ecosystem Assessment, and played a leading role in launching the “Natural Capital Project,” which is a result of the fusion of ecology and economics, in order to promote the sustainable utilization of natural capital.

While the global environment is greatly affected by human activity, economic activity is dependent on and benefits from a range of ecosystem services. In her book *Nature's Services* published in 1997, Dr. Daily first set forth the nature of these benefits and their value, which had previously been underestimated, in a comprehensive manner, while clearly presenting the necessity of conserving biodiversity and ecosystems. That nature provides valuable ecosystem services is now a well understood and key conservation concept. Dr. Daily has made a tremendous contribution through her involvement in the genesis of this concept from the time it was first proposed.

Aimed at assessing the impact of the changes in ecosystems and ecosystem services on human life, the Millennium Ecosystem Assessment was integrated with the International Program on Ecosystem Change (IPEC), the formation of which had been advocated by Dr. Daily among others, and was then implemented. Dr. Daily played a major role in tackling the seminal issues of formulating the concept of ecosystem services and enabling the related quantified assessment, thereby making a huge contribution to achieving the goal of the Assessment.

Furthermore, Dr. Daily founded the “Natural Capital Project,” integrating ecology and economics. The project, which demonstrates that the conservation of nature is capable of generating profit, is currently recognized as an international undertaking whereby the findings of science are being translated into social action and is being implemented in such regions as the U.S., South America, Asia, and Africa. Notably, she led a project that encompassed an area of 105 square kilometer in O’ahu, Hawai’i, where InVEST, a software program for mapping and evaluating ecosystems, was used to collect scientific data on which she designed specific plans and directions. In this project, investments were made in natural capital to boost the productivity of farmland through soil improvement. Other activities were also promoted, such as wind and solar power generation, the restoration of the historic and cultural site of Loko Ea Fishpond, and environmental education. This project exemplifies perfectly the value of the “Natural Capital Project.”

Dr. Daily has indicated the directions that should be taken in the future and has constantly asserted that participation by the private sector is required for sustainable economic advancement which takes environmental conservation into consideration, and that scientists have an obligation to provide the relevant scientific grounds for sound decision-making.

In summary, Dr.Daily established the concepts of ecosystem services and natural capital, pioneered the field of interdisciplinary studies, showing that the objective of conserving biodiversity and ecosystems is compatible with the well-being of the human population and social advancement, and blazed a trail for the practical application of these concepts. Her achievement is consequently considered richly deserving of the 2009 International Cosmos Prize, whose governing principle is Harmonious Coexistence between Nature and Mankind.

Comment

I am deeply grateful to receive the International Cosmos Prize for 2009. In the work recognized by the Prize, promoting the harmonious coexistence between Nature and Mankind, we are reaching for a future that no one could hope to achieve alone. Indeed, fostering such a profound transformation of society requires new kinds of partnerships, often among people not accustomed to working together. My small contributions to this endeavor are the product of interacting with inspiring mentors, students, and diverse people from all walks of life. Together we are approaching a shared dream, and together we share the honor of the Prize.

I came to environmental science at a young age. Growing up in West Germany as a teenager, I found the effects of acid rain, and especially the massive street demonstrations it triggered, absolutely stunning, and decided to help in some way. My high school chemistry teacher thought acid rain was too ambitious a topic, but he helped me launch a study of the pollution in a nearby river, whereby I discovered my passion for scientific research.

My focus has always been on the intricacies of Earth's life-support systems. I love thinking about how, through our breathing, the carbon cycle connects us to the garden plants outside, to whales in the Indian Ocean, and to all the past Emperors of Japan. I love the endless puzzles, such as why the sloth moth lives only among the algae-filled hairs of sloths – and to what degree such tight connections as these typify Nature. I wonder which complexes of Earth's rapidly disappearing species people require for survival, and whether we'll discover the answer in time.

When I began research in conservation, the prevailing view was that the key to the future of biodiversity, and to sustaining Earth's life support systems, was in remnants of natural habitat – Noah's Arks floating in a hostile sea of development. We have since discovered, to the contrary, that Arks will sustain neither people nor Nature for long. But fortunately, we have found tremendous potential for conservation in the sea of human enterprise – ways of making conservation attractive, from biophysical, economic, and social perspectives – among the many farmers, ranchers, fishing people, and others managing Earth's lands and waters.

To move research into practice, I have co-founded The Natural Capital Project, a joint effort of Stanford University, The Nature Conservancy, and World Wildlife Fund, and many other partners, whose aim is to align economic forces with conservation. We are innovating new tools and approaches for valuing nature and integrating those values into the decisions of individuals, communities, corporations, and governments worldwide. Our "demonstration projects" are designed to test, hone, and scale new approaches to investing in natural capital in return for its provision of climate stability, water purity, flood control, crop pollination, biodiversity, recreation, inspiration, and other vital benefits.

I am extremely grateful to the International Cosmos Prize Committee and the EXPO 90 Foundation for their generosity and leadership. I am also most grateful to my lifetime mentors, Peter Bing, Paul Ehrlich, John Holdren, and Harold Mooney; my co-founders of the Natural Capital Project, Peter Kareiva, Stephen Polasky, and Taylor Ricketts; and the many members of the Beijer Institute of Ecological Economics (of the Swedish Royal Academy of Sciences), the Center for Conservation Biology (of Stanford University), and the Natural Capital Project. And with all my heart, I thank my husband Gideon Yoffe, our children Luke and Carmen, and my mother and father.

Gretchen C. Daily
July 2009

PRIZEWINNERS 1993-2008

1993 **Sir. Ghillean Prance**

Director, Royal Botanic Gardens, Kew, U.K.

An authority on tropical plants centering on those of the Amazon basin of South America, Dr. Prance advocates his Flora-on-the-Earth Project to establish a comprehensive record of the earth's vegetation in the form of a database.

1994 **Dr. Jacques François Barrau (deceased)**

Professor, Paris National Museum of Natural History, France

Dr. Barrau has conducted ethnobiological studies on nature and the life styles of people in the Pacific Ocean. His results have afforded unique insights into the relationship between human beings and food from a global perspective.

1995 **Dr. Tatu Kira**

Professor Emeritus, Osaka City University, Japan

On the basis of his quantitative research on plants' organic production, Dr. Kira has established "Production Ecology". He has also played a leading role in conducting field studies of the ecosystem in tropical rainforests in Southeast Asia.

1996 **Dr. George Beals Schaller**

Director of Science, the Wildlife Conservation Society, U.S.A.

Dr. Schaller has been conducting field research on the ecology and behavior of various wild animals in all parts of the world, and has written many books including "The Mountain Gorilla" and "The Last Panda."

1997 **Dr. Richard Dawkins**

Professor, Oxford University, U.K.

Dr. Dawkins totally reversed the conventional view of biology with a bold hypothesis he put forward in his 1976 book. He continues to present new views.

1998 **Dr. Jared Mason Diamond**

Professor, University of California at Los Angeles, U.S.A.

Dr. Diamond has made remarkable achievements in physiology. He has been organizing field expeditions to New Guinea and has employed the results of this fieldwork to restructure his unique studies of the evolution of human societies.

1999 **Dr. Wu Zheng-Yi**

Professor and Director Emeritus, Kunming Institute of Botany, Chinese Academy of Sciences, China

Dr. Wu is a representative botanist of China. He edited "Flora of China" describing about all plant species in China.

2000 **Sir David Attenborough**

Producer, Naturalist, Zoologist, U.K.

Sir David is a pioneer of wildlife documentary films. With his excellent films of various creatures or plants, he has told many people across the world about the nature of life for about fifty years since he was in BBC.

2001 Prof. Anne Whiston Spirn

Professor, Massachusetts Institute of Technology, U.S.A.

Based on the principle, "Cities must not conflict with nature, it is possible to build cities that exist as part of nature", she proposes measures to develop cities while maintaining harmony with nature.

2002 The Charles Darwin Research Station

The Charles Darwin Research Station is a biological research center established in 1964 by the international NGO/NPO Charles Darwin Foundation in the Galapagos Islands of Ecuador. The Station has made remarkable achievement in research and protection of the numerous indigenous species of the Island, including elephant tortoises and marine iguanas.

2003 Dr. Peter Hamilton Raven

Director, Missouri Botanical Garden, U.S.A.

Dr. Raven is a representative botanist of the U.S., and international pioneer in advocating for the conservation of global biodiversity. He has given his approach toward issues concerning life on earth from a global viewpoint and his significant contributions toward promoting the co-existence of nature and human beings in both academic and practical terms.

2004 Prof. Julia Carabias Lillo

Professor, National Autonomous University of Mexico, Mexico

Professor Carabias has always considered global environmental issues from the perspective of developing countries. She has achieved excellent results in resolving difficult challenges under different conditions, through the implementation of programs based on thorough fieldwork with a multidisciplinary approach.

2005 Dr. Daniel Pauly

Professor and Director, Fisheries Centre, University of British Columbia, Canada

Pursuing his comprehensive studies of the relationship between fishing and marine ecosystems from wide-ranging and long-term perspectives, Dr. Pauly has made outstanding achievements in the field of research into marine ecosystems and resources, including the development of scientific models to enable both marine ecosystem conservation and sustainable resource use of fisheries.

2006 Dr. Raman Sukumar

Professor, Centre for Ecological Sciences, Indian Institute of Science

A strong advocate of preserving biodiversity and the environment, Dr. Sukumar has done pioneering research on the ecological relationship between elephants and humans, and on resolving the conflict between them, making him an internationally recognized expert on the coexistence of wildlife and humans.

2007 Dr. Geogina Mary Mace

Professor of Conservation Science and Director of NERC Centre for Population Biology, Imperial College, London

Dr. Mace has created scientific criteria for the identification of threatened species and developed the IUCN Red List. The Red List is a single system of assessment that has been designed with the aim of maintaining global biodiversity.

2008 Dr. Phan Nguyen Hong

Professor Emeritus, Hanoi National University of Education

A leading authority on the mangrove ecosystem in Asia, Dr. Phan has been involved in comprehensive scientific research in Vietnam, where war and overdevelopment have had a devastating impact on its mangrove ecosystem. He has made a major contribution to the restoration of the mangrove forests. The Can Gio district, in particular, is an unprecedented example of the successful restoration and conservation of a mangrove forest.

The Expo '90 Commemorative International Cosmos Prize Committee

as of July, 2009

Position	Name	Specialty	Official Title
Chairperson	Dr. Akito Arima	Nuclear physics	Chairperson, Japan Science Foundation
Vice-Chairperson	Dr. Tadamitu Kishimoto	Immunology	Professor, Graduate School of Frontier Biosciences, Osaka University
Member	Dr. Toshitaka Hidaka	Ethology	Professor Emeritus, Kyoto University Director, Kyoto Municipal Science Center for Youth
Member	Dr. Kunio Iwatsuki	Systematic Botany	Director, Museum of Nature and Human Activities, Hyogo
Member	Dr. Masahiro Kato	Systematic Botany	Head, Department of Botany, National Science Museum
Member	Dr. Kiyoshi Kurokawa	Medical Science	Former President, the Science Council of Japan
Member	Dr. Yoichiro Murakami	History of science	Professor, Graduate School, Tokyo University of Science
Member	Dr. Chie Nakane	Social Anthropology	Chairperson of Section I, the Japan Academy
Member	Dr. Keiko Nakamura	Biohistory	Director General, Biohistory Research Hall
Member	Dr. Gunnar Öquist	Botany	Secretary General, the Royal Swedish Academy of Sciences
Member	Ambassador Ole Philipson	International Politics	President of honor, Bureau International des Expositions, Paris (BIE)
Member	Sir Ghillean Prance	Forest Botany	Science Director, the Eden Project
Member	Dr. Akinori Suzuki	Agricultural Chemistry	Professor Emeritus, the University of Tokyo Professor Emeritus, Akita Prefectural University
Member	Dr. Tadao Umesao	Ethnology	Advisor, National Museum of Ethnology
Member	Dr. A. H. Zakri	Genetics, Plant breeding	Former Director, the United Nations University, Institute of Advanced Studies

The Expo '90 Commemorative
International Cosmos Prize Screening Committee of Experts
as of July, 2009

Position	Name	Specialty	Official Title
Chairperson	Dr. Masahiro Kato	Systematic Botany	Head, Department of Botany, National Science Museum
Member	Dr.P.De. Boersma	Conservation Biology	Professor, Department of Biology, University of Washington
Member	Mr. Akio Etori	Scientific Review	Advisor, Public Relations National Institute of Advanced Industrial Science and Technology
Member	Mr. Han Qunli	Ecology and Environmental Preservation	Representative and Director, UNESCO Tehran Cluster Office
Member	Dr. Mariko Hasegawa	Behavioral Ecology	Professor, The Graduate University for Advanced Studies
Member	Dr. Michio Imafuku	Ethology	Professor Emeritus, Kyoto University
Member	Dr. Shuzo Koyama	Anthropology	Director, Suita City Museum
Member	Mr. Kazuo Matsushita	Environmental Policy	Professor, Graduate School of Global Environment Studies, Kyoto University
Member	Dr.Kazuhiko Takeuchi	Landscape and Environmental Science	Professor, Graduate School of Global Environment Studies, Kyoto University