The Winner of the 2018 (26th) International Cosmos Prize is:

**Dr. Augustin Berque**

Director of studies at the EHESS (École des Hautes Études en Sciences Sociales)

Dr. Augustin Berque has made his own research and suggestions regarding The Harmonious Coexistence between Nature and Mankind, on the basis of the concept “the Earth as our fūdo (風土 milieu).” He has established a unique environmental anthropology based on the Oriental view of nature.

On July 24th, 2018, The Commemorative Foundation for the International Garden and Greenery Exposition, Osaka, Japan, 1990 (Expo '90 Foundation) (Chairperson: Mr. Takashi Imai) selected Dr. Augustin Berque, director of studies at the EHESS (École des Hautes Études en Sciences Sociales), (75), as the winner of the 2018 (26th) International Cosmos Prize. The decision to award the prize to Dr. Berque was reached after considering the recommendations submitted by the International Cosmos Prize Committee (Chairperson: Dr. Tadamitsu Kishimoto) and Screening Committee of Experts (Chairperson: Dr. Yoshihiro Hayashi).

Profoundly inspired by Fūdo, authored by the Japanese philosopher Tetsurō Watsuji, Dr. Berque translated this book into French. By further elaborating, deepening and evolving Watsuji’s concept of Fūdo, Dr. Berque organized his own thinking about landscapes and scenery, so as to develop a new academic discipline called “mésologie (fūdogaku 風土学).” Moreover, based on the theoretical results of mésologie, he proposed a theory about the subjecthood of nature, which holds that nature has subjectivity, while critically overcoming anthropocentrism in the nature-culture dualism and environmental ethics.

It can be said that Dr. Berque’s environmental anthropology seeks to reconsider the relationship between nature and people, and provides us with an important philosophical insight that helps determine a better direction for human survival in the future. In summary, his theory can transform our image of the global environment, from one of Spaceship Earth, which stresses resource limitations, to one of the Earth as our fūdo (milieu), whose essential elements are resources, restrictions, risks, and amenities. The accomplishments of Dr. Augustin Berque will add a new page for the principle of the International Cosmos Prize: The Harmonious Coexistence between Nature and Mankind.

The photo is at the following URL:
http://www.expo-cosmos.or.jp/2018.jpg
**Selection Process**

(1) 2018 International Cosmos Prize Nominees

139 nominations (from 30 countries)

*<Breakdown by Year>*

- Candidates since 2016: 48
- Candidates since 2017: 57
- Candidates since 2018: 34

(Candidacy is valid for three years.)

*<Breakdown by Country>*

- The United States (39), Japan (30), France (10), Germany (8), The United Kingdom (7), Malaysia (5), Egypt (4), Canada (4), India (3), Australia (3), Netherlands (3),
- South Africa (3), Burkina Faso (2), Belgium (2), Argentina (1), Italy (1), Uruguay (1),
- Ecuador (1), Kenya (1), Switzerland (1), Spain (1), Czech (1), Hong Kong (1), Chile (1),
- Turkey (1), Palau (1), Finland (1), Brazil (1), Belarus (1), Russia (1)

(2) Selection Process

The International Cosmos Prize Screening Committee of Experts met 3 times between May and June of 2018 in order to evaluate candidates for the prize. After careful deliberations, the winner was selected at the International Cosmos Prize Committee on June 29th.

The board of directors of the Expo’90 Foundation held the meeting on July 24th and after careful deliberation on the report submitted by the Cosmos Prize Committee, selected Dr. Berque as the winner of this year’s International Cosmos Prize.

**Others**

(1) Award Ceremony

The award ceremony will be held at Izumi Hall in Shiromi, Chuo-ku, Osaka on Tuesday, November 14th, 2018.

(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
- Reason for Awarding the Prize
- Comments (on receiving the Prize) by the prizewinner
- Prizewinners 1993-2017

The International Cosmos Prize Committee, the Screening Committee of Experts

For further information, please contact:

Miki-hitó Kanamori
Cosmos Prize Secretariat, Expo ’90 Foundation
Phone: 06-6915-4513
Fax: 06-6915-4524
Email  kanamori@expo-cosmos.or.jp
URL  http://www.expo-cosmos.or.jp
Curriculum Vitae

Name: Augustin Berque

Date of Birth: September 6, 1942 (Born in Rabat, Morocco)

Nationality: French

Current Position:
Director of studies at the EHESS (École des Hautes Études en Sciences Sociales)

Education:
Doctor in geography (PhD, 1969, Paris University)
State doctor in letters (professoral dissertation, 1977, Paris IV University)

Employment:
1970-1974 Lector in French at Hokkaido University
1975-1977 Invited researcher at Tohoku University, Sendai
1977-1979 Researcher at the CNRS (National Centre for Scientific Research)
1979-present Director of studies at the EHESS (École des hautes études en sciences sociales)
1984-1988 Director of the Maison franco-japonaise in Tokyo
1999-2001 Professor at Miyagi University, Sendai
Invited researcher at the Nichibunken
(Centre for international research on Japanese culture, Kyoto)
Major Honors:

1995  Prize of the Japanese society for cultural design, for his works in the theory of landscape

1997  Yamagata Bantô Prize for his works in Japanese studies

2006  Cultural prize of the Japanese society of architects, for his works on human settlements in Japan

2009  Fukuoka Asian Culture Grand Prize

2011  Japan Foundation Award for Japanese studies

2012  NIHU Prize in Japanese studies

2015  Order of the Rising Sun, gold rays with neck ribbon

2017  Kyoto Earth Hall of Fame inductee
Main publications:

8. 『日本の風景、西洋の景観、そして造景の時代』 *Nihon no fûkei, Seiô no keikan, soshite zôkei no jidai* (Le Paysage au Japon, en Europe, et à l’ère du paysagement), Tokyo, Kodansha, 1990, 190 p. [Landscape in Japan and in Europe].
10. 『都市のコストミロジー』 *Toshi no kosumorojî, Nichi-Bei-Ou toshi hikaku* (Cosmology of the city, comparison des villes du Japon, des États-Unis et d'Europe), Tokyo, Kodansha, 1993, 236 p. [Comparing urbanity in Japan, Europe and North America].
15. 『日本の風土性』 *Nihon no fûdosei* (La Médiance nippone), Tokyo, NHK Ningen Daigaku, 1995, et 2 vidéo-cassettes (total 6 h) [Japanese mediance].
18. (avec/with Maurice Sauzet et/and Jean-Paul Ferrier) *De Japan en Méditerranée, architecture et présence au monde*, Paris, Massin, 1999, 189 p. [From Japan to the Mediterranean: architecture and presence in the world].
23. (対談集 entretiens/talks) 『都市、建築空間の場所生』 *Toshi, kenchiku kûkan to bashosei* (Ville,
architecture et sens du lieu), Sendai, Miyagi Daigaku, 2001, 331 p. [City, architecture, sense of place].
27. (編著/direction)『日本の住まいに於ける風土性と持続性』 Niban no sumai ni okeru jizokusei to jizōkusei (Médiane et soutenabilité dans l'habitation japonaise), Kyôto, Nichibunken, 2007 [Mediane and sustainability in Japanese habitation].
41. La liberté dans l’évolution. Le vivant comme sujet, traduction d’ [translation of], IMANISHI Kinji, Shûtsuzai no shinkaron (1981), suivi de La mésologie d’Imanishi [followed by Imanishi’s mesology], Marseille, Wildproject, 2015, 190 p.
Reasons for the Award

Dr. Augustin Berque is a distinguished French human geographer and philosopher, who has made his own research and suggestions regarding The Harmonious Coexistence between Nature and Mankind, on the basis of the concept “the Earth as our fūdo (風土 milieu).” This year’s International Cosmos Prize is awarded to Dr. Berque in recognition of his outstanding achievements in establishing a unique environmental anthropology. Since it is based on the Oriental view of nature and corroborated by his fieldworks in Japan, China, Mongolia, etc., this one-of-a-kind discipline differentiates itself from conventional environmental sciences and ethics, which are built on the Western view of nature.

Dr. Berque served as Professor at the School for Advanced Studies in the Social Sciences (EHESS: Ecole des Hautes Etudes en Sciences Sociales) in France for many years. He has also spent over 12 years in total in Japan to conduct research and education activities. This experience has made him well-versed in Japanese culture and history. Profoundly inspired by Fūdo, authored by the Japanese philosopher Tetsurō Watsuji (1889–1960), Dr. Berque translated this book into French. By further elaborating, deepening and evolving Watsuji’s concept of Fūdo, Dr. Berque organized his own thinking about landscapes and scenery, so as to develop a new academic discipline called “mésologie (fūdogaku 風土学).” Moreover, based on the theoretical results of mésologie, he proposed a theory about the subjecthood of nature, which holds that nature has subjectivity, while critically overcoming anthropocentrism in the nature-culture dualism and environmental ethics. Traditional environmental ethics unilaterally asserts protection of the natural environment, on the basis of human subjecthood alone. On the other hand, his theory of nature’s subjecthood based on non-anthropocentrism argues that the subjecthood of humans and nature both should be recognized, and that we should aim to re-establish the relationship between nature and people. Consequently this theory has provided environmental thoughts with a revolutionary perspective. Dr. Berque’s notion has raised strong objection to criticism that considers the fūdo theories as a whole to constitute environmental determinism, thereby impacting the theory of life on our planet, biological sciences, as well as Western-oriented philosophy and sciences.

Dr. Berque emphasizes a fundamental distinction between environment and fūdo (milieu). The former is on the physical natural or ecological level, whereas the latter is both physical and sensory at the same time. In other words, while environment can be scientifically studied as an object, fūdo (milieu) is fraught with human subjecthood, and therefore considered to be formed between a subject and an object.
To put it another way, Dr. Berque’s mésologie draws a line between itself and Western environmental sciences and outlooks, which are based on the premise of an either-or choice between physical and sensory. In his notion, he consistently maintains a critical attitude toward modern mindsets, by pointing out that the underlying cause behind overall environmental devastation is the fact that modern subjects have denied their mediance (ふどせい 風土性). This viewpoint shares a certain similarity with that of Japanese traditional thoughts and practices, which have sustained cultural aspects like satoyama and satoumi (respectively, natural woodlands and coastal areas that are connected with the lives and livelihoods of local inhabitants). It also has something in common with the Oriental view of nature, which aims toward living in perfect harmony with nature. This notion is reflected in his book *Le Paysage au Japon, en Europe, et à l’ère du paysagement* (Landscapes in Japan and in Western Europe, and the Age of Landscaping).

Based on the theory of mésologie, Dr. Berque has reexamined the concepts around nature and the subject, thereby reaching the conclusion that in contrast to machines, nature should have subjecthood, in a certain form and to a certain extent, as long as it is alive. In other word, he considers that nature as a living entity has its own subjecthood that determines its 趣 (sens), namely, the direction it should take.

Since the 2011 Great East Japan Earthquake, Dr. Augustin Berque has frequently visited the disaster-hit regions, and participated in many symposiums in Japan. At the same time, he has offered valuable advice regarding reconstruction plans for the affected areas, using the keyword *sappukei* (literally “killing the landscape”, in contemporary Japanese meaning dreary, desolate, etc.). This is an example that demonstrates the usefulness of theories on ふど, in finding solutions to specific issues.

It can be said that Dr. Berque’s environmental anthropology seeks to reconsider the relationship between nature and people, and provides us with an important philosophical insight that helps determine a better direction for human survival in the future. In summary, his theory can transform our image of the global environment, from one of Spaceship Earth, which stresses resource limitations, to one of the Earth as our ふど (milieu), whose essential elements are resources, restrictions, risks, and amenities. The accomplishments of Dr. Augustin Berque will add a new page for the principle of the International Cosmos Prize: The Harmonious Coexistence between Nature and Mankind.
Comment

It is an honour to follow Jane Goodall and a score of internationally famous personalities as a recipient of the International Cosmos Prize. It is also a unique opportunity to present to a wide audience *mesology* (*Umweltlehre, 風土学*), the research field which I have been advocating for the past forty years or so.

*Mesology* – the study of *milieux* (*Umwelten, 風土*); from the Greek *meson*: middle, centre, half, medium –, is a research field which was initially proposed by a physician, Dr Charles Robin, to the *Société de Biologie*, at its inaugural session held in Paris on Wednesday June 7th, 1848. Robin's word *mésologie* might also be rendered in English with *mesologics*, in which the plural would suggest two more ideas. First, variety of the points of views and approaches. A *milieu*, indeed, cannot be absolute; not only does it, in one sense (as a centre), depend on a set of relations at the node of which it is located, but in another sense (as an environment) can it mean the reverse, that is what surrounds this centre. The ambient world (*milieu*) of a fish is the water in which it is living, but any fish is itself in the midst (*milieu*) of all that water, on which it has a point of view which is proper to that very fish. In short, each living being human in particular, is in the midst of its ambient world, *au milieu de son milieu*.

Here arises a logical problem; and this is precisely what the *s* of *mesologics* would suggest: namely, the coexistence of two different logics, non exclusive of each other, and composing together a logic of the happy mean: a *meso-logic*.

Can such a thing exist? Aristotelian logic, which structured European thought and in particular science, does not admit it. You can have a thing A, or another thing non-A, but you cannot have something which would be both A and non-A, something and its contrary, and which would be a happy mean between the one and the other. This is stipulated by the law of excluded middle 排中律: confronting the alternative either A or non-A, you do not have a third possibility, which would be A and non-A at the same time.

Now, it is precisely that third possibility which the ambivalence of the word *milieu* illustrates, since it means both one thing (a centre) and the contrary (an environment). Illogical though it may seem, it is nevertheless the reality of that term, which, moreover, is no problem at all for those who use it, speakers as well as listeners. Nobody confuses the two meanings, because the juncture and the context always indicate clearly which one it is about. The place in the middle (*au milieu*) is not a life environment (*un milieu*), and the middle of the road (*le milieu de la route*) is not the rural parts (*le milieu rural*).

This ambivalence, actually cancelled out by juncture and context, is not only that of a word, it is in fact the essence of that which mesology studies, *viz* *milieux* 諸風土. A *milieu*, indeed, is not a substance which would keep its identity independently from other things; it is a set of relations between beings and things. Which things? In the case of human *milieux*, all those with which we ourselves are related, which condition our existence and which our existence conditions in return.

Here lies a capital distinction: that between *milieu* 風土 and *environment* 環境; which reflects itself in another, no less capital distinction: that between *mesology* 風土学 and
ecology 生態学. This distinction was established both in terms of biology and in terms of ontology in the first half of the last century.

For the Japanese philosopher Tetsurō Watsuji (or rather, in the Japanese order, Watsuji Tetsurō, 1889-1960), ecology, a modern natural science, made environment its object of study. It made it so as an object, that is something out of which human subjecthood is abstracted. Even if this object is by essence relational (ecosystems, food chains...), it is as much as possible independent from the point of view of the observer; in other words, detached from our existence; and it is so inasmuch as it is scientific. For ecology, the environment is something objective, which exists in itself and which can be measured.

For Watsuji, milieu (fūdo 風土) is another matter altogether: it is something which does not exist in itself, precisely because human existence is not abstracted out of it. On the contrary, human existence is structured by its relationship with a milieu, just as a milieu is structured by human existence. Owing to this feedback, a milieu cannot be a pure object, since it is necessarily fraught with our subjecthood 主体性. In some way, there is a co-arousal 相起 between humans and their milieux. From the outset, on the first line of the book which he published in 1935, Fūdo, Watsuji defines a concept for this; namely mediance (fūdosei 風土性). The first line of the book states the following: “The aim of this book is to elucidate mediance as the structural moment of human existence (ningen sonzai no kōzō keiki 人間存在の構造契機)”. What does this strange expression mean? That the human (ningen 人間) cannot be reduced to an individual entity (which Watsuji calls hito 人), since it also includes a relational set, the interlinkage of persons and things, which Watsuji calls aida 間 or aidagara 間柄. It is only in the dynamic relation (the “moment”) of these two halves that ningen concretely exist; and it is this relationship which Watsuji calls fūdosei – a neologism which I rendered in French with médiance, derived from the Latin medietas, half, itself derived from the root med-, equivalent to the Greek meso-, and from which comes the French milieu.

Watsuji’s approach was essentially a phenomenological and hermeneutic one; but it was corroborated by two other approaches, not related with his own since they both were positivistic:

The first one was in fact the biological foundation of mesology. In the domain which later was to become ethology and biosemiotics, the German naturalist Jakob von Uexküll (1864-1944) publishes, at almost the same time as Fūdo, a book in which he establishes a capital distinction between Umgebung (the objective environmental datum) on the one hand, and Umwelt (the ambient world proper to a given species) on the other hand. This distinction is the exact counterpart of that which Watsuji establishes between environment (kankyō 環境) and milieu (fūdo 風土), the only difference being that Uexküll’s Umweltelehre (mesology) is about the

---

1 WATSUJI Tetsurō, Fūdo. Ningengakuteki kōsatsu, Tokyo, Iwanami, 1935. The English translation (Climate. A philosophical study, 1960) is a very inaccurate one and should be avoided. Refer rather to the German, the Spanish, or better the French one: Fûdo, le milieu humain, Paris, CNRS, 2011.
2 A Foray into the Worlds of Animals and Humans, UMinn Press, 2011 (Streifzüge durch die Umwelten von Tieren und Menschen, 1934). Whether Watsui, who was much younger than Uexküll, was influenced by him remains unclear, but I personally surmise that he was, through Heidegger, during a stay he made in Germany in 1927-1928.
living in general, whereas Watsuji’s fūdogaku (mesology) is about the human in particular. In other words, Uexküll considers the ontological level of the biosphere 生物圏 (the whole of living milieux), and Watsuji that of the ecumene 風土総体 (the whole of human milieux).

Thirty years later, in Le geste et la parole (1964), the French anthropologist André Leroi-Gourhan (1911–1986) – who did not speak of mesology, and had read neither Uexküll nor Watsuji – interprets the emergence of our species as an interactive process between an individual “animal body” 動物身体 and a collective “social body” 社会身体, the latter progressively constituted by the exteriorisation and deployment, in the form of technical and symbolic systems, of some of the functions of the former. Now, this techno-symbolic social body, which Leroi-Gourhan put into light with the methods of palaeontology, is nothing else than what Watsuji called aida or aiedaga 間柄 (a term which can indeed be translated as “social body” 社会身体); and what Leroi-Gourhan calls “animal body” corresponds to the hito in Watsuji’s terminology. The only difference is that the Watsujian mediance more explicitly concerns the human relationship with the environment.

For mesology indeed, the second half of human mediance is not only a social, techno-symbolic body; it is necessarily inscribed into the ecosystems, and thus it is an eco-techno-symbolic system. Accordingly, rather than of a social body 社会身体, one will speak of a medial body 風物身体 which, in other words, is our milieu 風土. The deployment of this medial body out of the animal body corresponds to the deployment of the ecumene out of the biosphere. In both cases, but at different scales, the structural moment of mediance is at work.

As a dynamic coupling between an individual animal body and a collective medial body, the “structural moment” of human mediance is both spatial (thus constituting milieux and the ecumene) and temporal, because it works as an historical process. Through technical systems, this process deploys our corporeality 身体性 as far as the end of our world (we can see for example galaxies situated at more than ten billion light years, or pick up stones on Mars); but at the same time, symbols replay the world into our animal body, in the form of neuronal connexions which represent it in our flesh (for instance, I have in my brain galaxy UDFy-38135539, the redshift 宇宙赤方偏移 of which shows that its light travelled to reach us during thirteen billion years, just like a NASA engineer has in his brain the robot which he controls on Mars).

In short, technique cosmizes 宇宙化する the human body and, at the same time, symbol somatizes 身体化する the world. This deployment-reployment is the trajectory 通態化 which, out of the environment, creates our milieu, or an Umwelt out of the Umgebung, thus establishing our mediance.

At any scale, this movement goes in a certain direction, inscribed in a human history which is grafted on natural history (evolution); and it has a meaning, a meaning proper to those beings which it concerns, that is, the beings who exist in that milieu by dint of that history. As Watsuji wrote, it is the milieu which gives history its flesh 肉体, and it is history which gives a milieu its sense 趣.

---
Accordingly, in our medial body, that is in our milieu and in history, everything is \textit{trajective} 通態的: not only subjective or objective, yet both subjective and objective. It is objective inasmuch as it necessarily supposes facts, in other words an \textit{Umgebung}; yet it is also subjective inasmuch as, no less necessarily, it supposes our existence, which interprets this \textit{Umgebung} so as to make it our \textit{Umwelt}, i.e. that which for us is reality.

This always contingent bothness 偶発的な両義性 of reality – which is both factual and possible, \textit{Umgebung} and \textit{Umwelt}, environment and milieu, A and non-A – poses a logical problem which can only be overcome by a \textit{meso-logic} including the middle instead of excluding it. Now, this logic does exist, and it has existed for a long time. It was developed in India around the third century. It uses the tetralemma, that is the following four stages: 1. affirmation (A is A); 2. negation (A is not non-A); 3. binegation (neither A nor non-A); 4. biaffirmation (both A and non-A).

The Western tradition did not go beyond stages 1 and 2. Even in a Hegelian synthesis, there is no coexistence, but deletion of the thesis and the antithesis, and the law of excluded middle 排中律 is thus respected. Now, this law is that which forms the basis of dualism. It requires to forclose 外閉する (lock out) our medial, eco-techno-symbolic body, since it cannot allow to conceive of symbolicity, in which A is always also non-A at the same time. By the same token, it requires to forclose both trajectivity and mediance, which found the meaning and thus the reality which things or other people have for us, and which we have for others.

This foreclosure of the medial body is that which we have to overcome in order to come to terms with our milieu. Needless to say, this overcoming does not mean rejecting science, the methods of which remain indispensable for knowing the physical foundations of reality. On the other hand, physics itself, at quantum level, has come to acknowledge the intrication of A and non-A. The matter is about an \textit{Aufhebung} 止揚, a general surge lifting-abolishing all our knowledge. For instance, we need that overcoming in order to take upon ourselves our ecological footprint, which the modern individual \textit{ontologically} cannot take responsibility for, since it is considered as an external object, not a structural moment of our own existence.

This demonstrates the urgent need to revoke the mental frame of modernity, in order to conceive, at last, of the mesologics which entail the reality of things in a properly human world. Here is what mesology aims at.

\footnote{Binegation is generally put in fourth position, but in putting it in third, I follow YAMAUCHI Tokuryû, \textit{Rogosu to renma (Logos and lemma)}, Tokyo, Iwanami, 1974. French translation by A. Berque forthcoming at CNRS Éditions, Paris.}
PRIZEWINNERS 1993-2017

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. Tatuo Kira (deceased)
      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 (deceased)
      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” which describes all known 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 throughout the world about the nature of life for more than fifty years since joined the 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 exists 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 ecosystem, 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, India  
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. Georgina Mary Mace  
Professor of Conservation Science and Director of NERC Centre for Population Biology, Imperial College, London, U.K.  
Dr. Mace played a significant role in the creation of scientific criteria for the identification and classification of threatened species. She has also contributed to the conservation of species and biodiversity.

2008  Dr. Phan Nguyen Hong  
Professor Emeritus, Hanoi National University of Education, Vietnam  
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.

2009  Dr. Gretchen Cara Daily  
Professor, Stanford University, U.S.A.  
Dr. Daily 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.

2010  Dr. Estella Bergere Leopold  
Professor Emeritus, University of Washington, U.S.A.  
Dr. Leopold has made tremendous achievements by continuing and further developing the Land Ethic, which was initiated by her father, Aldo Leopold (1887-1948), as well as by disseminating the idea to many places in the United States. She is still pursuing activities that weave the Land Ethic into the fabric of people’s lives and society.

2011  Scientific Steering Committee of the Census of Marine Life  
The Scientific Steering Committee of the Census of Marine Life provided overall governance to the Census, a grand global project. The objective of the Census was to survey and analyze changes from past to present in marine life biodiversity, distribution and abundance, and to compile the resultant data into a comprehensive database called the “Ocean Biogeographic Information System” to be used in forecasting the future of marine life.

2012  Dr. Edward Osborne Wilson  
Pellegrino University Research Professor, Emeritus, Harvard University, U.S.A.  
Dr. Wilson has accomplished outstanding achievements in his research into the natural history of ants and ethology. He has focused his scientific perspective and experience on helping to illuminate the human circumstance, including human origins, human nature and human interactions. Dr. Wilson has also been active in practicing biodiversity conservation and environmental education.
2013  Dr. Robert Treat Paine (deceased)
Professor emeritus of Zoology, University of Washington, U.S.A.
Dr. Paine has demonstrated, through explicit field experiments, that predators play essential roles in the stable maintenance of biotic communities. He proposed the concept of the keystone species, which plays a crucial role in maintaining the structure of an ecological community. He has had great impact not only on ecology, but also on conservation biology, as well as on the general public’s understanding of biodiversity.

2014  Dr. Philippe Descola
Professor, the Collège de France, France
Dr. Descola, a distinguished anthropologist, has conducted rigorous fieldwork among the indigenous Achuar people living in Amazonia, South America, highlighting their view of nature and activities in interacting with the natural environment. On the basis of his findings, Dr. Descola has developed a philosophical concept and proposed the “anthropology of nature,” which considers nature and culture in an integrated manner.

2015  Dr. Johan Rockström
Executive Director, Stockholm Resilience Center, Sweden
Dr. Rockström cautioned that we have reached a saturation point in terms of human pressures on the Earth, System, and that if we let these anthropogenic pressures continue increasing to cross the thresholds or tipping points defined as “planetary boundaries,” there is a risk of irreversible and abrupt environmental change.

2016  Dr. Kunio Iwatsuki
Professor Emeritus, Tokyo University, Japan
Dr. Kunio Iwatsuki has continually pursued the goal of biodiversity, and developed plant systematics in an inclusive and multifaceted manner, by adopting not only traditional methodologies but also molecular phylogenetic techniques. He advocated the importance of an integrated understanding of biological classification including phylogenetic systematics. Dr. Iwatsuki has also clarified that this approach is the essential principle which supports the abundance of life forms and harmonious coexistence between people and nature.

2017  Dr. Jane Goodall
Founder, Jane Goodall Institute, UK
Dr. Goodall has been studying wild chimpanzees since 1960 so as to paint a fuller picture of chimpanzees. She has conducted afforestation programs to provide habitats for chimpanzees, and an environmental educational project. She began Roots & Shoots, environmental learning program by young people. More than 150,000 groups are actively working in 99 countries under this program.
## The International Cosmos Prize Committee

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Specialty</th>
<th>Official Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairperson</td>
<td>Dr. Tadamitsu Kishimoto</td>
<td>Immunology</td>
<td>Project Professor, Immunology Frontier Research Center, Osaka University</td>
</tr>
<tr>
<td>Vice-Chairperson</td>
<td>Dr. Kazuo Oike</td>
<td>Seismology</td>
<td>President, Kyoto University of Art And Design</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Tomoya Akimichi</td>
<td>Ecological Anthropology, Ethno-Biology</td>
<td>Director General, Fujisan World Heritage Center</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Makoto Asashima</td>
<td>Developmental biology</td>
<td>Research Professor, Teikyo University</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Satoru Ikeuchi</td>
<td>Astronomy</td>
<td>Professor Emeritus, The Graduate University for Advanced Studies</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Akira Isogai</td>
<td>Agricultural Chemistry</td>
<td>Professor Emeritus, Nara Institute of Science and Technology</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Satohiko Sasaki</td>
<td>Forest science and resource</td>
<td>President, Japan International Forestry Promotion and Cooperation Center</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Kazuhiko Takeuchi</td>
<td>Landscape and environmental science</td>
<td>Director and Professor, Integrated Research System for Sustainability Science (IR3S), University of Tokyo</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Naoko Nishizawa</td>
<td>Plant molecular biology</td>
<td>Professor, Research Institute for Bioresources and Biotechnology, Ishikawa Prefectural University</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Yoshihiro Hayashi</td>
<td>Animal science and resource</td>
<td>Director General, National Museum of Nature and Science</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Izumi Washitani</td>
<td>Ecology, Conservation Ecology</td>
<td>Professor, Faculty of Science and Engineering, Chuo University</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Specialty</th>
<th>Official Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisor</td>
<td>Dr. Akito Arima</td>
<td>Nuclear physics</td>
<td>Chancellor, Musashi Academy of the Nezu Foundation</td>
</tr>
<tr>
<td>Advisor</td>
<td>Dr. Keiko Nakamura</td>
<td>Biohistory</td>
<td>Director General, Biohistory Research Hall</td>
</tr>
</tbody>
</table>
The International Cosmos Prize Screening Committee of Experts

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Specialty</th>
<th>Official Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairperson</td>
<td>Dr. Yoshihiro Hayashi</td>
<td>Animal science and resource</td>
<td>Director General, National Museum of Nature and Science</td>
</tr>
<tr>
<td>Vice-Chairperson</td>
<td>Dr. Toru Nakashizuka</td>
<td>Forest ecology</td>
<td>Specially Appointed Professor, Research Institute for Humanity and Nature</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Konomi Ikebe</td>
<td>Landscape and Environmental Science</td>
<td>Professor, Graduate School Environmental Science and Landscape, Chiba University</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Kazunobu Ikeya</td>
<td>Environmental Anthropology</td>
<td>Professor, National Museum of Ethnology</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Monte Cassim</td>
<td>Environmental Science</td>
<td>Professor Emeritus, Ritsumeikan University</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Naoki Kamezaki</td>
<td>Animal Ecology</td>
<td>Professor, Faculty of Biosphere-Geosphere Science, Okayama University of Science</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Kevin Short</td>
<td>Anthropology</td>
<td>Professor, Department of Environmental Information, Tokyo University of Information Sciences</td>
</tr>
<tr>
<td>Member</td>
<td>Ms. Atsuko Tsuji</td>
<td>Science Journalist</td>
<td>Designated Professor, International Collaboration Planning Center, Institute of International Education &amp; Exchange, Nagoya University</td>
</tr>
<tr>
<td>Member</td>
<td>Mr. Keiichi Noe</td>
<td>Philosophy of Science</td>
<td>President-appointed Extraordinary Professor, Institute of Liberal Arts and Sciences, Tohoku University</td>
</tr>
<tr>
<td>Member</td>
<td>Dr. Noriaki Murakami</td>
<td>Systematic Botany</td>
<td>Professor, Graduate School of Science and Engineering, Tokyo Metropolitan University</td>
</tr>
</tbody>
</table>