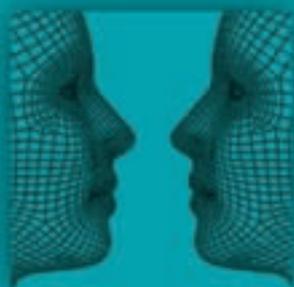




EUROPEAN
COMMISSION

European
Research Area

EUROPEAN SCIENCE AWARDS 2007



Prize for Science
Communication



Marie Curie Awards



Descartes Prize
for Transnational
Collaborative Research

SUCCESS STORIES

EUROPEAN SCIENCE AWARDS



SEVENTH FRAMEWORK
PROGRAMME

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Science Communication Prize

Excellence in European science communication

The Science Communication Prize was launched in 2004 by the European Commission's Directorate-General for Research to help stimulating interest in science, promoting the understanding of scientific progress, and its implications in wider society. The prize reflects the European Union's aim to boost scientific culture, to support the communication of research results, and to encourage people to take on scientific careers.

The Prize recognises and rewards high-quality and accurate science communication activities aimed at a general audience. Under the 2007 Science Communication Prize, three laureates will each receive € 60 000 and two finalists will both receive € 5 000.

The Science Communication Prize targets organisations or individuals that have achieved outstanding results in science communication and have already been recognised with a prize or award by a European and/or national science communication prize organiser.

There are three science communication prize categories:

- The Communicator of the Year
- The Writer of the Year
- The Audiovisual Documentary of the Year



Bringing black holes down to earth

A world-class scientist who is also a best-selling author and an artist: Professor Jean-Pierre Luminet is a worthy champion of science and a science communicator of exceptional quality. His considerable literary production focuses on his own specialism, astronomy and cosmology, which he explores via a variety of media to communicate its fascinations to the general public and the younger generation. Whether working in print, on television, through exhibitions, music or the arts, he delivers accessible information of the highest quality and intelligence that speaks across cultures and values.

Jean-Pierre Luminet is a true renaissance man. The Frenchman is a distinguished astrophysicist and Director of Research at the *Centre National de la Recherche Scientifique*, a renowned cosmologist at the *Observatoire de Paris, Laboratoire Univers et Théories*, as well as a poet, artist, communicator to the public and author of many varied multimedia productions.

His recent book 'Le destin de l'univers: trous noirs et énergie sombre' dealt with black holes and dark energy but was aimed squarely at the general public. It was praised for its outstanding scientific, historic, literary and esthetical qualities. In 2006, he also published 'Le Secret de Copernic', an essay on the astronomer Copernicus related in the style of a historical novel.

A model for communication

Luminet's publications for a general audience share a number of features that make them a model for communicating science to the public. Their scientific content is rigorous and always up-to-date. He is not afraid to work in a diversity of publications and media: he has produced popular science books, historical novels, beautifully illustrated exhibition catalogues, multimedia productions for children and poetry. He is an artist, engraver and sculptor and has also collaborated with celebrated musicians. Luminet's work has been translated into a wide variety of languages including Chinese and Korean.

His works provide a depth of pan-European cultural values. One of his most important contributions has been the re-evaluation and promotion, based on extensive historical and scientific research, of the Belgian priest and cosmologist George Lemaître. Lemaître pioneered the application of Einstein's general theory of relativity to cosmology, suggested a pre-cursor of the law now named after the American Edwin Hubble, and proposed the first 'Big Bang' theory.

In 2006, Jean-Pierre Luminet was awarded the highly coveted 'Prix Doisteau-Blutet de l'information scientifique et technique' by the French *Académie des Sciences*. And it is the Académie who has nominated him for the European Science Communication Prize.

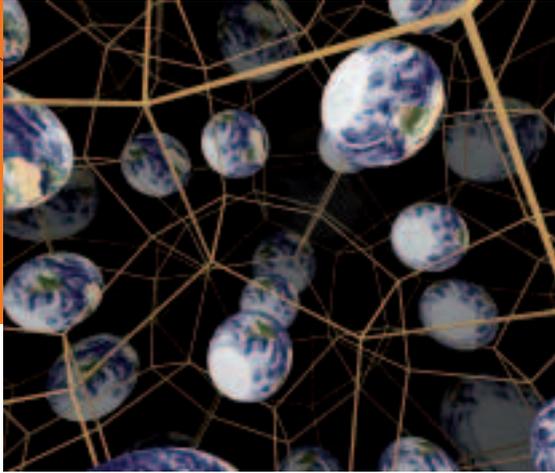
In its award, Jules Hoffman, President of the *Académie des Sciences*, describes Luminet as a talented astrophysicist who also "has an exceptional literary talent and uses his creativity to communicate the current results of his field to the public as well as decision-makers in the world of economics, thus contributing to better integration of science in our society."

The scientist

Luminet's main research areas involve the space-time structure of the universe that is described by Einstein's general theory of relativity and its subsequent developments. His main interests are on three scales: the infinitely small such as singularities – for example in the centre of black holes; the macroscopic scale such as black holes and their immediate environment; and at the cosmological scale including universal topology, problems in space-time. Luminet has published over 60 scientific papers.

Having completed a doctoral thesis on singularities in the solutions of general relativity equations at *Université de Paris*, Luminet spent several years researching black holes. His first major contribution was the simulation in 1979 of the optical distortions that would be caused by the intense gravitational field of a black hole. It should be noted that this work was carried out without the aid of modern computer tools.

In 1982, he was one of the first to study the effects of a star passing close to a super-massive black hole. A particular phenomenon that the work predicted was the destruction of a passing star due to strong gravitational tidal effects of the black hole producing a specific 'signature' from within distant galaxies. This signal was observed some twenty years later by the Chandra and XMM-Newton satellite telescopes in 2004.



A wraparound universe

Since 1995, Luminet has been involved in cosmic topology in collaboration with numerous colleagues. He defined the concept that the universe might be spatially finite but without a definitive outer rim in his 'univers chiffonné' (wraparound universe) proposal. In 2003, following analysis of anomalies in the WMAP satellite data on the cosmic background radiation, he further proposed that the universe was positively curved with the same shape as a dodecahedron – a twelve-sided polygon.

Luminet also finds time to study cybernetics, epistemology (the theory of knowledge) and the history of science in addition to his varied cultural activities.

Luminet describes his own philosophy as follows: "I have always believed in the links between the various forms of human creation. In fact, different approaches – whether scientific, aesthetic, philosophical or other – give rise to different perceptions of the world, but with an underlying common imaginary element."

The impact of Luminet's communication work is considerable, in particular in French-speaking and European society. He has an ability to give a clear and historical vision of the fundamental contribution of European scientists to astronomy and our understanding of the Universe over some 25 centuries. In this manner he serves to illuminate the richness of European culture and the clear place of science within it.

In conclusion, it is hard to find in Europe today a science communicator who has reached the breadth, quality and quantity of production of Luminet. He has highlighted the intimate presence of European discoveries in the remote and recent past for the public, and contributed significantly to that body of scientific work.

INFO

Jean-Pierre Luminet

Category

Communicator of the Year

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