

2004 Award

Discovering, understanding and enjoying science through innovation

The laureate

First Prize

Bob VAN EIJK - Netherlands
HISPARC

The theme

For its 8th award, in 2004, the Altran Foundation for Innovation has chosen the theme "Discovering, understanding and enjoying science through innovation".



High-School Project on Astrophysics Research with Cosmics

A Dutch university research Institute is proposing to challenge teams of secondary school pupils and teachers with the study of ultra-high energy cosmic rays. HISPARC wants to make these young people discover and "experience the sciences" by creating a teaching network of teams of pupil-researchers. Liaising closely with academic and scientific institutions, these groups will work on the design, control and operation of particular items of detection equipment. The retrieval of the data obtained and its analysis will then be the subject of interpretation.

The project already gathers 5 clusters in the Netherlands comprising more than 35 detector stations (35 high schools). This project has received the backing of NIKHEF, the high energy physics institute of the Netherlands. Pr Veltman, Nobel Prize 1999 praised it highly.

« I really appreciated the Altran's contribution: our relation had nothing to do with a commercial relationship, because Altran's consultants were completely integrated into the team. » Bob VAN EIJK

Altran Support

Between the summer of 2004 and that of 2005, six Altran experts worked alongside the winner on developing a better-performing measuring device, which can be configured at a low cost; on setting up collaborations with other schools and universities; on professionalizing the running of the project; and on fostering discussions in the medium term on its future.

Results

The significant elements of this support have been the development of a new electronic box which improves database management by considerably reducing research and extraction times, thus guaranteeing information security. The Altran consultants have also opened up the project to other similar initiatives in terms of measurement: measuring weather, noise, and wind. Major progress was also made in other areas: reducing the development costs of the electronic equipment (down by 70%); creating a network of professors and scientists likely to push the project forward through their exchanges of experiences and knowledge; and defining teaching modules. As part of drawing up a 3-year strategic plan, the Altran engineers finally helped Hisparc to define its legal status.

More about the theme



Having seen the current loss of interest on the part of young people for sciences in general, the Altran Foundation for Innovation this year wishes to promote innovation as part of educational, research or science promotion processes, in order to encourage as many people as possible to take part in scientific projects or careers.

The Finalists

Alain HUBERT – Belgium

Earth Observation Network for Schools (EONS)- Increasing students' awareness of climate change

This EONS project aims at measuring data (weather stations for measuring temperature, wind speed, hours of sunlight and precipitation) and then use the network of schools to get a better understanding of the climate and its evolution. It is once again a way to make students aware of the interest of sharing information to enhance global knowledge and also to increase their awareness of the climate change and the relationship with human activity.

Michel LAGUES – France

Atome Culture - Mobile and fixed exhibition on radioactivity

This project is a mix between a mobile and fixed exhibition. It is using the name and the activities (and of course their initial experiments leading to the discovery of radioactivity) of the Curies in their laboratory in Paris to increase public knowledge and understanding of radioactivity.

Francesca OLIVINI – Italy

Fuel Cell Educational Project - Discover the future of energy with fuel cell

This project, involving Milan "National Museum of Science and Technology Leonardo da Vinci", aims at providing schools with a cheap fuel cell which does not contain platinum but rather a synthetic catalyst – hence the price – and uses ethanol or glycol rather than methanol (which is dangerous to manipulate because it can cause blindness through ingestion). It is built as a kit so that the students start by making it before using it.

Maria Giuseppina BARTOLINI BUSSI – Italy

Hands on Maths - Counter-balance the abstract side of mathematics

This project, led by the University of Modena in Italy, aims at enhancing the understanding of mathematics and their intimate tie to our environment by teaching students to use the same tools (especially in geometry) as some of the great mathematicians. In this way they can understand better the relationship between a surface and its area, the way a bicycle works, what lies behind a screw (rotation to translation).

Margarita TRINDADE - Portugal

Science for Development - Plugging scientific and social gap in developing countries

This project originated in Lisbon and sponsored by the Gulbenkian Institute through its alumni in PhDs in medicine and in biology, is the creation of a network of scientists in Portuguese speaking countries to provide support and help scientists in developing countries by giving them access to top level information through this network. Organizing advanced workshops in the developing countries will enable top level scientists and local students and faculties to share knowledge as well as to get funding for local programs.

The jury

President of the jury

Pr. Umberto VERONESI

Famous Italian Professor, he created the Umberto Veronesi Foundation for Scientific progress. Former Health Minister and pioneer in the fight against cancer in Italy as Head of the National Cancer Institute in Milan. He currently manages the European Institute of Oncology in Milan.

Prof. Edith ACKERMANN – United States

Honorary Professor of Developmental Psychology at the University of Aix-Marseille 1 and Visiting Scientist at the MIT, School of Architecture

M. Philippe BUSQUIN – European Commission

Current European Research Commissioner and member of the European Commission, he has had 5 different ministries (National Education, Home Affairs, the Budget and Energy, Economic Affairs and Social Affairs), before being Belgium senator and elected to the European Parliament.

Pr. Jean-Patrick CONNERADE – European association

Lockyer Professor in Physics at Imperial College London. He is President of Euroscience, a pan-European association of individuals interested in constructing scientific Europe and representing scientists of all disciplines.

Pr. Pierre DILLENBOURG – Switzerland

Lecturer at the EPFL and President of the IFIS (International Society of the Learning Sciences), an international association of researchers in Education, Psychology and Information Sciences.

Pr. Gabriele FALCIASECCA – Italy

Vice-rector of the Director College of the University of Bologna, he is Director of the Marconi Foundation of Bologna and President of ASTER (Italian consortium for science and technology development).

Pr. Wolf Peter FEHLHAMMER – Germany

President of ECSITE-D and former Director General of the Deutsches Museum in Munich.

Pr. Jose Mariano GAGO – Portugal

Former Minister for Science and Technology of Portugal, he is at the origin of the 2000 Lisbon Summit on the future of European research. Founder of the "Cienca Viva" program for the promotion of scientific and technologic culture in Portugal.

M. Mac LESGGY – France

French TV personality, he is "Mister Science" of French television. He presents science and technology related television programs.

Dr. Mélanie QUIN – Great Britain

Executive Director of ECSITE UK, representing the interests of all Science museums in Great Britain.

Ms. Edith SALTIEL – France

Former Director of the "La Main à la Pâte" international program. Launched in 1996, on the initiative of professor George Charpak, Nobel Prize of physics 1992, and the French Academy of Science, it aims at promoting a step of scientific investigation within primary schools.

Pr. Virgilio ZAPATERO – Spain

President of Alcalá University, Professor and head of the department of 'Legal Philosophy' since 1999. Formerly Minister of Parliamentary Relations and former Spanish Government Ministerial Secretary.