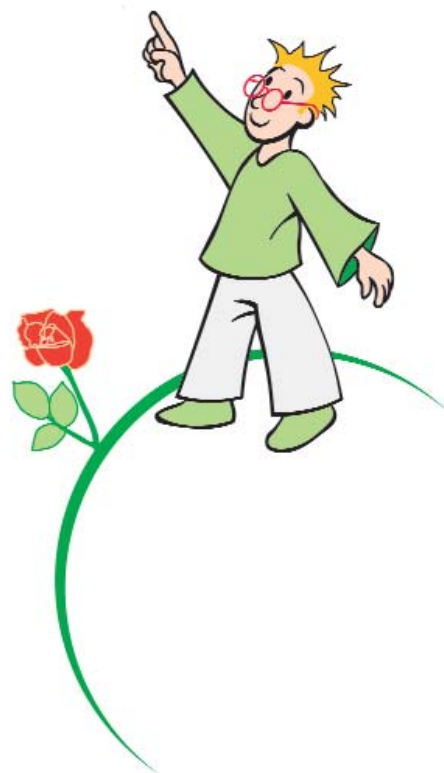




SCIENCE *on Stage 2*

GRENOBLE, 2-6 APRIL 2007

PRESS KIT



SCIENCE *on Stage 2*



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WAKING UP TO SCIENCE !

THE SCIENCE ON STAGE FESTIVAL AS AN ALARM CLOCK FOR SCIENCE TEACHING

How is Europe to tackle its shortage of scientists? The EIROforum Science on Stage festival aims to give European teachers some of the answers they need to take up this urgent challenge. This unique event, showcasing the very best of today's science education, will feature science demonstrations, a science teaching fair with some 66 stands, and a Round Table discussion chaired by the European Commissioner for Science and Research, Janez Potočnik.

Science on Stage will have Grenoble (France) buzzing from 2 to 6 April 2007. A rugby team and a hockey team will take on the power of the vacuum, a cook will demonstrate how science can inspire new culinary ideas, visitors will discover the real colour of the sun, an inflatable model of Borromini's gallery will help to explain the science of optical illusions, and Merlin himself will reveal all about how to make a cake float.

These are just some of the exciting things that will be happening at the EIROforum Science on Stage festival. By showing how fascinating and entertaining science can be, the event aims to attract young people to science and ultimately help to reduce the shortage of scientists in Europe. With support from the European Commission, this international festival will bring together some 500 science educators from 27 European countries. The event will be hosted by the European Synchrotron Radiation Facility, the Institut Laue Langevin and the EMBL Grenoble Outstation, three of the EIROforum partners.

The highlight of the festival will be a Round Table discussion on 'Science Education in the Age of the Knowledge Society - Strengthening Science Education in Europe', which will take place on 5 April 2007 with the participation of the European Commissioner for Science and Research, Janez Potočnik. The panellists - all high-ranking decision-makers - will include the Danish Minister for Education, Bertel Haarder, the MEP Vittorio Prodi, and the Chair of the UK's Engineering and Physical Sciences Research Council, Julia Higgins. At the end of the Round Table, if time permits it, there will be some time for questions from journalists and the audience.

'Curiosity is in our genes', says Potočnik. 'Unfortunately it tends to die away when we grow up. This is because the ways we raise and educate our children and the ways we work and live do not always support innovative thinking and doing. We cannot change this overnight. But I think it is worth making the effort to awaken this dormant passion and initiatives like Science on Stage can be a very effective alarm clock', he adds.

The festival will close with the presentation of the European Science Teaching Awards. The teaching materials and methods voted to be the best in Europe will then be mentioned in the 'Science in School' magazine, distributed free of charge to 30,000 teachers in Europe.

The festival is the climax of a two-year programme of events organised in virtually every country of Europe and from which delegates have been selected for their outstanding projects for promoting science.

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The event follows on from the hugely successful 'Physics on Stage' and 'Science on Stage' festivals organised by EIROforum in 2000, 2002, 2003 and 2005.

Journalists are cordially invited to take part in this unique European event. Practical information, including the detailed festival programme, is available on the Science on Stage web site at <http://www.ill.fr/scienceonstage2007>.

[1] The EIROforum members are: European Organisation for Nuclear Research, CERN; European Fusion Development Agreement, EFDA; European Molecular Biology Laboratory, EMBL; European Space Agency, ESA; European Organisation for Astronomical Research in the Southern Hemisphere, ESO; European Synchrotron Radiation Facility, ESRF; Institut Laue-Langevin, ILL. For more information about EIROforum, go to www.eiroforum.org

The EIROforum Science on Stage festival is supported in part by the European Commission's Science and Society Programme within the framework of the NUCLEUS project and the ESTI programme.

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SCIENCE on Stage 2



THE PROGRAMME

	Sunday 1	Monday 2	Tuesday 3	Wednesday 4	Thursday 5	Friday 6
09:00	9h00 ARRIVAL REGISTRATION AND FAIR INSTALLATION	9h00 OPENING CEREMONY	09h00 PARALLEL SESSIONS			8h00 FAIR
10:00		9:45 Top ten myths				10h00 COFFEE
11:00		10h30 COFFEE				10h30 Prizewinners demo
12:00		11h00 PARALLEL SESSIONS	11:00 The Rino foundation	11:00 A pollutant's tale	11:00 Between magic and science	11:00 Molecular gastronomy
13:00		11h45 FAIR SESSION		11h45 HIGHLIGHTS		12h00 CLOSING
14:00		12h30 LUNCH				13h30 DISMANTLE FAIR
15:00		13h30 FAIR SESSION & VISITS (ESRF-ILL-CISB)			13h30 FAIR SESSION & SPACE EDUCATION EXCHANGE	
16:00		15h30 COFFEE			15h30 COFFEE	
17:00		16h00 FAIR SESSION		FREE AFTERNOON		16h00 -17h15 ROUND TABLE DISCUSSION
18:00		17:00 Secrets of sea depth	17:00 La Main à la Pâte			17h30 - 18h15 HIGHLIGHTS
19:00	18h30 - 20h30 INFORMAL GET-TOGETHER		19h00 - 24h00 GALA EVENING & AWARDS Patinoire Pôle Sud			
20:00	19h30 WELCOME RECEPTION Musée de Grenoble					
21:00			Travel to Hexagone			
			20h00 - 21h00 CULTURAL EVENING "Convergence 1.0." Hexagone			
			Back from Hexagone			
			FREE EVENING			



Fair sessions

Parallel sessions (workshops, seminars...)

On-stage plenary sessions

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SCIENCE EDUCATION IN THE AGE OF THE KNOWLEDGE SOCIETY

STRENGTHENING SCIENCE EDUCATION IN EUROPE

ROUND TABLE

5 APRIL 2007 AT 4PM

PARTICIPANTS:

Gergely Arató - Secretary of State, Hungarian Ministry of Education and Culture

Catherine Cesarsky - Director General of ESO (European Organisation for Astronomical Research in the Southern Hemisphere)

Bertel Haarder - Danish Minister for Education

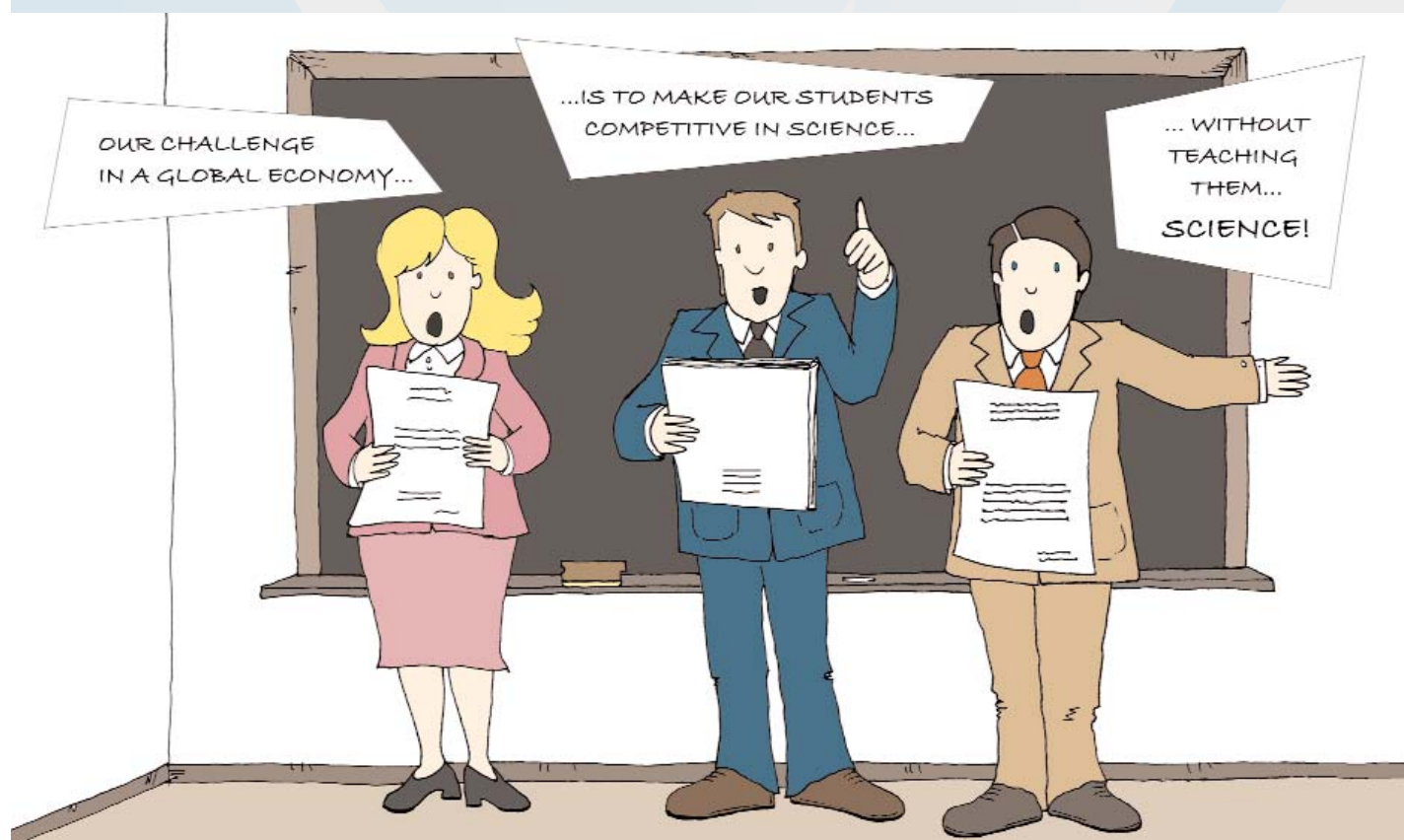
Julia Higgins - Chair of the EPSRC (Engineering and Physical Sciences Research Council)

Janez Potočnik - European Commissioner for Research

Vittorio Prodi - Member of the European Parliament

Richard Wagner - Director of the ILL (Institut Laue Langevin)

Moderator: Claus Madsen, Head of the ESO Public Affairs Department and member of the ESTI International Steering Committee.





SCIENCE EDUCATION IN THE AGE OF THE KNOWLEDGE SOCIETY (CONTINUED)

THE SUBJECTS OF THE ROUND TABLE

The Round Table will address issues regarding the challenge from globalisation, stimulating interest amongst young people in science and technology, gender and minority issues, the role for pan-European initiatives in science education, among other subjects.

The event will comprise opening statements by the panel members followed by a free discussion with the attending audience, a select group primarily of science educators and the media.

The Round Table will try to answer the following crucial questions in science education today:

The European perspective: how can European actions foster or support the strengthening of science education in Europe?

The national perspective: How do member-states address the educational aspects and challenges of globalisation?

Mobilising society: Can Science Education play a positive role vis-a-vis gender issues and in integrating minority groups?

What and how can cutting-edge science and technology contribute to modern science education?

Bringing contemporary science into the classroom: How can The EIROforum contribute to a European strategy to enhance the quality of contemporary science education at school?

How can the European Parliament support a policy of rejuvenation of science education in Europe?

New Dutch science education initiatives – can we learn from them? Can Science on Stage serve as a future 'clearing-house' for best practice and accumulated experience from large national initiatives?

Winning hearts and minds: Making Science Teaching attractive to young people

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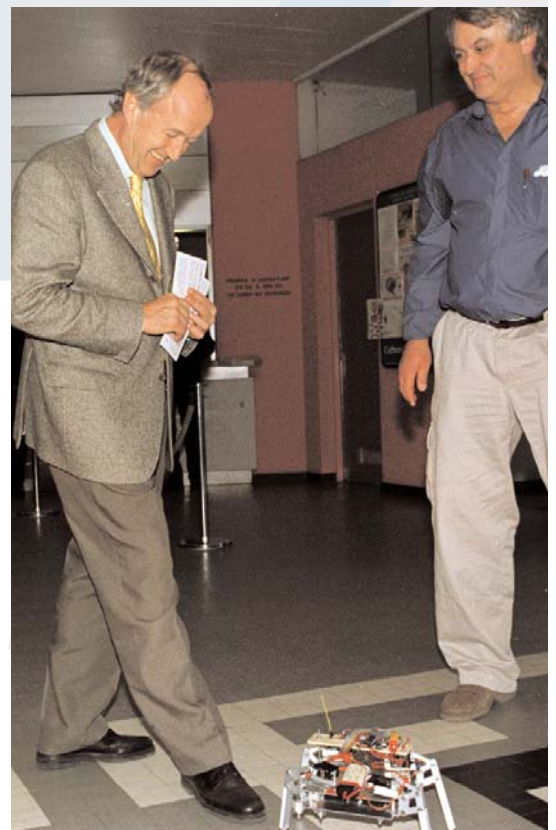


THE FAIR



The fair is an international exhibition, where each delegation can demonstrate the best teaching materials and methods offered to young students of science in their country. Using vibrant and stimulating displays participants will have the opportunity to explain their projects, find out about those of their European colleagues, compare and contrast experiences, gain inspiration from others, and generate new ideas and collaborative ventures. A total of 65 stands will participate in the fair in Grenoble.

Top, bottom, right: Different images of the fair in previous Science on Stage and Physics on Stage events.





FILLING THE STREET WITH SCIENCE

NON-STOP IN FRONT OF CONFERENCE CENTRE

BORROMINI'S CASTLE

In the Palazzo Spada in Rome, the architect Borromini designed an arcade of columns, which is now the most famous example of trompe-l'œil architecture: the gallery appears to be much longer than it actually is.

The "inflatable castle" on display on Place Robert Schuman recreates Borromini's masterpiece. The optical illusion is created by the meticulous and skilful balance between the width, length and height of the inflatable structure.

Visitors will be able to walk around both inside and outside the structure to try to understand how it works.



THE MAGDEBURG SPHERE ONLY TUESDAY 3 AT 4PM

The Magdeburg experiment involves placing together two hemispheres of 40 cm in diameter and creating a vacuum inside. This is done by using a hand pump manufactured specially for the demonstration by a vacuum technology specialist company.

The public is then invited to take part in the experiment and volunteers take it in turns to try, albeit unsuccessfully, to pull the two hemispheres apart. To make the show even more amazing, professional rugby and hockey players will then take up

the challenge, but the strength of the vacuum will prove to be too much for them. The experiment will end when air will be allowed to enter the hemispheres through a small valve fitted to the sphere. Two children will then be able to open the sphere without any effort whatsoever. This experiment will be presented by the Spanish delegation.

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THE DESPERTAFERRO SOLAR CAR

Despertaferro is a solar car which was constructed as part of a master's thesis by the Mediterrani Team (made up of nine students). It was designed to compete in the Australian Sunrace 2000, where it achieved a commendable result. This experiment will be presented by the Spanish delegation.



THE DISCOVERY TRUCK

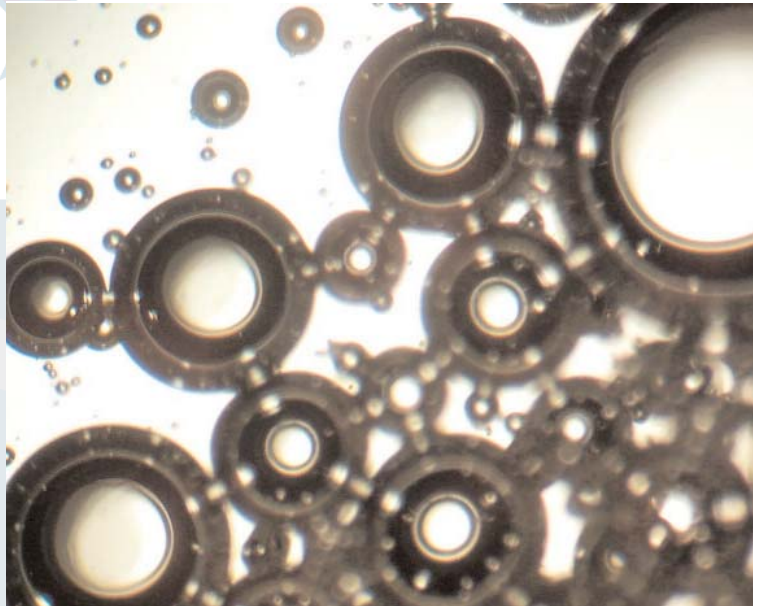
The RuG Discovery is a fascinating science truck of the Faculty of Mathematics and Natural Sciences of the University Groningen. The project aims to attract more students to science studies and increase the awareness of science among the general public as well. The students carry out small experiments that can be performed within one class hour. More information about the Discovery truck can be found at www.rug.nl/discovery, Theo Jurriëns, T.A.Jurriens@rug.nl.

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THE SHOWS ON THE STAGE

The white of an egg after being whisked, and just before adding the oil to make mayonaise.



MOLECULAR GASTRONOMY - WHY COOKING CAN BE USEFUL TO HELP US TO LOVE SCIENCE?

HERVÉ THIS, PHYSICO-CHEMIST INRA

FRIDAY 6 AT 11AM

For 20 years, the scientific discipline called Molecular Gastronomy has developed, through international workshops, lectures, courses... but mainly laboratory work. This science focuses on the various phenomena that occur in the kitchen, while cooking and eating. As any science, it is not technology (applications of new knowledge, produced by science) but science itself, i.e. looking for mechanisms of phenomena.



The conglomele, an artificial vegetable... and a new scientific recipe!

Here, we shall consider some recent results of Molecular Gastronomy, such as how a formalism introduced for describing complex disperse systems can be useful to investigate the world of sauces. And how another formalism useful to describe the non periodical distribution of objects in space can be useful to describe new dishes.

While presenting these two calculations, some experiments will be done to re-invent all traditional ways of cooking eggs (as a model)... and to invent three infinite numbers of new dishes.

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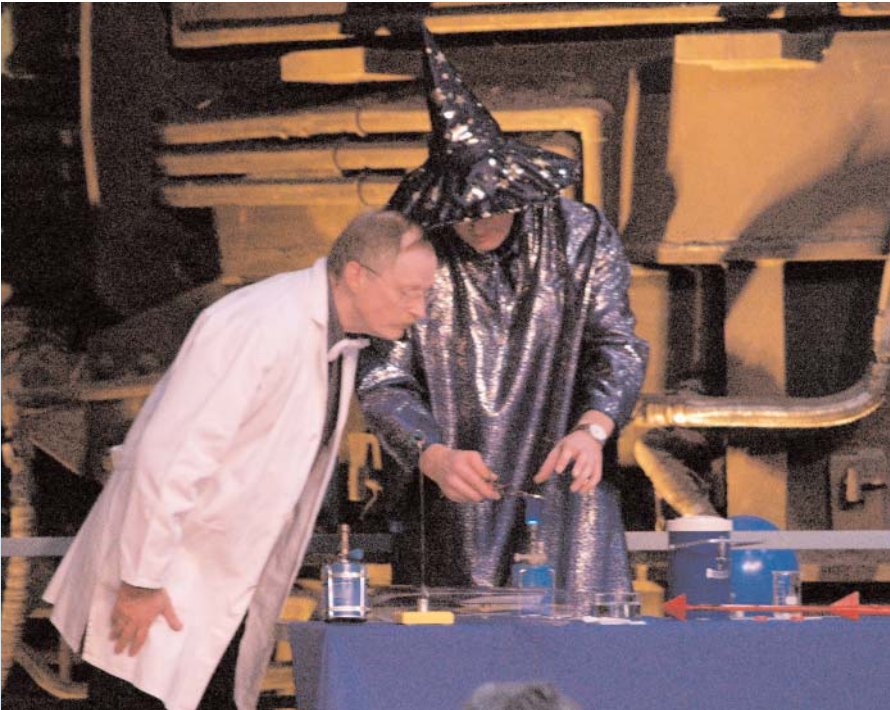


LA MAIN À LA PÂTE - IMPROVEMENT OF SCIENCE EDUCATION IN PRIMARY SCHOOLS PIERRE LÉNA, ACADEMIE DES SCIENCES, FRANCE TUESDAY 3 AT 5PM

For a decade, across the world, the scientific community has become more and more involved in attempts or experiments to improve science education at the elementary level. As a part of a global capacity building, science education is conceived as an active pedagogy, including experimentation, observation, hypothesis, argumentation, and close connection with language acquisition. Improvement of the French methods and teacher training was the initial goal of La main à la pâte, a project started in 1996 under the leadership of the physicist and Nobel laureate G. Charpak. Ten years later, science education has regained a place and proper methods in French primary schools, although there is still a long way to go to train all of the 300,000 teachers. Numerous tools have been produced, including distance resources.

Along with this national effort, many international cooperations have led to exchanges and stimulated creative developments with emerging as well as developed countries. More recently (2006), the Pollen project joined together 12 European partners to establish a common basis in 12 cities for a similar improvement in Europe.

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EXPERIMENTS BETWEEN MAGIC & SCIENCE (PRESENTED BY THE GERMAN DELEGATION) THURSDAY 5 AT 11AM

The experimental show developed for the Science on Stage Festival is on the theme "Experiments between magic and natural science". The competition between a professor of natural science and the magician Merlin is about the question, what is hidden between the shown phenomena – science or magic. Examples include showing a floating cake, candles which are extinguished in a peculiar manner or drinks which magically change their colour. Additionally the audience is fascinated by amazing experiments in the field of high voltage. In one example, this high voltage is simply generated through drops of water, and lightnings bolts of up to 3m in length are produced with a tesla coil. By the time the moderator starts fighting these lightnings bolts with his sword the whole audience holds their breath. During the shows the experiments are not just presented to the audience. The audience becomes part of the interactive show. The explanation of the experiments takes the form of a dialogue with the audience, who get little prizes as a reward.

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A tale about an inconvenient truth?

A POLLUTANT'S TALE (PRESENTED BY THE UK DELEGATION) WEDNESDAY 4 AT 11AM

A 'Pollutant's Tale' is a lecture demonstration for secondary schools and others that initially discusses the structure of the Earth's atmosphere (in comparison with the planets) and its chemical composition before examining the causes and consequences of global warming and finishes with some predictions based on latest model results. Practical demonstrations chosen to enthuse, educate and excite school audiences, punctuate the talk.

This talk has been given over 20 times in the last year to audiences in the UK and Ireland including most recently at The BA Science Festival at UEA.

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TOP TEN MYTHS (PRESENTED BY THE UK DELEGATION) MONDAY 2 AT 9.45 AM

What is the Coriolis effect and does it have anything to do with plugholes in Australia? Can science help us go ghostbusting? Can mobile phones cook an egg - or your brains? What do glowing gherkins have to do with astronomy? All will be revealed in this whistle stop tour of the weird and wonderful world of science. Fact or fiction - you decide.

This science show was developed for secondary school students or adults. It addresses the issues of evidence and proof, but uses light-hearted topics to inform the audience about the processes involved in science. Each of the ten myths starts with an audience vote and in each case an on-stage demonstration is used allowing the audience to see whether the 'fact' is in fact 'fiction'. The myths and topics covered are:

1. Which way does water go down the plughole? (Coriolis force and spinning things)
2. Mobile phones can be used to cook an egg (Electromagnetic spectrum and power)
3. Microwaves cook food from the inside out. (EM spectrum, resonance, standing waves)
4. Toast always falls butter side down (angular momentum, centre of mass)
5. Heavy things fall faster than light things (Gravity and air resistance)
6. A duck's quack doesn't echo (sound waves and echoes)
7. There's no such thing as ghosts (infrasound and acoustic resonance)
8. Lightning never strikes twice (electrostatics and probability)
9. Why is it hotter in summer than winter? (Planetary motion, astronomy)
10. What colour is the sun? (optics, colour perception, astronomy)

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Ready to dive?



In the "deep sea".

THE SECRETS OF SEA DEPTH (PRESENTED BY THE POLISH DELEGATION) MONDAY 2 AT 5PM

The aim of the performance is to show that the laws of physics learned during the lessons allow people to fulfill dreams in practising sports such as scuba-diving and swimming.

The lack of such knowledge or skill when doing every kind of sport can lead to permanent disability or even death.

The problems presented during the classes are illustrated by an experiment using everyday objects and materials and multimedia presentation.

The problems discussed concern issues connected with the motion of pressure, the influence and effects of its changes on human body and other phenomena that a person faces while:

1. diving – the students will analyze the changes of lung volume during diving, diving records of human beings and animals, suitable safety equipment for divers, dangers connected with the influence of higher pressure on the human body at particular depths. The influence of temperature on the divers' organs, hearing and seeing under water.
2. resurfacing – the students will present the dangers for the human body caused by the effect of decreasing pressure and its results such as deep vein thrombosis.
3. floating and swimming - presenters will describe the conditions of swimming of objects. In different situations, they will demonstrate the way submarines works, they will mention the Plimsoll line and demonstrate why it is so difficult to drown in the Dead Sea.

In each situation described they will explain how to behave to avoid dangers.

All the material presented will be illustrated by multimedia presentations and experiments.

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THE RINO FOUNDATION (PRESENTED BY THE DUTCH DELEGATION) TUESDAY 3 AT 11AM

The Rino Foundation is a group of physics students from Leiden University who travel through the Netherlands (and beyond) to show a series of spectacular experiments woven into an interesting talk at schools, museums and public events. This physics show called "Freezing Physics" has had an audience of over 15,000 people in the academic year '05-'06.

Rino is the biggest European physics show group and is closing the gap between the physicist and the general public, thereby improving the public view of physics and physicists in particular.

The show Freezing Physics demonstrates phenomena of physics that occur at low temperature. With the use of liquid nitrogen (-196°C) our students show a series of spectacular effects due to phase-transitions, pressure differences, temperature-dependent properties of materials and, of course, the Leidenfrost-effect and superconductivity. During the talk the (young) audience is encouraged by questions to explain the experiments which are not often seen in classrooms and even less often performed by students.

Along with a structured yet flexible organisation and a motivated team of students, it has been shown that it is possible to contact a large number of people. Since Rino has been increasingly active for the past 3 years and wishes to maintain its position, the current focus is on solidifying the structure of Rino and expanding its activities.

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TICK PATROL - A TINY FOE, AN UNDERESTIMATED ENEMY, A SCHOOL PROJECT FOR YOUR HEALTH!

(PRESENTED BY THE AUSTRIAN DELEGATION)

TUESDAY 3 AT 6.15PM

Nowadays, ticks occupy a still growing range of habitats. The danger associated with their growing population is for example a serious health problem for people who are not informed about the problems caused by a tick bite and the diseases that can be transferred by ticks. For the simple reason that more and more people in our immediate neighbourhood have suffered from Lyme disease or TBE and that these diseases can be prevented through prophylactic treatments, we have taken it upon ourselves to increase our fellow citizens' awareness of this problem. The decision to check the ticks living in the woods around our school was triggered by the fact that a fellow student had contracted the disease. Dressed from head to toe in protective clothing, our Tick Patrol covered a large area of the woods with linen sheets. The 280 ticks caught were killed immediately in 70% alcohol and frozen at minus 20 degree celsius. We recorded all the areas where infectious ticks were found on the map. In our high-tech laboratory, equipped with security level 2, we analysed the ticks, respectively the extracted DNA and RNA, by RT-PCR to detect the pathogens. The result was: 2 ticks infected with lyme disease found directly in front of the dorm!!! The local kindergarten was also interested in our project. The children attending the kindergarten go to play in the woods once a week and this was a good enough reason for the kindergarten to commission us to extend our study to their woods and find out if the problem poses a considerable threat in this area. This was the first job for the TICK PATROL!!