



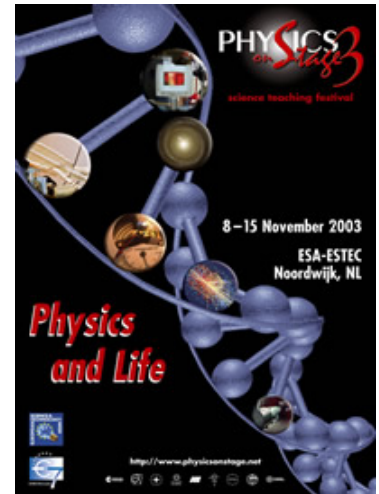
PHYSICS ON STAGE 3

8-15 November 2003

ESTEC, Noordwijk, The Netherlands

Theme : **PHYSICS AND LIFE**

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Festival organised by **Euroforum** for European physics teachers: more than 400 teachers from 22 different European countries come together for a fascinating programme of presentations, demonstrations and workshops. 7 research centres,

The European Space Agency (ESA)
The European Organization for Nuclear Research (CERN)
The European Southern Observatory (ESO)
The European Molecular Biology Laboratory (EMBL)
The European Fusion Development Agreement (EFDA)
The European Synchrotron Radiation Facility (ESRF)
The Institut Laue-Langevin (ILL),

have created the **Euroforum**, (European Intergovernmental Research Organisation Forum, www.euroforum.org) to providing teaching support in the most effective ways possible to European physics teachers and students.



1. About “Physics on Stage” (PoS)

“Physics on Stage” is a marvellous event to promote physics and physics education. It is a European wide program for physics teachers organised by Euroforum to make physics easier to understand and even to make physics fun.

Euroforum want to improve science teaching in schools throughout Europe. For this purpose, they want to create novel educational resources to make science more attractive to students. They provide the infrastructure for a proposal for the continuation and further development of “Physics on Stage”

For the 3rd time, Physics on Stage was a fascinating and tiring week, very rich in informations ! We would like to thank the organizers, the Euroforum, to have made possible an event of such scientific quality and to have provided the European teachers with material and with a very performing technical and administrative support.

More than 400 teachers came to discover and to learn. Numerous ideas, experiments and methods were exchanged with lot of enthusiasm by teachers coming from different European countries. They made “Physics on Stage” a very great and memorable success.

2. Activities at “Physics on stage 3”

This time, the program of “Physics on Stage 3” was divided in 5 different activities.

- **The presentations:** presentations of outstanding projects, innovative demonstrations, successful methods. They reflected the diversity of science education projects existing throughout Europe;
- **The workshops:** opportunity to discuss central issues and formulate recommendations to the Euroforum and to those responsible for education.
- **The seminars:** introductions to research programs in the 7 research centres of Euroforum
- **The fair :** big “market” with numerous ideas presented by each country in its own stand
- **The performances:** theatre, music or any other artistic way to present the wonders of physics

3. The Belgian delegation



the Belgian delegation at the fair

Belgium was represented by a group of 11 colleagues coming from all parts of Belgium:

Patrick Walravens and Inge Arnould presented numerous very interesting experiments on the fair.

Marc Govaert was responsible for the successful presentation “playful physics”, a physics show demonstrating basic principles with only home, garden and kitchen material.

Wim Peeters presented a kit of physics demonstrations for pupils aged from 14 to 17 years.

Philippe Jans presented a very didactic model of nuclear magnetic resonance accompanied by several experiments explaining clearly the physics attached to the technique.

Philippe Mergny presented the properties of inertial moment.

Bernadette Anbergen and Francis Moreau presented a rich collection of all types of capacitors and demonstrated their properties and applications through numerous nice experiments.

John De Poorter presented a project introducing the method used by Galileo to understand movement. Students are invited to make predictions to realise experiments and to discuss the results in order to overcome their misconceptions.



John Depoorter and Marc Govaert at the fair

Francis Hermans, responsible for the “Experimentarium” at the Brussels university visited “Physics on Stage” during one day.

The Belgian delegation had much success with the presentation “playful physics” and with the numerous experiments presented at the Belgian stand of the fair.

4. The presentation «playful physics»

by Marc Govaert, Patrick Walravens, Inge Arnoud et Mileen Malbrain had a very great success. Marc Govaert received the price attributed by the ESRF for his original ideas, his astonishing experiments presented with much humour and enthusiasm. This price consists in a visit to the ESRF in Grenoble together with some colleagues and students.





5. The nuclear magnetic resonance, Philippe Jans

A great number of innovative experiments were presented at the Belgium stand during the fair. They attracted many teachers. VIP's were also very interested. H.R.H. Johan Friso accompanied by Professor W. Ockels stayed a long time in front of our stand listening to the explanations provided.



Philippe Jans presenting the nuclear magnetic resonance to H.R.H. Prince Johan Friso , Prof. Dr. W. Ockels and Her Excellency Mrs. M. van der Hoeven , Dutch Minister of Education, culture and Science

6. Capacitors properties and applications by Bernadette Anbergen and Francis Moreau



Bernadette Anbergen presenting capacitors' properties

The VIP's were particularly interested by our experiments: those linked to everyday life, for example those on the bicycle, which is not surprising in the Netherlands, but also those about the capacitors presented by Bernadette Anbergen.

7. Simple experiments of everyday life by Marc Govaert



A member of the Prince's suite interested in Marc Govaerts' explanations



H.R.H. Prince Johan Friso and Prof. Dr. W. Ockels accompanied by members of Euroforum at the Belgian stand

8. Simple experiments which make you think by Patrick Walravens and Inge Arnould



Patrick Walravens and Inge Arnould presenting an interesting question about refraction

9. Three dimensional magnetic and electrostatic field models by Mileen Malbrain

Mileen Malbrain presented very artistic 3 D model of magnetic and electrical fields

10. The workshops

The teachers present at PoS 3 could collect a very large documentation: posters from the research centres, numerous CD's and documents which can be very useful in their classes. All those useful documents should be distributed to all physics teachers throughout Europe.

The workshops have attracted the attention on the need to constitute a data base of the experiments presented at POS3 and create a team to keep the database updated. To ensure the diffusion in each participating country of all the informations collected at the festival, national centres should be created where materials, experiments and data would be available for all physics teachers.

11. The future of “Physics on Stage”

The great success of « Physics on Stage » has pushed Euroforum to widen the version of “Physics on stage” not only in terms of subjects but also of participating countries. The next festival would be called “Science on stage”. More than 400 teachers of all scientific disciplines and from 30 countries should take part. The theme would be “Can science still make us dream? “Science on stage “would take place in Grenoble in April 2005 (to be confirmed).

12. Introduction to “Science on Stage”

- Wednesday 26 may 2004 at the UMH (Université Mons-Hainaut) during the International scientific meeting organised by the Belgian Physical Society:
- Experiments and ideas collected during the festival will be presented by the 11 participants to “Physics on stage 3”.
- We will have the participation of Professor Gilles de Gennes. Each Belgian physics teacher will be invited.
- Documentation and a kit with experiments will be distributed at the end of the afternoon.