

PANS meeting, Bergen Museum of Natural History, May 9-10, 2003

Programme

Friday, May 9

13.30 Informal lunch (in the meeting room)

15.00 Welcome and announcements (Jan Vaagen and Christoph Bargholtz)

15.15 What has been accomplished and what needs to be done

The Exhibition (Alessandro Pascolini)

Discussion

The Book (Ray Mackintosh)

Discussion

PANS-INFO (Ursula Renk and Rafael Reyeros)

Discussion

PANS-WEB (Christoph Bargholtz)

Discussion

Raising the awareness in the scientific community (Christoph Bargholtz)

Discussion

16.40 Intermission

17.00 Progress report NUPEX (Heinz Oberhummer and Rafael Reyeros)

17.30 CD-ROM project (Alessandro Pascolini)

Discussion

18.00 PANSI3 a proposal for Enhanced information on Nuclear Research within EURONS
(Helmut Leeb)

18.30 Tutorials in Nuclear Science, an example (Herbert Wiehl)

20.00 Dinner

Saturday, May 10

9.30 Presentation by the Outreach department of the University of Bergen

10.10 Status of the Energy project (Helmut Leeb, Jan Vaagen)

10.30 Intermission

10.50 Discussion on Energy project

11.20 EuroScience Open Forum 2004 (Christoph Bargholtz)

11.30 The new PANS proposal

Report on discussions with EU-officials (Christiane Leclercq Willain)

Open call within Science and Society Action Plan (Christoph Bargholtz)

12.00 Lunch

13.00 Discussion of new proposal (with an introduction by Helmut Leeb)

15.00 Closure of workshop

List of delegates

1. Christoph Bargholtz	Stockholm University, Sweden	bargholtz@physto.se
2. Marc Beddegenoodts	Katholieke Universiteit Leuven, Belgium	Marc.Beddegenoodts@fys.kuleuven.ac.be
3. Jules Deutsch	UCL, Belgium	deutsch@fynu.ucl.ac.be
4. Ludwik Dobrzynski	Soltan Institute for Nuclear Studies, Poland	ludwik@ipj.gov.pl
5. Stevan Jokic	Vinca inst. of Nucl. Sci., Belgrade, Serbia and Montenegro	sjokik@vin.bg.ac.yu
6. Hans-Joachim Körner	Technische Universität München, Germany	Hans-Joachim.Koerner@physik.tu-muenchen.de
7. Sissy Körner	NuPECC	sissy.koerner@ph.tum.de
8. Dionysis Konstantinou	High School Teacher, Lamia, Greece	dionkon@otenet.gr
9. Andrej Kugler	Nucl. Phys. Inst. ASCR, Rež, Czech Republic	kugler@ujf.cas.cz
10. Christiane Leclercq-Willain	UL Bruxelles, Belgium	cwillain@ulb.ac.be
11. Helmut Leeb	Atominstytut der Oesterreichischen Universitaeten, Austria	leeb@kph.tuwien.ac.at
12. Jan R. Lien	University of Bergen, Norway	jan.r.lien@fi.uib.no
13. Gunnar Lövhiden	University of Oslo, Norway	gunnar.lovhoiden@fys.uio.no
14. Ray Mackintosh	Open University, England	r.mackintosh@open.ac.uk
15. Daniel R. Napoli	INFN, Legnaro, Italy	Napoli@lnl.infn.it
16. Heinz Oberhummer	Atominstytut der Oesterreichischen Universitaeten, Austria	ohu@kph.tuwien.ac.at
17. Alessandro Pascolini	Padua University, Italy	pascolini@pd.infn.it
18. M. Teresa Pena	Instituto Superior Tecnico, Lisbon, Portugal	teresa@cfif.ist.utl.pt
19. Ursula Renk	R&R.COM, München, Germany	ursula.renk@r-u-r.com
20. Rafael Reyreos-Bienert	R&R.COM, München, Germany	rafael.reyeros@r-u-r.com
21. Istvan Uray	Institute of Nuclear Physics (ATOMKI), Debrecen, Hungary	uray@moon.atomki.hu
22. Jan Vaagen	University of Bergen, Norway	jv@sentef1.fi.uib.no
23. Herb J. Wiehl	Physics teacher, Switzerland	herby@physikcd.ch

Minutes

Status of the Exhibition (Alessandro Pascolini)

Radioactivity: a facet of nature
An exhibition on the occasion of the ESTW 2000

- *Radioaktivität – Facette der Natur*, Wiesbaden, 6–28 November 2000,
- *La radioactivité, une facette de la nature*, Paris, Palais de la Découverte, 6 November 2000 – 4 March 2001
- *La radioactivité, une facette de la nature*, Caen, Conseil Régional de Basse-Normandie, 14 January– 7 February 2003
- *La radioattività, una faccia della natura*, Milano, Università La Bicocca, 6 November – 8 December 2000
- *La radioattività, una faccia della natura*, Torino, liceo Segrè, 21 February – 17 March 2001
- *La radioattività, una faccia della natura*, Bressanone, Forum, 3–15 December 2001
- *La radioattività, una faccia della natura*, Pisa, Stazione Leopolda, 1-23 February 2002
- *La radioattività, una faccia della natura*, Sesto Fiorentino, Polo scientifico, 14 April–8 May 2002
- *La radioattività, una faccia della natura*, Gorizia, Liceo Duca degli Abruzzi, 15–30 May 2002
- *Da Fermi ai quark*, Pordenone, Covento di S. Francesco, 29 March-27 April 2003,
- *Radioaktivitás: a természet része*, Debrecen, 10–19 September 2002
- *Radioaktivitás: a természet része*, Paks, November 2002
- *Radioaktivitás: a természet része*, Budapest, 3–14 February 2003

General comments

- **visitors**: an average of 2500 persons, mostly high school students in guided tours, have visited the each exhibition
- **collateral activities**: each edition has been complemented by several didactical activities, such as seminars, meetings...
- **local research activities** could also be presented on the occasion of the exhibition
- **opening ceremonies**: formal openings have given the local scientific community opportunity of contacts with political authorities, scientists of different disciplines, local media

- **nuclear physicists** have been forced to become aware of the importance of communicating their science to the public, often for the first time
- **information material** on nuclear physics has been distributed to visitors, as a complement to the exhibition to further spread information on our field. Several thousand copies of the CD-rom with a virtual visit to the exhibition have been distributed
- **the architectonic structure** has been proved to be strong enough to allow several uses, simple to mount and dismount (mounting: 2 day work for 4 persons, dismounting: 1 day work for 4 persons)
- **costs** largely depend on the program of local activities and vary from 20k to 30k euro

Future Programs

Italian edition: Genoa, fall 2003, Siena

French edition: Belgrade, fall 2003

New Portuguese edition: several venues, fall 2003

Status of the Book (Ray Mackintosh)

Progress with translations of Nucleus

Country	Progress
Czech Republic	Brochure shown last meeting
Serbia	Book to appear in a few months
Hungary	In proof.
Sweden	Translation complete.
Portugal	<i>Porto Editora</i> about to sign returned contract.
Italy	Some progress... copy sent to <i>Nuova Argos</i> .
Netherlands	Problems with company; Schuyt restructuring (they had been enthusiastic) probably only a delay (Robin still optimistic).
Germany	Slow progress; continuing dialogue with agent.

Far East	Robin is negotiating with major publisher <i>Tuttle-Mori</i> ; hopeful for Hong Kong, Singapore, Taiwan and China. Japan in particular is almost certain, Jim Al-Khalili had contact via nuclear physicists.
France	Seem to have their own popular books; little interest among publishers.

Status of PANS-INFO (Rafael Reyerros)

Rafael reported that the tool works (some quite some time). What is needed now are resources to host the site and to supervise and edit the content. So far 40% of those that volunteered to contribute contents at the meeting in Dresden have done so.

In the discussion the importance was pointed of having an operational site in English as soon as possible. Efforts will be made by the Munich-team to enter the contents available so far and to remove technical inadequacies associated with the present server. Christiane will make soundings for hosting the site in Belgium. The address is www.pans-info.org

Status of PANS-WEB (Christoph Bargholtz)

The material to be found on the server at HMI should be better integrated into other PANS webpages. Christoph discusses this point with Wolfram von Oertzen.

Raising the awareness in the scientific community (Christoph Bargholtz)

We have to continue our efforts directed towards colleagues. PANS should therefore make presentations at scientific conferences. This year such presentations are scheduled, among others, at the 10th Nordic Meeting on Nuclear Physics in Oslo (May 12-16) and at the 5th General Conference of the Balkan Physical Union (August 25-29).

The work of PANS has been presented in an editorial in Nuclear Physics News International and in an article in Physics Education.

Progress report NUPEX (Heinz Oberhammer and Rafael Reyerros)

The NUPEX project officially commenced at the beginning of 2003. Heinz presented its homepage:

<http://www.nupex.org>

The platform for producing material is now available. The rest of this year will be used to produce such material in English. Next year will be needed for translations.

Rafael reported on the result of a questionnaire that has been sent to teachers in Belgium, Germany, Greece, Great Britain, Italy, Malta, Austria, Poland and Hungary:

Test period was from 3/10/2003 to 4/10/2003.

- Questionnaires were sent to selected Physics teachers in Belgium, Germany, Greece, Great Britain, Italy, Malta, Austria, Poland and Hungary.
- Clarity and reliability for the content-work.

- Acceptance of offerings such as NUPEX.
- 255 completed questionnaires were returned.
- 6 pages with 5 topics.
- 25 questions were posed of which 19 were multiple choice.

6 questions allowed the respondents to formulate their own answers.

- The basis for the Physics classes held throughout the «NUPEX Area» is not limited to physics in its classic form, but also includes modern physics. (chart 1.1)
- Many teachers are very concerned about the language and style used to present NUPEX to a young audience. NUPEX must put special emphasis on this age group. (1.2)
- Between 70 and 80 percent indicated they would use offerings like nupex.org either for their personal information or for lesson planning. (2.1| 2.2|2.3|2.4)
- Complete courses and information on new research findings. (2.5)
- NUPEX materials to serve as a teaching medium in class or for individual work at school or at home. (2.6)
- The willingness to use NUPEX modules is nearly 60 percent Only 5 percent «No». (2.7)
- Experimental simulations, video and interactive screen experiments scored highest.
- A tendency towards more multimedia and «entertaining» materials such as videos or experiments. (2.8)
- The teachers are very conservative in their estimates when asked to assess the willingness of their pupils to use nupex.org.
- Only 16 percent of the teachers indicated that there was little willingness is a vote in favour of nupex.org. (3.2)
- Technical equipment is better than expected. (4.1|4.2)
- Interest in NUPEX and the next steps is very high. (5.1|5.2)

The complete results can be found in an attached pdf file

Ray Mackintosh presented a suggested plan for a module on radioactivity with five different “tracks”.

1. Radioactivity: everywhere in Nature.
2. Radioactivity: what it is (nuclear and radiation physics)
3. Radioactivity: why our lives may depend on it (applications)
4. Radioactivity: what it does (radiation physics and measurement)
5. Radioactivity: what it tells us (nuclear and quantum physics)

Status of the CD-ROM project (Alessandro Pascolini)

Alessandro reminded the audience that it is now 300 years since Leibniz introduced the binary system.

The CD-ROM is intended as a high-quality, interactive, audio-visual presentation of Nuclear Physics, Nuclear Astrophysics, Nuclear Environmental Physics and Applications on approximately the same level as the book.

It should appear in 2005, the International Year of Physics and be distributed to schools throughout Europe. It needs a strong commitment and approximately 500 kEuro.

PANSI3 a proposal for Enhanced information on Nuclear Research within EURONS (Helmut Leeb)

The proposal which has been submitted to the EU (FP6) can be found in an attached pdf-file.

Tutorials in Nuclear Science, an example (Herb Wiehl)

Herb presented an overview of his physics tutorials in general www.physikcd.ch and then gave a brief summary of the nuclear physics tutorials which are also available in English www.physicscd.com. From one of the nuclear physics tutorials a few pages were shown. The physics is presented by using animation, pictures, videos, text and spoken commentary. The tutorials are running under WINDOWS 95/98 and can be used in the Gymnasium, high school or college.

Presentation by the Outreach department of the University of Bergen (Elinor Bartle)

The presentation can be found in the attached PowerPoint-file.

Status of the Energy project (Helmut Leeb, Jan Vaagen)

The energy issue should be part of the overall strategy of PANS. At the present stage high-quality information on energy should be included in both NUPEX and PANS-INFO. Work on material for PANS-INFO is commencing targeted at the layman with an average education.

EuroScience Open Forum 2004 (Christoph Bargholtz)

Christoph informed on the Forum August 25-28, 2004, in Stockholm www.esof2004.org. The deadline for proposals is September 15th. PANS should be present, in one form or another, if at all possible.

The new PANS proposal

A new proposal under the Science and Society open call was discussed. No immediate conclusions could be reached regarding the main emphasis of such a proposal. The board was assigned the task to formulate a suitable proposal to the EU based on a number of suggestions:

1. CD-ROM and posters
2. New means of dialogue such as workshops for employees of the EU and members of the European Parliament on the benefits to Society of Nuclear Science, or in-depth surveys of attitudes to Nuclear Science including their dependence on sex and nationality.
3. A travelling laboratory of Nuclear Science for everyone.
4. PANS-INFO
5. European Science and Technology week
6. World Year of Physics

These notes were collected by Christoph Bargholtz .