

In this newsletter: **Frontiers 3rd Research Meeting** ■ **Invitation for the Annual Meeting 23-25 October 2007** ■ **The Frontiers Technology Assessment Program** ■ **NanoBio Europe, Collaboration with Qiagen GmbH** ■ **Gender Action Survey** ■ **Calendar** ■ **Inlay: past events**

FRONTIERS 3RD RESEARCH MEETING

The third Frontiers Research meeting took place in Toulouse, May 9-11th. The kick-off was a keynote lecture by the host, Christian Joachim (CEMES), who entertained the audience with his insights in molecular machines.

The second and third day of the meeting were filled with mainly lectures and poster sessions. Topics of the presentations ranged from fundamental research to commercial applications of nanotechnology. The seniority of speakers ranged from first-time speakers such as Ph.D.-students to well-established senior researchers. The informal atmosphere at the meeting turned out to be stimulating for all speakers.

During the afternoon of the second day a discussion session was organized. The topics were left quite open and the only suggestion made was that the discussion should concern the future of nanotechnology or Frontiers or a combination thereof. Initially only very few



topics came up, but the first few suggestions sparked inspiration amongst the participants and soon a full range of topics was suggested. The topics were grouped into four general areas and each area was assigned a moderator and a reporter, after which groups were formed. Instructions to the moderator were to try and include everybody in the discussion and to work together with the reporter, who was assigned the task



of writing a short report on the topic.

The inclusion of these discussions into the program of a research meeting was certainly an experiment in the Frontiers network. Short reports on the discussions were distributed amongst the participants afterwards.

Topics were:

- Biosensor-related issues
- Future applications of (bio)nanotechnology; can Star Trek become reality?
- Future trends in drug delivery
- Trends and issues in the field of nanostructured surfaces

The discussion report is available at the Frontiers intranet www.frontiers-eu.org or through the Frontiers Office m.a.b.snippers@utwente.nl.

GENDER ACTION SURVEY

Following the success and interest generated by the 2006 gender action survey (GAS), the gender awareness work package for Frontiers is planning to conduct an enhanced survey for the next academic year. Frontiers has decided to continue this work with an extended equality and diversity survey (E&D). The E&D survey will use the same team of researchers from Cambridge University as the GAS. In doing so it is envisaged that the maximum output of relevant data can be gathered.

The previous survey shed light on the current problems faced by young researchers, such as temporary contracts and the difficulties in balancing work and family life. Problems like that affect both genders and take place across the different nationalities included. Not only this, it has also been useful to identify some of the key areas where young women face issues not necessarily felt by their male counterparts.

By running the new survey, Frontiers partners will benefit by further understanding of the issues that face researchers in the common community. The greater and more detailed data set hoped for the new survey will lead to a unique opportunity to identify precise problems and to consider possible solutions. The planned analysis and report should serve as

FRONTIES ANNUAL MEETING 2007

This year's Annual Meeting will take place in Belgium at the Novotel hotel in the city of Leuven from 23-25 October 2007. Please mark these dates in your agenda.

The meeting will start on Tuesday 23 October at 17h00 with welcome drinks and a keynote lecture. On Wednesday there will be several presentations and poster sessions. In the

afternoon a social event will be organized in the Faculty Club: Belgium beer tasting followed by a nice dinner. On Thursday 25 October the program will continue until lunchtime.

This year we will pay special attention to the SRA themes. Feel free to send us your suggestions for (oral) presentations.

Please visit Frontiers website for more information and registration: www.frontiers-eu.org.

a guide for improving working conditions and employment prospects for all employees in the Frontiers institutions.

BRINGING SOCIETAL AND INNOVATION ASPECTS INTO THE R&D CONTEXT:

The Frontiers Technology Assessment Program

In answer to the general call for inclusion of societal and ethical debate upstream (in the world of R&D), the Ethics and Societal Aspect Work package (WP8) was initiated as a core element of the Frontiers Network of Excellence.

There is an increasing expectation of researchers to enter the debate and take early action with regards to the possible future applications research and think of societal aspects and ethical issues. In addition there is pressure to deliver science and technology research that can be taken up and turned into products (pressure to patent as opposed to publish, spin-offs are promoted/expected etc.). This is not a new situation, but is particularly emphasised with research under the banner of nanotechnology.

To address this situation in a way that could aid decision making by researchers dealing with these issues, the Technology Assessment Programme was initiated as part of the Ethics work package and in close collaboration with the Science to Industry workpackage.

The programme combines research into the various issues with interactive multi-stakeholder workshops. The programme has been combined with a number of research projects of social scientists, allowing in depth research through a compromise between social science research targeting and the interests of the Frontiers Network.

The workshops participants have included researchers, industry, regulation people, the media, philosophers, sociologists and medics to explore some of the major non-research issues researchers today have to face. ➤

NanoBio-Europe:

The second Frontiers industrial seminar took place in Münster, June 13-15, 2007 as part of the third NanoBio-Europe. About 350 participants from academia and industry attended the conference. The Frontiers network was platinum sponsor of the event and part of the exhibition (Frontiers booth). Furthermore a number of Frontiers members (Vinod Subramaniam, Gorgette B. Salieb-Beugellar, University of Twente, Sys Zoffman Glud, iNANO, Bieke Van De Broek, Kurt Winters, IMEC, Hans-Peter Lang, NCCR Basel, Bart Jan Ravoo, University of Münster) presented their research as part of the scientific program. In addition Leif Smeby (member of our "Master Classes") moderated the session "Future Challenges" that included a panel discussion about future challenges in nanotechnology. During this conference Frontiers had several meetings about possible collaboration with a number of companies.

Collaboration with Qiagen GmbH:

In August 2007 Rolf Vermeij (WP leader research) and Holger Winter (WP leader S2I) visited Qiagen GmbH in Hilden (Düsseldorf) to present the Frontiers network. Since that time several Qiagen employees attended Frontiers meetings. Currently Qiagen and NCCR Basel are working on a joint FP7 proposal. Furthermore, visits between the University Münster (Prof. De Cola, Dr. Kottas) and Qiagen are planned.



Three projects have been conducted so far:

- Bridging the gaps in the innovation chain for integrated microfluidic chips
- New relationships between science, regulation, industry and clinics in nano-enabled drug delivery
- The power of visions and images in the shaping of research agenda, policy and citizen opinion – with a focus on molecular motors and machines.

First round results will be presented during the Annual Meeting in October. More information will be available soon on the website www.technology-assessment.eu

With an increasing emphasis on responsible science and innovation (see the European Action Plan for Nanotechnology) there is an increasing scrutiny of early stage research and calls for research scientists to be held accountable for the possible positive/negative outcomes of their research. The Frontiers Technology Assessment Programme approach seeks to explore the optimum way for researchers to become involved whilst remaining aware that the core activity of the network is excellence in research.

CALENDAR

**Frontiers Board Meeting,
September 4, 2007, Regus Schiphol Airport**

More info: Frontiers Office,
m.a.b.snippers@utwente.nl

**Frontiers Review Meeting,
October 22-23, 2007, Novotel Leuven City Centre**

More info: Frontiers Office, info@frontiers-eu.org

**Frontiers Annual Meeting,
October 23-25, 2007, Novotel Leuven City Centre**

More info: Frontiers Office, info@frontiers-eu.org

**Seminar on “How to attract good students to nanotech: Best Practices”,
October 23-25, 2007, Novotel Leuven City Centre
(parallel to Annual Meeting)**

Contact persons: Monique Snippers and Rolf Vermeij (m.a.b.snippers@utwente.nl)

**Seminar on Knowledge Exploitation,
(during Annual Meeting)**

Contact person: Holger Winter, hw@centech.de

COLOFON:

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EVENTS

Advanced Technology (student activity),

March, 20, 2007, Enschede (NL)

The faculty of Science and Technology organized an afternoon for student in the bachelor program "Advanced Technology". These students need to chose a master program to continue their study and Frontiers was present with the booth, general information on the network and material on the joint curriculum.

Smart System Day (student activity),

April 12, 2007, Enschede (NL)

This one day event attracted 80 students who are interested in (nano)technology. After a few presentations, the students were invited to the lab to taste nano technology in practice by assembling an alcohol sensor (sponsored by Frontiers) from several small parts.



Microsystems (student activity),

May 7, 2007, Enschede (NL)

On 7 May a one day symposium on microsystems was organized by students. Frontiers was present with the booth and other PR-material. A competition was organized by which 2 students could win a ticket to the Frontiers Research Meeting in Toulouse 9-11 May 2007 or Frontiers Annual Meeting in Leuven 23-25 October 2007. Johan Smits visited the Research Meeting and Reinder Hilarius will come to the Annual Meeting in October.

INASCON:

International Nanoscience Conference for students

July 7-10, 2007, Silkeborg (DK)

Nanoscience students from iNANO, University of Aarhus and NCCR, University of Basel have organized the first nano student conference, INASCON. The conference was held July 7th-10th, 2007 and took place near Silkeborg in Denmark. In total 101 students from 18 universities in 9 countries participated – of these 86 students were from Frontiers partners. Most of the students were undergraduate students, while a few PhD students also participated.

The program consisted of an excellent mixture of scientific talks, workshops and more student related issues. The scientific talks were presented by five leading international scientists, three of them taking up positions at Frontiers partners, and by eight of the participating students. All students presented their bachelor, master or PhD project through a poster session, and the three best posters were awarded with prizes.

During several workshops and discussion sessions themes like employment after university, nanotoxicology, combining a scientific career with family life, the nano hype and nanoscience in public media were presented and discussed. During the social get-together one of the evenings, existing nano products were presented and demonstrated. Moreover, the possibilities for student exchange, especially through the Frontiers Joint Curriculum, were presented.

The conference was very successful and participants as well as the invited speakers expressed their admiration for the work performed by the organizing committee. Moreover, the invited speakers were very impressed by the high level of engagement by all the participants. In conclusion, the conference may be recapped by a citation from the industrial speaker: "...indeed it was a great pleasure, lots of really interested and bright people. Very promising for the future."

For more information, see www.INASCON.org