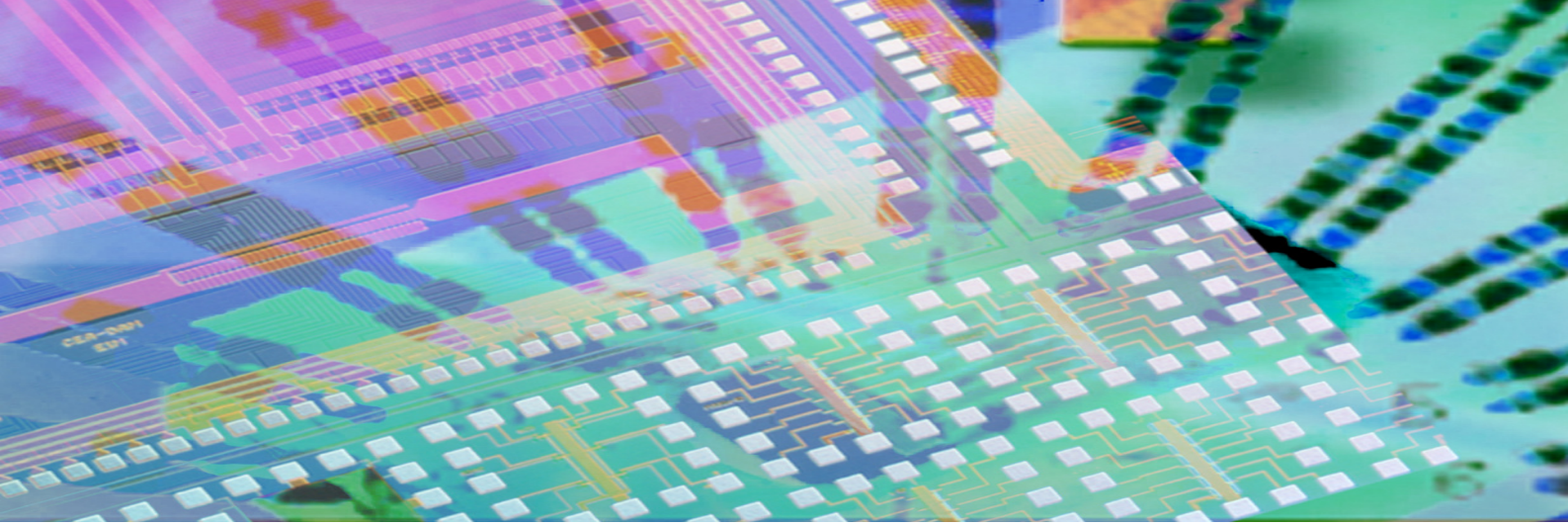

Nano2Life
External Newsletter

Dear reader,

Welcome to the first issues in 2007. In our external newsletter, you will find the latest information about our activities, you can subscribe to Europe's first class events and much more ….

Happy Reading!

The editors

Comments and contributions to n2l@bioanalytik-muenster.de

news and activities

Nano2Life Research School, Neuchâtel, 15th– 19th January 2007

Sixteen N2L young scientists attended the second Research School in Neuchâtel from January 15 to 19, 2007.

Focus of the school was Neuroengineering with highly interesting contributions by professors from the University of Neuchâtel and from EPFL. Prof. Miguel Nicolelis, a pioneer in neurosciences from Duke University (NC, USA), addressed the technological challenges of the field while Prof. Gwendal Le Masson, from INSERM (France) raised the medical challenges.

FSRM, who organised the school, managed to gather 13 high level contributions.

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Emerging Nanotechnology based on Oncology

The workshop "Emerging nanotechnology-based oncology", held in Archamps, France, on January 11 and 12, 2007 was organized to bring together scientific and medical communities involved in research and treatment of cancer. The aim was twofold:

- to discuss most challenging medical issues in diagnosis and treatment of cancers, in relationship with possibilities offered by innovative technologies such as micro and nanotechnologies
- through a thoroughful analysis of these critical challenges, to provide a European base for efficient and fruitful collaboration between oncologists and nanotechnologists.

The 46 participants were coming from 14 European countries and are experts in oncology and in micro and nanotechnology. We had a mixed audience of representatives of agencies, physicians, biomedical or micro-nano researchers and industrial companies. Although time was relatively short (1,5 day) participants attended to 3 plenary sessions related to challenges and role of micro and nanotechnologies in diagnostics and therapy, as well as R&D policies in Italy, France and Europe. They worked in 3 parallel groups, to identify medical issues and possible solutions based on nanotechnology:

- Identification of molecular signatures in body fluids,
- Analysis of tumour cells and biopsies
- Therapeutics and theranostics

This workshop was fruitful in several perspectives, by contributing to interface disciplines:

- oncology, technology, chemistry, biochemistry, physics...
- Integrating EU organisations: 41 organisations actively participating via their experts
- Disseminating the information via (at least) two NoEs
- Elaborating new research projects and new European future initiatives
- Addressing a hot social EU issue: cancer

The plenary session presentations provided up to date information in the various aspects of this field. Through examples, they allowed on the one hand specialists of technology developments to consider medical issues and actual difficulties or needs from the physicians, on the other hand medical and biologist partners to access to promising innovations at the cutting edge of the knowledge.

The evening round table highlighted strategic reflections related to nanotechnology and cancer, with examples at European, national and regional levels.

The three parallel groups offered the opportunity to seek deeply into practical issues and produced several specific action intentions. This has motivated the participants to support the organisation of future meetings which will address more specific issues.

As a first step of collaboration between nanotechnology and oncology communities in Europe, we consider the Archamps workshop as a good success.

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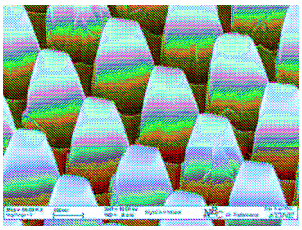
Nano2Life Offers and Requests

Following the success of the first edition of the catalogue, we are currently editing the second version.

This initiative targets N2L researchers who are looking for scientific, industrial or financial partners. It aims mainly at fostering **technology transfer** and **licensing** from public sector research institutions to private companies as well as at providing a platform for enabling **contact** between potential technological partners (research labs, SMEs, industries, etc.) for the **implementation of existing research projects** or the **development of new ones**.



Each research group head will have again the opportunity to promote the technology offers of her/his lab as well as the possibility to find missing know-how/partnership. The information requested regarding the research group name and contact details will be kept confidential and not appear on the e-catalogues. Only a brief and general description of the research/company's work will be included.

Participants will be able to select partners and to be selected for future co-operations according to their own individual capabilities or requirements. Interested parties will be able to view all participants' technological offers, know how, and requests on the N2L website and ask for further contact. At the same time, the e-catalogue, like its first edition will be available for downloading on the network members' website. In this way, its content can be exploited by each partner when meeting prospective industrial partners and be disseminated at public and brokerage events in the nanobiotechnological field around Europe. The format of this catalogue makes possible to selectively download offers and requests according to the application/industrial sector selected.

If you are interested in participating in our initiative please contact Anna Maria Lemor for technology offers and Dimitris Tsamouras for requests.

Please remember: your Technology Offer/Requests forms need to be sent to us **not later than Monday, April 2** in order to be included in the second version of the e-catalogue.

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events

Annual Meeting, Saarbruecken, 19th– 21st March

About 200 people from the Nano2Life community are expected to attend the Annual Meeting that will take place at the castle of Saarbruecken located in the city centre. This year's Annual Meeting will focus even more on networking activities to foster communication and interconnectivity among the 23 partners. They will have plenty of opportunities for discussions and to exchange your experiences.

New activities in Saarbruecken are:

- Black board
- Do you need partners for your FP7 consortia?
- Are you looking for a Ph.D. or post doc job?

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NSTI Nanotech 2007, Santa Clara, 20th – 24th May

Nanotech 2007, celebrating our 10th anniversary, will provide a special focus on the issues of scientific and engineering research developments that are leading to innovative new products, materials and tools that impact industry and understanding.

[more…][back]

ESF Summer School in Nanomedicine, Cardiff, 10th – 15th June

This European Science Foundation's Summer School will provide state of the art training across the sub-disciplines of Nanomedicine. The lectures will introduce Nanomedicine at a level that will be accessible to PhD students, Postdoctoral Fellows and others new to the field particularly early career academics, industrialists and medical doctors.

Submission deadline: 26th February

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NanoBio-Europe, Muenster, 13th-15th June

Do not miss the opportunity to show your scientific achievements at the NanoBio-Europe 2007 in Muenster! The call for papers is open until 28th March! Additionally you can submit a poster. Nano2Life's core competencies are on the schedule, for example NanoBioanalysis, nano self-assemblies and drug delivery/theranostics. Compare the scientific topics to check where you fit in.

[more…][back]

Nano2Life Summer School, Athens, 26th June – 6th July

The summer school 2007 will be organized by the National Centre for Scientific Research "Demokritos", partner of Nano2Life in collaboration with the Foundation of Biomedical Research of the Academy of Athens and invited experts from other Nano2Life partners.

Goal

Establish common language between the various disciplines and promote interdisciplinary research

- Merging areas of research (nanobiotechnology, nanomedicine) demand interdisciplinary skills
- Modern research takes advantage of Micro and Nanotechnology developments
- Necessary for researchers from Life Sciences, Chemistry, and Engineering to acquire skills in Micro- and Nanotechnology

Format

2-week intensive summer school

Offers

Classroom and laboratory experience on:
Micro and nano-technology processes / materials / applications
Targeted in:
Nanobiotechnology, Nanomedicine

Who should attend

- Scientists, who wish to apply micro-technology in their research
- Group leaders involved in molecular biology, biotechnology, chemistry
- Post doctoral fellows, graduate students with life science, science or engineering background, medical doctors

Maximum number of registrants is 30 persons.

Registration deadline: N2L 23rd April - Others 7th May

[more…][back]

Conference on Nanomedicine, Chalkidiki, 9th-11th September

The NANOMEDICINE Conference " Nanotechnology for Health" aims to bring together researchers and developers from around the world working in the following areas:

- Targeted delivery
- Diagnostics
- Regenerative Medicine

The NANOMEDICINE Conference will enhance the knowledge and skills of researchers by sharing multidisciplinary knowledge and expertise between scientists from academia and industry. The planned program will include invited lectures as well as oral and poster presentations.

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Nanobiotechnology and Nano-Medicine – Ethical, legal and social Aspects
Summer School on Ethics, Muenster, 21st – 28th September

The German Federal Ministry of Education and Research funds a Summer School course on ethical, legal and social aspects of nanobiotechnology and nano-medicine, which will be held by the Centre for Bioethics, Muenster University, from 21th September – 28th September 2007 in Muenster. Young researchers of different academic fields will have the opportunity to present part of their work and to discuss with renowned international experts in the field.

The Summer school will focus on ethical, legal and social implications of current and future applications of nanobiotechnology in different fields such as medicine, food, agriculture, environment etc.

Topics include:

- Nanobiotechnology and Nano-medicine: State of the art and future prospects
- Ethical aspects of nano-medicine, nano-food etc.
- Release of nano-particles: risks and unwelcome side effects
- Distributive justice and accessibility of nano-based applications
- Privacy and data protection
- Enhancement
- Impact of nanobiotechnology on economies, societies and politics
- Intellectual property and knowledge management
- Instruments for political and legal control of nanobiotechnology etc.

Up to 15 young researchers, i.e. postgraduates, PhD-students and postdocs, from all over Europe are invited to participate. Travel costs and accommodation costs will be defrayed by the organizers. The proceedings of the Summer school will be published.

In order to participate please send (by post or e-mail) a concise CV and an abstract of your presentation (max. 150 words) by 20th May 2007 to:

Dr. Johann S. Ach
Centre for Bioethics
Münster University
Von-Esmarch-Str. 62, D-48149 Münster

For further information please contact:
Dr. Christian Weidemann

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publications

SRP leader on the cover of Nature Nanotechnology - staring: Ehud Gazit

The latest scientific results of Ehud Gazit and Meital Reches of the Tel Aviv University were featured as a cover story in the recent December issue of Nature Nanotechnology (Vol.1 No.3 December 2006). The authors were able to form a unique "nano-forest", an array of vertically aligned nanotubes, made of self-assembled peptides:

The self-assembly of small molecular building blocks into large ordered structures is a simple and efficient way to create new functional materials. It was shown that small protein fragments — known as dipeptides — can organize into nanotubes, which, in turn, form vertically aligned arrays on glass substrates. The effects of both molecular size and electronic charge on this hierarchical assembly process were investigated. Furthermore, by attaching magnetic nanoparticles to these tubes and applying an external field, it was also possible to align them horizontally.

Gazit's research interests lie in the self-assembly of short aromatic peptides and could be summarized under the headline: from amyloid disease to nanotechnology. The self-assembly of well-ordered amyloid fibrils is the hallmark of several diseases of unrelated origin, including Alzheimer's disease, Type II diabetes, and Parkinson's disease. Gazit is the leader of Nano2Life's Strategic Research Group "nano assemblies".

[paper][back]

SRA of the ETP Nanomedicine with the collaboration of Nano2Life

The European Technology Platform Nanomedicine published its strategic research agenda in December 2006, before the first calls for proposals for the Seventh EU Framework Programme on RTD. About 20 researchers from Nano2Life were involved in the preparation of this paper. The document outlines roadmaps for European nanotechnology research for diagnostics, targeted delivery and regenerative medicine for 1-2, 3-5 and more than 5 years.

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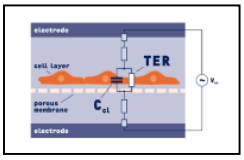
news from the partners



How are your cells today?

A new device for measuring the transepithelial electrical impedance of a cell: cellZscope, from Nano2Life Partner nanoAnalytics. CellZscope is computer-controlled and allows automated, long term monitoring experiments with up 24 different cell cultures simultaneously.

An epithelial cell layer cultured on a permeable membrane forms the interface between two medium-filled compartments while an AC voltage is applied across the electrodes. The transepithelial electrical resistance (TER) and capacitance of the cell layer is measured by recording the frequency-dependent impedance and using an electrical equivalent circuit to analyse data.

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European Network of Excellence supported by FP6 of the European Commission