

**BIONANO**



**NET**

**NEWSLETTER**

**2013/02**

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### Finally

*Our next newsletter will be published in September 2013.  
(We request you to send your contributions by 5<sup>th</sup> September, 2013).*

## Editorial: *Contemporary issues from the network*

Dear members and partners,

Things are changing – and so do we. We would like to update you about recent activities and structural improvements at BioNanoNet, the Austrian network regarding the key enabling technologies Nanotechnology and Biotechnology.

In the last few years BioNanoNet has successfully continued to take the lead in our thematic topics Nanotoxicology, Nanomedicine, Sensor technologies as well as Communication and Management.

- **Nanotoxicology:** This field is mainly covered by the European Center for Nanotoxicology, which was initiated and is now coordinated by BioNanoNet. The expertise comprised in this center provides standardized testing methods, which are offered to industries as a toolkit to prove the safety of their innovative nanoproducts or nanoapplications. In addition to this, as a member of the *High level group of EU Member States and FP7 Associated States on Nanosciences and Nanotechnologies*, we strongly contribute to the development of the future research and innovation program *HORIZON 2020*.
- **Nanomedicine:** As member of the European Technology Platform Nanomedicine (ETPN), BioNanoNet is focusing on promoting research for applications and products, which lead to societal and economic benefits. Most of our network-members are experts in the fields of medical and pharmaceutical research. Connecting these experts on a national level increases the international visibility of the Austrian community. BioNanoNet is continuously working on establishing valuable contacts for its members by attending conferences, workshops, and e.g. by regularly organizing BioNanoNet-networking-events.
- **Sensor technologies:** BioNanoNet initiated and now coordinates the Medical Sensor Solutions group (MSS). Its members have successfully contributed to the initiation of the human technology interface, which has also led to two calls, one of them aiming at medical sensor applications. The MSS group is now actively establishing new cooperation options through a special workshop which is organized jointly with the Medical University Graz. This joint workshop will be the launch of our future activities in this thematic field.

- **Communication and Management:** This is our service area for all members and partners. Since we already manage and coordinate projects on national (Nano-Health, NanoProdEx) and European level (NANOFORCE, SPIDIMAN, NAoREG), we can also support our members by offering these services on request. Furthermore, the team of BioNanoNet organizes events such as the NANOFORCE-InfoDays with joint working tables, a workshop “Technics for medicine”. These events received extraordinary feedback for perfect organization and top-level presentations as well as for intensive discussions among the participating (federal ministries, national top-experts, etc.). BioNanoNet also organizes the upcoming event: NanoProdEx-Workshop, June, 28<sup>th</sup> 2013 in Wiener Neustadt.

All these activities illustrate the efficiency and benefits of BioNanoNet as the Austrian network for bio- and nanotechnology. You are more than welcome to participate in our activities, join our events, or contact us at any time to initiate future cooperation.

Your BioNanoNet team



*(from the left)* **Simone Jagersbacher - Nikolaus Ladenhauf –  
Gabriele Katz - Birgit Krassnitzer – Patricia Junk - Andreas Falk – Sonja Hartl**

## BioNanoNet *members – presentation*

### Institute of Biomedical Science



In autumn 2006, courses in allied health sciences previously taught at specialist higher education institutes were transferred to the University of Applied Sciences FH JOANNEUM. Moving the study of biomedical science to the tertiary level has aided in meeting the rapidly increasing needs and challenges of modern laboratory medicine.

In 2011 **Dr.<sup>in</sup> Monika Riederer** became head of the institute and of the bachelor degree program ***Biomedical Science (BSc)***. This full-time



course program totals 180 ECTS credits and lasts 6 semesters. Each year 40 students qualify from over 120 applicants in a challenging entrance examination. The curriculum offers fundamental medical and scientific knowledge linked to practice oriented analysis procedures that can be applied directly on placement. The focus is placed on practice which qualifies the graduates to enter the professional world of routine laboratory science or fields of medical research and development directly after graduation. The study program co-operates on an interdisciplinary level with research facilities at different universities and the industry and seeks third-party funded research. Close partnership contacts with universities inside and outside Europe have enabled about 50 students to be trained in an international setting by spending a semester or professional placement abroad, e.g. funded by the international Erasmus exchange program.

The subsequent part-time master program ***advanced bioanalytical sciences (MSc)*** lasts 4 semesters and totals 120 ECTS credits. Special emphasis is placed on integration of work experience and increasing theoretical knowledge supported by e-learning and modern information technology tools. The excellent infrastructure enables new media supported learning and studying in small groups. The focus is placed

on molecular diagnostics, nanotechnology in biomedical analysis and clinical study design as well as statistical methods which aid in the interpretation of data.



The excellent infrastructure at the Institute of Biomedical Science enables new media supported learning and studying in small groups. Three laboratories with equipment for clinical chemistry and immunology, immunohematology, histology and microbiology are available, as well as a microscopy laboratory with a micro-

scope for each student to acquire microscopic skills used in the modern laboratory. A perfectly fitted simulation laboratory with analyzers linked to clinical laboratory information systems enable permanent practical training of laboratory processes. Sterile work techniques can be trained in a special clean room in the context of molecular biology, cell and tissue culture; this is provided by 3 laminar flow sterile workbenches. A computer room, seminar rooms and lecture theatres add to the excellent infrastructure. The faculty consists of primarily biomedical laboratory analysts and scientists with additional qualification in higher education, the theoretical subjects are taught by medical doctors, biologists, chemists and computer experts.

At present two **research projects** are conducted on site which guarantee the direct transfer of knowledge from scientific research into the bachelor and master programs:

***The Laboratory for Metabolomics*** delivers high-performance (bio)analytical services for cooperation partners from the research domain as well as for stakeholders from the industry. The laboratory was established in 2009 in line with the COIN-programme directive funded by the FFG. The dedicated team headed by **Prof. Dr. Erwin Zinser**, is currently staffed by Dr.<sup>in</sup> Lidija Hofmann (biologist), expert for immunological techniques, Bettina Weissenbacher (bioanalytical



researcher), expert for LC/MS techniques and cell culture, Mag.<sup>a</sup> Miriam Ehrnhöfer-Reßler (nutritional physiologist), expert for GC/MS techniques, and Mag. Bernhard Wagner (analytical chemist), expert for GC/MS and LC/MS techniques as well as statistics and data management.

Cooperation: Due to the long-standing expertise in the scope of bioanalytics, individual GC-MS as well as LC-MS solutions regarding various chromatographic and mass spectrometric concerns can be provided. Furthermore, services offered include chromatographic and immunological method development, compound identification as well as quantitative analysis of metabolites.

The laboratory is equipped with the following high sensitive analytical devices:

- Thermo Scientific Accela UHPLC system with diode array detector coupled to a LCQ fleet ion trap MSn mass spectrometer
- Agilent 1260 quaternary UHPLC system with diode array detector and fraction collector
- Agilent 1290 binary UHPLC system coupled to a 6460 triple quadrupole MSn mass spectrometer
- Agilent 6890N GC-FID system
- Agilent 6890N GC coupled to a 5973N single quadrupole MS detector
- Both GC systems are optionally coupled to a 7697A headspace autosampler
- Standard equipment for immunological techniques

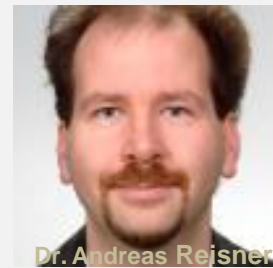


Research: Metabolomics is concerned with the comprehensive characterization of the small molecule metabolites in biological systems. It can provide an overview of the metabolic status and global biochemical events associated with a cellular or biological system. The special field of interest is to identify and characterize metabolites in biological systems which persistently arise due to the everlasting influence of reactive oxygen/nitrogen species (ROS/RNS) on molecular building blocks of a biological cell like proteins, nucleic acids or lipids. ROS/RNS-induced artificially transformed nucleic acids, proteins, and lipids play an important role in the etiology of manifold human diseases such as cardiovascular diseases, cancer, neurodegenerative diseases, and diabetes. Hence, understanding processes how these compounds interact with important regulatory pathways of a biological cell might contribute to unveil

underlying mechanisms in the course of the emergence regarding pathological phenotypes. Currently, the focus is placed on the development and adoption of high-performance analytical procedures to address the simultaneous identification and quantification of ROS/RNS-induced biomarkers with strong emphasis on oxidized lipids in various biological specimens.

***The BIOMIC (=Biofilm formation on medical implants and catheters) laboratory***

headed by **Dr. Andreas Reisner** is dedicated to the growing number of biofilm-associated infections that are characterized by microbial colonization of abiotic surfaces of medical devices temporarily or permanently implanted in the human body. The BIOMIC lab has expertise in experimental model systems for different biofilm-associated infections (e.g. associated with urinary catheters, central venous catheters) combined with established state-of-the-art molecular, microbiological and analytical techniques. Over the past few years the team consisting of Dr. Andreas Reisner and two biomedical scientists, Michael Jörger and Mario Maierl, integrated these model systems into several projects, thereby providing new insights into the pathogenesis of these infections.



To utilize our expertise to develop efficient solutions to inherent problems in diagnostics, treatment and prevention of biofilm-associated infections, the BIOMIC laboratory is a potential collaboration partner for academic and industrial institutions. In combination with established collaborations in material science and sensor technology at university level,

the BIOMIC lab can function as scientific partner in the following areas:

- Improvement of medical device design to reduce biofilm-associated infections
- Development of anti-biofilm coatings for abiotic surfaces
- Improved therapeutic intervention for biofilm-associated infections
- Implementation of early diagnostic biofilm sensors in medical devices
- Surface modifications on medical devices to limit microbial motility

Thus, at the Institute of Biomedical Science education & research are combined with a high quality profile, state-of- the- art facilities and a strong scientific orientation.



*Team of the Institute of Biomedical Science*

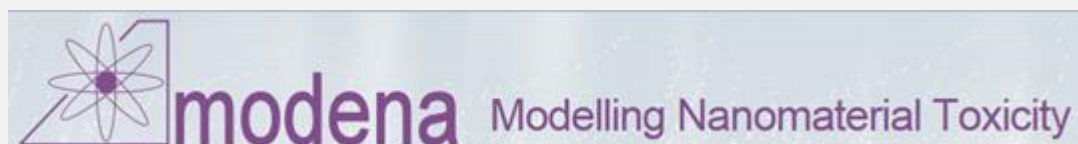
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## BioNanoNet *success stories*

### MODENA



#### **MODENA – COST Initiative**

To promote the development of a new generation of ENM that are SAFE-by-DESIGN, an understanding of the relationship between the ENM STRUCTURE and the biological ACTIVITY is needed. In this context, Quantitative Nanostructure-Toxicity Relationships (QNTR) computational modelling technique is an effective alternative to experimental testing since it enables the prediction of (eco)-toxicological effects based on ENM structure only.

The important benefits from MODENA include:

- the development of a new generation of SAFE-by-DESIGN ENM;
- the effective reduction of animal testing and
- the creation of transparent, validated and rigorous QNTR tools for regulatory purposes in the field of nanotoxicology according to OECD principles.

BioNanoNet is represented within the Management Committee of MODENA helping with coordination, dissemination, communication and evaluation activities of the Cost action.

MODENA will host a Summer Training School on 7<sup>th</sup> to 9<sup>th</sup> August 2013 in Rome.

More information will be available soon on: [www.modena-cost.eu](http://www.modena-cost.eu)

#### ***Role of BioNanoNet:***

*Andreas Falk, MSc. and Sonja Hartl, BSc. are nominated by the Federal Ministry of Traffic, Innovation and Technology (bmvit) as experts representing Austria as members of the MODENA Management Committee.*

## NANoREG



A common European approach to the regulatory testing of nanomaterials



### Press release, June 2013

The innovative and economic potential of Manufactured Nano Materials (MNMs) is threatened by a limited understanding of the related EHS (Environmental Health and Safety) issues. While toxicity data is continuously becoming available, the relevance to regulators is often unclear or unproven. The shrinking time to market of new MNM drives the need for urgent action by regulators. NANoREG is the first FP7 project to deliver the answers needed by regulators and legislators on EHS by linking them to a scientific evaluation of data and test methods.

Based on questions and requirements supplied by regulators and legislators,

#### **NANoREG will:**

- provide answers and solutions from existing data, complemented with new knowledge,
- provide a tool box of relevant instruments for risk assessment, characterisation, toxicity testing and exposure measurements of MNMs,
- develop, for the long term, new testing strategies adapted to innovation requirements,
- establish a close collaboration among authorities, industry and science leading to efficient and practically applicable risk management approaches for MNMs and products containing MNMs.

The interdisciplinary approach involving the three main stakeholders (Regulation, Industry and Science) will significantly contribute to reducing the risks from MNMs in industrial and consumer products.

NANoREG starts by analysing existing knowledge (from WPMN-, FP- and other projects). This is combined with a synthesis of the needs of the authorities and new

knowledge covering the identified gaps, used to fill the validated NANoREG tool box and data base, conform with ECHA's IUCLID DB structure.

To answer regulatory questions and needs NANoREG will set up the liaisons with the regulation and legislation authorities in the NANoREG partner countries, establish and intensify the liaisons with selected industries and new enterprises, and develop liaisons to global standardisation and regulation institutions in countries like USA, Canada, Australia, Japan, and Russia.

**The main objectives of NANoREG are the following:**

- providing legislators with a set of tools for risk assessment and decision making instruments for the short to medium term, by gathering data and performing pilot risk assessment, including exposure monitoring and control, for a selected number of nanomaterials used in products;
- developing for the long term, new testing strategies adapted to a high number of nanomaterials where many factors can affect their environmental and health impact;
- establishing a close collaboration among authorities and industry with regard to the knowledge required for appropriate risk management, and create the basis for common approaches, mutually acceptable datasets and risk management practices.

**Facts and figures:**

- The NANoREG project is funded by the EU Framework 7 Programme with € 10.000.000.
- The project started on March 1<sup>st</sup>, 2013 and runs until August 31<sup>st</sup>, 2016 (42 months).
- Kick-off Meeting with more than 130 participants May 14th – 15th, 2013, Amsterdam, Netherlands
- 59 partners from 15 countries (Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom) participate in the NANoREG project.

**Contact:**

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**Project Management:** A.H.J. Dijkzeul, Ministry of Infrastructure and the Environment, Plesmanweg 1-6, 2597 JG Den Haag, Netherlands, [aart.dijkzeul@minienm.nl](mailto:aart.dijkzeul@minienm.nl)

**IPR Management:** Karl Hoehener, TEMAS AG, Egnacherstrasse 69, CH 9320 Arbon, [karl.hoehener@temas.ch](mailto:karl.hoehener@temas.ch)

For more details about NANoREG please visit the official website [www.nanoreg.eu](http://www.nanoreg.eu)

We kindly invite you to the **Austrian NANoREG workshop on 28<sup>th</sup> of June 2013**, Wiener Neustadt.

Programme and registration: [www.bionanonet.at/nanoreg-workshop](http://www.bionanonet.at/nanoreg-workshop)

**Role of BioNanoNet:**

*BioNanoNet is a partner and the national coordinator of the NANoREG project in cooperation with the bmvit and the AIT. BioNanoNet is responsible for dissemination and communication.*

## NANoREG – Team Austria



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## nanoSolutions



### Nanodevice project coordinated by Finland is a European success story

**The European Commission has labelled the NANODEVICE project, co-ordinated by the Finnish Institute of Occupational Health (FIOH), a success story. The project produced affordable measuring devices for determining the concentrations of nanoparticles in the air. The new NANOSOLUTIONS project is another potential success story, with its aim to create a completely new way of evaluating the health hazards of industrial nanoparticles.**

During the NANODEVICE project, FIOH, together with industrial device manufacturers, research institutes and universities, developed measuring devices for evaluating the concentration of industrial nanoparticles in the air. The devices are easy to use, portable, and inexpensive. The smallest ones can be attached to one's breast pocket and the cheapest cost only two hundred euros. Their use requires no special training.

"The new devices serve both enterprises and authorities. Even a small company can now buy its own device and measure concentrations regularly. Until now the prices of such devices have been far too high for most enterprises. Their use has also required special training," claims **Kai Savolainen**, Research Professor at FIOH.

Authorities can use the measurements taken to define limit values for different industrial nanoparticles. As of yet, no country has mandatory, or even recommended limit values. "It has not been possible to establish new legislation ensuring the safety of nanotechnology, because until now, we have had no trustworthy knowledge of real concentrations at workplaces," says Savolainen.

### **Nanosafety requires completely new risk assessment methods**

"Not only is knowledge regarding particle concentrations insufficient, but current evaluation methods do not meet requirements. Using the existing slow, expensive procedures, it would take decades to study the characteristics of all the known industrial nanoparticles," explains FIOH's Research Professor **Harri Alenius**.

In order to ensure workers' safety and the competitiveness of nanotechnology, we need completely new methods for assessing the disadvantages of, exposure to, and risks presented by industrial nanoparticles.

Finding these methods is the aim of the new NANOSOLUTIONS research project. It attempts to identify the characteristics of industrial nanoparticles which predict their potential disadvantages. Another goal is to develop a computer programme that can use the characteristics of industrial nanoparticles to predict the risks they may present to both health and the environment.

"If the project is a success, it will be revolutionary in the field of nanotechnology safety," continues Alenius.

### **The research**

The NANODEVICE project, which lasted four years and comprised 26 partners, ended on 31<sup>st</sup> March 2013. It was among the top ten best projects in the 2012 Industrial Technologies Best Project Award competition, which sought to discover the European nanotechnology project with the most impact on the economy and on society. The best project had to be able to promote European competitiveness by creating new products and processes. The four-year NANOSOLUTIONS project, which began at the beginning of April this year, has 35 partners from all over the world, representing universities, research institutes, and enterprises.

The EU's seventh framework programme is providing a total of 20 million euro to fund these two research projects.

### **FIOH's Nanosafety Research Centre**

- is Europe's leading research centre for the safety of industrial nanoparticles, especially in the area of occupational safety.
- is in practice involved in all significant research projects concerning nanosafety.
- co-ordinates the co-operation between all the research projects on nanosafety that are funded by the European Commission, i.e. the NanoSafety Cluster
- co-ordinates the 2015–2025 research strategy related to nanosafety on behalf of the European Union, on which the nanosafety research content of the EU's new "Horizon 2020" research programme is based.

## Policy Brief "Safety Research on Nanotechnology Needed"

FIOH produces Policy Briefs for Finnish decision-makers, on important, topical issues. These fact sheets briefly present the key information related to a particular topic and provide recommendations for action. Please find attached the fresh policy brief on nanotechnology.

### Further information

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### **Role of BioNanoNet:**

*Andreas Falk, MSc. is a member of the international advisory group of the NANOSOLUTIONS project.*



*Team NANOSOLUTIONS*

## BioNanoNet *retrospect*

# ImagineNano 2013

**ImagineNano 2013 – NanoBio&Med 2013, 23<sup>rd</sup> – 26<sup>th</sup> April, 2013, Bilbao, Spain**



### **BioNanoNet attended ImagineNano 2013 – NanoBio&Med 2013**

The aim of NanoBio&Med 2013 was to present the most recent international developments in the field of Nanobiotechnology and Nanomedicine and thus providing a platform for multidisciplinary communication, new cooperations and projects to participants from both science and industry. Emerging and future trends of the converging fields of Nanotechnology, Biotechnology and Medicine were discussed among industry, academia, governmental and non-governmental institutions.

BioNanoNet was invited to give an oral presentation on the “Safety Implementation of Nanotechnology for Chemical Enterprises within a Bottom-Up Approach towards Communication” where Sonja Hartl presented the NANOFORCE project results; amongst others the State of the Art Report on existing Safety Procedures and nanotech related Legislation. Furthermore preliminary test results in the field of nanosafety were presented, which were gathered within WP4 of NANOFORCE project on development of Safety Data Sheets and Exposure Scenarios. Another focus was set on communication strategies of innovation and new processes between the different NANOFORCE target groups (researcher, industry, European Commission, national authorities, venture capitalists, etc.) with the aim to gain a common approach towards new business and project development.

The attendance at the ImagineNano 2013- NanoBio&Med 2013 conference brought a lot of effort for the NANOFORCE project, due to the high attendance of experts from all over Europe. Valuable contacts with industry and R&D groups were established to gain more information about the establishments of the nanotech sector.

## Kick-off Event on publication of the „Produktion der Zukunft“

22<sup>nd</sup> May 2013, Tech Gate Vienna

The Federal Ministry for Transport, Innovation and Technology (bmvit) and the Austrian Research Promotion Agency (FFG) were hosting the Kick-off Meeting on the new “Produktion der Zukunft” call topics.

A dedicated focus of the next call will be given to nanotechnologies and production (started on 7<sup>th</sup> of May; submission: 12<sup>th</sup> September). Therefore previous successful projects were presented within a thematic session. PhD Frank Sinner, deputy head of

the institute HEALTH – JOANNEUM RESEARCH Forschungsgesellschaft mbH, presented in his talk the success-story of the project „Nano-HEALTH: Nano-structured materials for drug targeting, release and imaging“, which was coordinated by JOANNEUM RESEARCH, and managed by BioNanoNet For-



schungsgesellschaft mbH. He pointed out, that one long-term value initiated within the project is the national initiative in nanotoxicology, which led to the establishment of the European Center for Nanotoxicology, coordinated by BioNanoNet. Another value is, that the “nano-community” learned a new level of cooperation with each other, which can even now be noticed by groups as the BioTechMed, in which most key-stakeholders started to work together within Nano-Health.

Within Nano-HEALTH the consortium achieved the development of a „platform“ comprising of novel multifunctional nanoparticles, which should lead to nanomedical applications. Nano-HEALTH was a network project funded by the Austrian “Nano-Initiative”, a funding initiative designed to support the development of nanoscience and nanotechnology in Austria. For more information and details on the results of the project, please visit: [www.nano-health.at](http://www.nano-health.at)



## NANOFORCE INFODAY

### 2<sup>nd</sup> NANOFORCE Infoday und Joint Working Table

5<sup>th</sup> June 2013, Austrian Academy of Sciences, Vienna

The 2<sup>nd</sup> NANOFORCE Infoday and Joint Working Table was held in the halls of the beautiful Austrian Academy of Sciences in Vienna and was presented under the motto "Nano Risk and Benefit" and "Knowledge to Business".

Experts from science and industry provided new insights into the current development of the nanotechnology sector. The Joint Working Table offered the opportunity of an open dialogue between representatives of the Federal Ministries, Consumer Protection Agency and Businesses with an open-minded audience (researchers and industry). Parts of the discussion were top-down topics on requirements from regulatory bodies to nanotechnology key players and bottom-up discussion on guidelines for technology start-ups and the launch of "safe-nano-products".



The host of the event was the BioNanoNet Forschungsgesellschaft mbH, an Austrian network in the key enabling technologies biotechnology and nanotechnology and work package leader in the Central Europe Project NANOFOCE (co-financed by ERDF).

Nanosciences and nanotechnologies have aroused great interest which was shown in the opening speech of **Federal Minister of Health Alois Stöger**, who opened the event. He stressed the potential of nanotechnologies for Europe and especially for Austria and emphasized that transparent dealing in order to facilitate the technological development and active communication with public and private actors are of great importance. However, this potential can only be exploited if a high degree of transparency is ensured through the implementation of security policies and through an open dialogue ensuring communication.



After the additional opening words of Min.Rat Mag. Ingolf Schädler from the Federal Ministry for Transport, Innovation and Technology and the presentation of the Central Europe Programme by DI<sup>in</sup> Dr.<sup>in</sup> Monika Schönerklee-Grasser, Head of Evaluation and Monitoring Unit, Joint Technical Secretariat, the audience could experience high quality presentations and statements with the thematic sessions.



The Joint Working Table offered an intensive discussion on safety, responsibility and risk management in the nanotechnology sector. The representatives in the panel (DI Dr. Klaus Mauthner, Mag. Dr. Thomas Jakl, Dr.<sup>in</sup> Susanne Stark, Dr. Alexander Zilberscaz, Prof. Dr. Mats-

Olof Mattsson) have been actively involved through opening statements and the moderator Dipl.Chem. Dr.<sup>in</sup> Steffi Friedrichs (NIA) helped to turn the discussion of the Joint Working Table into a valuable contribution for the nano-



dialogue. The structural setting of the various actors on nanotechnologies in Austria and the courage to an open dialogue was appreciated! Finally representatives were able to express their needs and wishes to the European Commission. This showed an unanimous consensus to accelerate and intensify the activities and topics on: product register for nanomaterials and products, adaptation of existing regulations (in particular REACH), research support and tools for risk assessment to ensure implementation of the nanotechnologies.

The 9<sup>th</sup> BioNanoNet networking marked the end of the event and was opened with



the presentation of the 2<sup>nd</sup> ERA-NET SIINN Call Programme by Dr. Rainer Hagenbeck (coordinator of ERA-NET SIINN) providing the perfect opportunity to foster collaborations and start working on project consortia in a comfortable atmosphere. BioNanoNet would like to thank all the speakers, contributors and

participants for this successful event! All presentations can be downloaded at:

<http://cms.bionanonet.at/content/view/231/22/lang,english/>

## “Technics for Medical Scientists - Technical solutions for medical needs”

12<sup>th</sup> of June, 2013

Within the scope of the Workshop “Technics for Medical scientists – Technical solutions for medical needs”, medical scientists and technicians met at the Centre for Medical Research (ZMF) at the Medical University of Graz (MUG). The workshop has been jointly organised by MUG and BioNanoNet as coordinator of Medical Sensor Solutions (MSS).



Vice rector Univ.Prof.<sup>in</sup> Dr.<sup>in</sup> Irmgard Theresia Lippe from the MUG and Prof. Ingo Klimant, speaker of MSS, from the Technical University of Graz opened the meeting giving technicians the chance of presenting their expertise and offering their ideas for possible collaborations in several fields

of sensor technology. They both complimented the existing synergies between their organisations and the BioNanoNet, in this case visible through this successful event, initiated by the consortium network of MSS.



Carefully listening to the presentations, medical scientists took advantage of addressing questions and requests to the sensor experts. In the course of the event both participant groups quickly brought up ideas for new projects. Besides of theoretical aspects of feasibility, both sides picked out practical possibilities of applications and already market available sensor solutions as central themes. At the end of the session Dr.<sup>in</sup> Kristina Kofler gave insights into financing options for all kind of project structures before all 29 participants had the opportunity to discuss their ideas in smaller groups at a networking buffet.

At the end of the session Dr.<sup>in</sup> Kristina Kofler gave insights into financing options for all kind of project structures before all 29 participants had the opportunity to discuss their ideas in smaller groups at a networking buffet.

BioNanoNet cordially thanks for the perfect teamwork with Dr.<sup>in</sup> Carolin Auer and Dr.<sup>in</sup> Kristina Kofler (MUG) as well as the MSS team for their presentations. Recognising the demand for further interaction, a follow up event will be organised later this year. In the second workshop the tables will be turned on the medical scientists’ side giving them the opportunity to present their needs to specifically compare notes on the initiation of future co-operation.

## BioNanoNet – *announcements of events*

### BioNanoNet events

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#### NanoProdEx Workshop



BioNanoNet ForschungsGmbH cordially invites you to take part at our NanoProdEx workshop:

**When?** June 28<sup>th</sup>, 2013

**Where?** Wiener Neustadt - TFZ Technologie- und Forschungszentrum

The workshop, which will be held in German, is designed to bring together both, research directors and CEOs of enterprises which are concerned with nanomaterials as producers and/or users. Beside the presentation of results achieved during the project, scientific experts from the fields of nanotechnologies and exposure scenarios will give keynote presentations in order to **pave the way for successful handling of nanotechnologies under the umbrella of REACH**. Accompanied by the opportunity of discussing newly acquired insights, the Acoustic Nano-Dust Tester (ANDT) located at Austria's largest cooperative research and testing institute (ofi) will be open to visit.

Here you can download the [Programme!](#)

Please **register by June 20<sup>th</sup>, 2013** by filling out the form on

[www.bionanonet.at/nanoprodex-workshop](http://www.bionanonet.at/nanoprodex-workshop)

We would be very pleased to welcome you at our NanoProdEx Workshop in Wiener Neustadt!

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## NANoREG Workshop



A common European approach to the regulatory testing of nanomaterials



BioNanoNet would like to invite you to our **NANoREG Workshop**, which will take place after our NanoProdEx Workshop on **28<sup>th</sup> of June from 1:45 until 3:30 p.m. in Wiener Neustadt.**

### ***The project***

The innovative and economic potential of Manufactured Nano Materials (MNMs) is threatened by a limited understanding of the related EHS issues. While toxicity data is continuously becoming available, the relevance to regulators is often unclear or unproven. NANoREG is an on-going EU FP7 project involving Regulation, Industry and Science which aims to deliver the answers needed by regulators and legislators on EHS by linking them to a scientific evaluation of data and test methods.

### ***Industry participation***

NANoREG is dependent on a dialogue with both the industry and regulatory bodies where questions essential for regulation are asked by stakeholders and NANoREG provides the answers, which in turn will facilitate the rapid and safe implementation of MNMs.

For more details, the programme and registration please visit [www.bionanonet.at/nanoreg-workshop](http://www.bionanonet.at/nanoreg-workshop) ! Please register by 24<sup>th</sup> of June, 2013!

We would be very pleased to welcome you at our NANoREG Workshop!

## Conference Calendar

### *BioNanoNet on site*



### **EuroNanoForum 2013**

**When?** 18<sup>th</sup> – 20<sup>th</sup> June 2013

**Where?** Dublin, Ireland

"The EuroNanoForum 2013 Nanotechnology Innovation: From research to commercialisation – the bridge to Horizon2020 conference will be held in Dublin during the Irish presidency of the European Union. It will be organised by Enterprise Ireland, the government organisation responsible for the development and growth of Irish enterprises in world markets.

The main focus of the conference will be the commercialisation of nanotechnology, exploiting its potential for new applications, pushing it from an enabling technology through to development and on to use in end products. With Horizon2020 beginning in 2014, the conference will be used to look at how nanotechnologies will fit into the new structure within the key priority areas of Excellent Science, Industrial Leadership and Societal Challenges."

*BioNanoNet will chair a session, give a talk and present a poster.*

<http://www.enterprise-ireland.com/en/Events/OurEvents/EuroNanoForum2013>



### **The European CLINAM & ETPN Summit**

Clinical Nanomedicine & Targeted Medicine

From Antibodies to Nanodrugs, Diagnostic Systems and Targeted Delivery

**When?** 23<sup>rd</sup> - 26<sup>th</sup> June, 2013

**Where?** Basel, Switzerland

The European Foundation for Clinical Nanomedicine (CLINAM) and the European Technology Platform on Nanomedicine (ETPN) invite you to take part in CLINAM 6/13. It is the prime European gathering on Clinical Nanomedicine and Targeted Medicine that has become internationally indispensable. This year's focus topic is: "Nanomedicine & Targeted Medicine – the paradigm of precise, highly effective and

innocuous medicine for the benefit of patients and mankind”.

BioNanoNet, member of the poster-jury, supports the conference by offering the **special poster award for nanotoxicology**.

*BioNanoNet will chair a session at Clinam 2013. BioNanoNet will also give a talk on venture capital involvement in nanotechnology businesses in view of promotion of NANOFORCE project. Furthermore, BioNanoNet will represent the Austrian community in the University Village.*

More information can be found at [www.clinam.org](http://www.clinam.org)



## NanoProdEx Workshop

BioNanoNet ForschungsgmbH cordially invites you to take part at our NanoProdEx workshop:

**When?** 28<sup>th</sup> of June, 2013

**Where?** Wiener Neustadt - TFZ Technologie- und Forschungszentrum (Viktor-Kaplan-Straße 2)

For more information and registration details (session will be held in German) please visit [www.bionanonet.at/nanoprodex-workshop](http://www.bionanonet.at/nanoprodex-workshop).

## NANoREG Workshop



**A common European approach to the regulatory testing of nanomaterials**

BioNanoNet is pleased to invite you to the **NANoREG Workshop!**

**When?** 28<sup>th</sup> June, 2013, from 1:45 until 3:30 p.m.

**Where?** Wiener Neustadt

For more details, the programme and registration, please visit [www.bionanonet.at/nanoreg-workshop](http://www.bionanonet.at/nanoreg-workshop)!  
(Please register by 20<sup>th</sup> of June, 2013)



## NANOTECHNOLOGY 2013

International Conferences & Exhibition on Nanotechnologies & Organic Electronics

**When?** 6<sup>th</sup> – 13<sup>th</sup> July, 2013

**Where?** I. Vellidis Congress Center, Thessaloniki, Greece

NANOTECHNOLOGY is the annual event to explore the opportunities in the emerging fields of Nanotechnologies & Organic Electronics. It includes a powerful community that brings together over 3,000 scientists, business and technical professionals to promote research and industrial collaborations and technology transfer by networking and matchmaking.

NANOTECHNOLOGY 2013 will combine the following internationally established events:



6<sup>th</sup> International Symposium on Flexible Organic Electronics (ISFOE13) 8 - 11 July (<http://isfoe.physics.auth.gr>)



10<sup>th</sup> International Conference on Nanosciences & Nanotechnologies (NN13) 9 - 12 July (<http://nnconf.physics.auth.gr>)

BioNanoNet supports NN 13 with the “**special poster award nanotoxicology**”.

*BioNanoNet will attend NN13 to give a talk on new approaches in nanotechnologies and promote the NANOFORCE project ([www.nanoforce.eu](http://www.nanoforce.eu)).*



7<sup>th</sup> International Summer Schools “N&N:Organic Electronics & Nanomedicine” (ISSON13) 6 - 13 July (<http://nnconf.physics.auth.gr/isson.html>)



3<sup>rd</sup> NANOTECHNOLOGY EXPO 2013 8 - 12 July ([www.nanotechnology.com/expo.html](http://www.nanotechnology.com/expo.html))

For more information please visit: [www.nanotechnology.com](http://www.nanotechnology.com)



### 3rd European Symposium on Photocatalysis

#### Photocatalysis: a sustainable development for improving the quality of life

**When?** 25<sup>th</sup> - 27<sup>th</sup> September, 2013

**Where?** Portoroz, Slovenia

**Topics of JEP 2013:** JEP 2013 provides a timely update on research breakthroughs on Photocatalytic materials and methods devoted to mechanisms understanding recent European and International standards, latest applications of photocatalysis, including: air and water purification, sterilization, self-cleaning materials, outdoor and indoor coatings for roads and buildings energy applications.

Besides communications by leaders in the field, JEP 2013 will foster exchange between academic and industrial practitioners in poster, exhibition sessions and bilateral meetings.

A bilateral meeting (scheduled 30 minutes meetings) is an opportunity for participants (academic and industrials) to establish new contacts for future cooperation.

*Sonja Hartl from the BioNanoNet is going to present preliminary test results in the field of nanosafety, which were gathered within the NANOFORCE project on development of Safety Data Sheets and Exposure Scenarios. Another focus will be on communication strategies of innovation and new processes.*

#### Abstract submission & early bird registration deadline extended to June 21<sup>st</sup>!

For more details please visit [www.photocatalysis-federation.eu/jep2013](http://www.photocatalysis-federation.eu/jep2013)

This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF



### 2<sup>nd</sup> Nanodeals Event – *save the date!*

“How to better integrate science, industry, finance and institutions for the growth of the 8 Areas”

**When?** 1<sup>st</sup> October, 2013

**Where?** Austrian Academy of Sciences, Dr. Ignanz-Seipelplatz 2, Vienna

## Conference Calendar – general announcements



### Biosensors & Bioelectronics 2013

**When?** 17<sup>th</sup> – 19<sup>th</sup> June 2013

**Where?** Hilton Chicago/Northbrook, USA

The main theme of Biosensors & Bioelectronics-2013 is "Biosensing Technology- A Boon to Modern Science".

Call for abstracts: <http://omicsgroup.com/conferences/biosensors-bioelectronics-2013/cfa.php>

This Conference would be an excellent opportunity to meet colleagues, to exchange knowledge and experience, and to extend your list of contacts.

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### NPMED13

**When?** 19<sup>th</sup> to 21<sup>st</sup> June, 2013

**Where?** Zambon Conference Center, Milan, Italy

International Conference devoted to Medical applications (design, toxicology, use in diagnosis/ therapy) of Nanotechnologies, gathering outstanding scientists, Regulatory agencies and Pharma companies in the field, as you can see from the attached program.

The conference is part of the final meeting of the NAD Project (Nanoparticles for therapy and diagnosis of Alzheimer's disease) [www.nadproject.eu](http://www.nadproject.eu) which is aiming to develop nanoparticles for Alzheimer's diagnosis and therapy, financed by the European Union's 7th Framework Program.

Deadline for registration: April 30th 2013. Registration is required, is free of charge; limited number of participants.

Please register at: [http://npmed13.eu/online\\_registration](http://npmed13.eu/online_registration)

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## 3rd Conference on Innovation in Drug Delivery

**When?** 22<sup>nd</sup> – 25<sup>th</sup> September 2013

**Where?** Pisa, Italy

The programme of the conference will include technical sessions devoted to specific scientific equipment, techniques or other tools in the fields related to the topic “Advances in Local Drug Delivery”.

Contributed papers will be presented from 23 to 25 September, 2013, either orally or in poster form.

For more details please visit [www.apgi.org/Pise2013.htm](http://www.apgi.org/Pise2013.htm)



International Forum on Nanotechnology Economy  
**IFNE 2013**  
2 - 3 October, Tehran, Iran

## International Forum on Nanotechnology Economy (IFNE 2013)

**When?** 2<sup>nd</sup> – 3<sup>rd</sup> October 2013

**Where?** Tehran-Iran

The scientific and technological capabilities and industrial achievements of Iran especially in the field of nanotechnology are presented in this event. During the past couple of years, Iran has enjoyed the fastest growth in science generation worldwide and recently could attain the 8th rank in nano science generation amongst the countries active in this field. It should be mentioned that the IFNE2013 is created to provide a marvelous opportunity for those who are interested and expert in the field of Nanotechnology to gain knowledge related to Nanobusiness such as: Commercialization, Investment, Venture Capital Business, Industrial Adoption of Nanotechnology, Early-Stage Valuation and Marketing. Also this would be a unique situation to exchange and share relevant experiences between accredited inventors, investors and international scholars. Seven topics will be discussed in this forum as half-day special panels.

For more information and registration, please refer to the websites: <http://festival.nano.ir> and <http://www.ifne.nano.ir>



## RadTech Europe 2013

**When?** 15<sup>th</sup> – 17<sup>th</sup> October, 2013

**Where?** Basel, Switzerland

"Europe's premier meeting place for the major users of radiation curing materials, equipment and products and will give an updated view on current developments and innovations in the field of radiation curing. Basel - thriving business location at the heart of Europe, trinational and cosmopolitan, is excited to host the next and future RadTech Europe Conferences & Exhibitions."

Please follow the link to get more details about the conference: [www.european-coatings.com/Events/RadTech-Europe-2013](http://www.european-coatings.com/Events/RadTech-Europe-2013)



## NANOCON 2013

**When?** 16<sup>th</sup> – 18<sup>th</sup> October 2013

**Where?** Brno, Czech Republic

NANOCON 2013 held in Brno, Czech Republic will focus on:

- Preparation and properties of nanostructures
- Industrial and environmental applications of nanomaterials
- Bionanotechnology, nanomaterials in medicine
- Health, safety and environment challenges

Standardization, metrology and characterization of nanomaterials

Register now and submit your Abstract

Deadlines:

Abstracts: Jun 15<sup>th</sup> 2013, Papers: Sep 15<sup>th</sup> 2013, Registration: Sep 30<sup>th</sup> 2013

More information and registration at: [www.NANOCON.eu](http://www.NANOCON.eu)

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## BIO-Europe 2013

**When?** 4<sup>th</sup> – 6<sup>th</sup> November, 2013

**Where?** Messe Vienna

BIO-Europe® is Europe's largest partnering conference, serving the global biotechnology industry. The conference annually attracts leading dealmakers from biotech, pharma and finance along with the most exciting emerging companies. Produced with the support of BIO, it is regarded as a “must attend” event for the biotech industry registration by 21<sup>st</sup> September 2013.

For more details please view [www.ebdgroup.com/bioeurope](http://www.ebdgroup.com/bioeurope) and see [registration form](#)



## ICFPAM 2013

**12<sup>th</sup> International Conference on Frontiers of Polymers and Advanced Materials**

**When?** 8<sup>th</sup> – 13<sup>th</sup> December, 2013

**Where?** Auckland, New Zealand

This series of stimulating conferences provides a great forum for discussion on the most relevant topics in polymer science, advanced materials and new technologies. The 12th conference will be truly multidisciplinary, bringing together leading international scientists, engineers, top-level industrial management and business executives.

More information at [www.icfpam2013.com](http://www.icfpam2013.com)

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## *Finally*

We would like to thank the following persons for their contributions for this BioNanoNet newsletter: **Dr.<sup>in</sup> Monika RIEDERER** (University of Applied Sciences), **Dr.<sup>in</sup> Selma MAUTNER** (Joanneum Research), **Dr.<sup>in</sup> Sari SIRVIÖ** (Finnish Institute of Occupational Health) and **Dr. James BARSBY** (Insight Publishers Ltd).

Please do not hesitate to contact us if you would like to give us any suggestions or feedback!

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## **YOUR BIONANONET TEAM**



*(from the left)* **Simone Jagersbacher - Nikolaus Ladenhauf –  
Gabriele Katz - Birgit Krassnitzer – Patricia Junk - Andreas Falk – Sonja Hartl**