

BIO \_\_\_\_\_  
NANONET

# NEWSLETTER

03/2016

September 2016

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### Conference calendar

### Finally

## Editorial - *Contemporary issues from the network*

Ladies and Gentlemen,

the second part of Horizon 2020 calls has its final due dates beginning these days – a busy autumn is waiting for all of us and BioNanoNet is ready to support you in your innovative projects. Then, three more years and calls will start in the program H2020, the preparations are underway, and 9<sup>th</sup> framework program evolves based on strategic roadmaps, vision papers, etc. Of course, BioNanoNet is intensively engaged in the development of those strategic documents e.g. “Closer-to-the-market-Roadmap”, task forces of ECs High Level Group on Nanosciences & Nanotechnologies, etc. Our key goal is to bring in contents and visions of innovative technological developments from a wide group of Austrian community. At this point we want to thank you very much for your continuous contributions and active participation in those tasks.

Furthermore, the BioNanoNet strategy meeting in the frame of “multidisciplinary research”, supported by the “federal ministry of health and women`s affairs” took place in mid of September. More than 40 participants made this event a big success. The discussions included also aspects of the SusChem Austria board, the nanomedicine-Austria group, EURO-NanoTox and of course the wide field of sensortechnologies. Hence, BioNanoNet has clearly presented the developed network-profile and can now look back on a decade of success.

If you are not yet part of this success story, we would be delighted to welcome you with your synergetic, complementary expertise in our unique network – just contact us to learn how to become a member.

We hope you enjoy the content of this newsletter, especially the scientific parts including presentations of new members, as well as the announcements of upcoming events.

Sincerely,

your BioNanoNet-team

## BioNanoNet News

# BioNanoNet welcomes its new members

### Standard members:

- [Institute for Tendon and Bone Regeneration, Paracelsus Medical University](#)



### Extraordinary members:

- [Research Group for Nanobiology and Nanotoxicology at Biotechnical faculty, University of Ljubljana](#)

## NMBP Task forces

The High Level Group of EU Member States and Horizon 2020 Associated Countries on Nanosciences, Nanotechnologies and Advanced Materials decided to set up short-term experts Task Forces in order to discuss the main bottle-necks to bridge the gap from the research to the market, as identified by the engineering and upscaling cluster in 2015. The four Task Forces cover the following topics or bottle-necks:

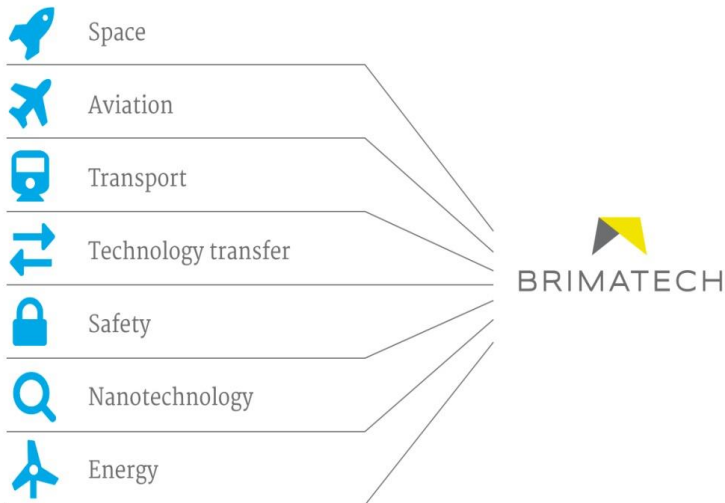
- Characterisation (incl. standardisation)
- Pilots
- Modelling (transfer to industry)
- Safety

The Austrian Federal ministries (bmwfw, bmvit) nominated [Austrian Experts for the Task Forces](#) to work on the strategic visions for the future 10+ years. If you are interested to contribute to shape future European “research to the market”-work via these channels, do not hesitate to contact us at [BioNanoNet](#). The results of those task forces will be presented in HLG-meeting end of September.

All documents available from the [NMBP task forces](#) can be found in the members area of BioNanoNet website.

## BioNanoNet *member presentation*

# BRIMATECH Services GmbH



BRIMATECH Services GmbH is a privately owned SME based in Vienna. We do market research and consulting specialising in technology markets. We talk to experts and we observe users. Together with our clients we select the best approach for the topic at hand.

Our methodology includes market research, expert interviews and user

& producer observation. We investigate trends and factors impacting market success. We develop business models and strategic concepts together with our customers. We transfer technologies to new markets. We connect players in selected industries, secure international visibility and broker new business deals. Our interdisciplinary team enjoys challenging assignments and works globally to develop precisely targeted, customised solutions.

### Market and industry studies

- Market environment, trends
- Competition
- Competence maps



### Technology transfer

- Trendsetting technologies
- Market needs
- Networking



### Stakeholder analyses and user integration

- Surveying of market participants
- User needs
- User acceptance



### Consulting and Coaching

- Strategy coaching
- Start-up consulting
- Financing models
- Design of web tools



### Business models & business development

- Market release strategies
- Value chains
- Cost/benefit analyses



### Training and education

- High-tech marketing
- Business to business marketing
- Market research



Brimatech was founded in 2008 and is mainly owned and fully managed by women. Currently, we are a team of 8 experts linking markets and technologies and bridging the gap between users and technical teams. We are an interdisciplinary team with diverse academic background such as business administration & education, technical chemistry, mathematics and sociology.

Brimatech has most recently been awarded a prestigious recognition by the Ministry of Families and Youth for being one of the most inclusive and diversity friendly SME's.

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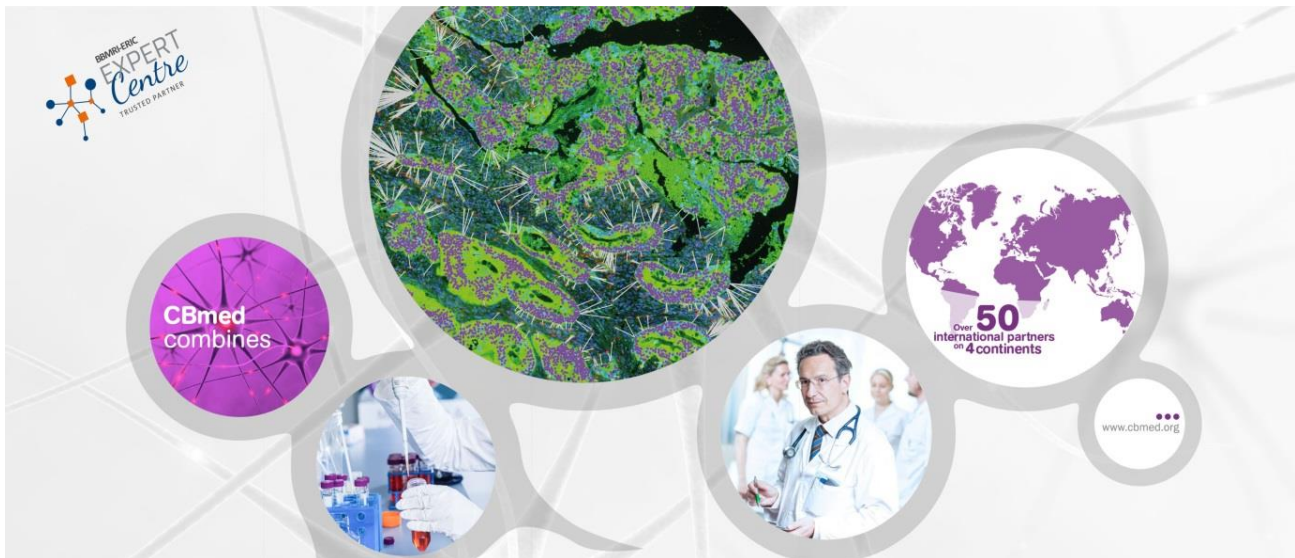
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## CBmed Center for Biomarker Research in Medicine



*Our vision is to become the world's most recognized center for biomarker research in personalized medicine by 2030. This will be achieved by integrating cutting-edge technologies with international and interdisciplinary expertise in the fields of cancer, metabolism and inflammation. Together with our scientific and industry partners, we will develop solutions and products for patient care and cure.*



Consortium/Biomarker Conference, Graz, February 11<sup>th</sup>, 2016

**CBmed – Center of Biomarker Research in Medicine** is a COM-ET funded K1 research center with its headquarters located at the university hospital campus in Graz. CBmed has a focus on identifying and validating new biomarkers as well as conducting translational biomarker research. CBmed is a multidisciplinary research center which links medical, scientific and technological expertise and resources of

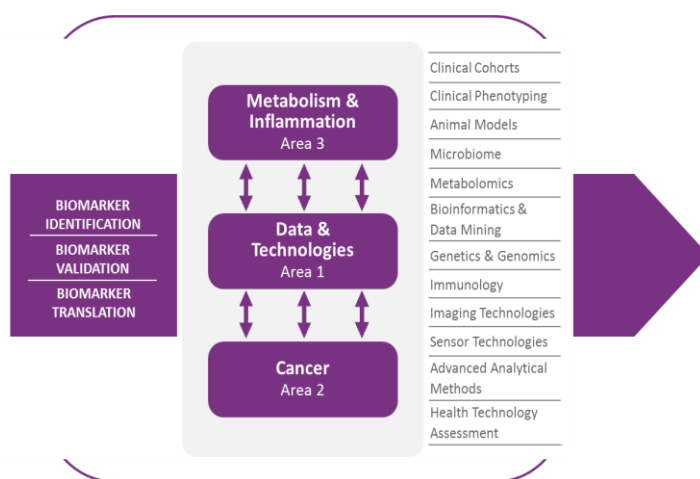


researchers and clinicians for new advances in biomarker research in medicine. Currently, CBmed has a focus on biomarker research in the fields of cancer, metabolism and inflammatory diseases. Most research at CBmed is based on patient samples and generates primary research data which are linked to clinical data for analysis.

CBmed’s research strategy is to increase the introduction of more biomarkers into clinical practice: an extensive network ranging from clinicians who daily treat patients to biomedical and bioinformatics researchers with an excellent scientific expertise and pharmaceutical and diagnostic industry partners, is working closely together with a special focus on continuous, open communication to translate biomarkers into clinical practice.

## RESEARCH AREAS

All research activities at CBmed are structured into three distinct but closely linked research areas: Data & Technologies, Cancer, Metabolism & Inflammation. In cooperation with a



large consortium of scientific and industry partners CBmed offers a wide range of research services including cutting-edge technologies, animal models and patient cohorts.

CBmed research areas and technologies

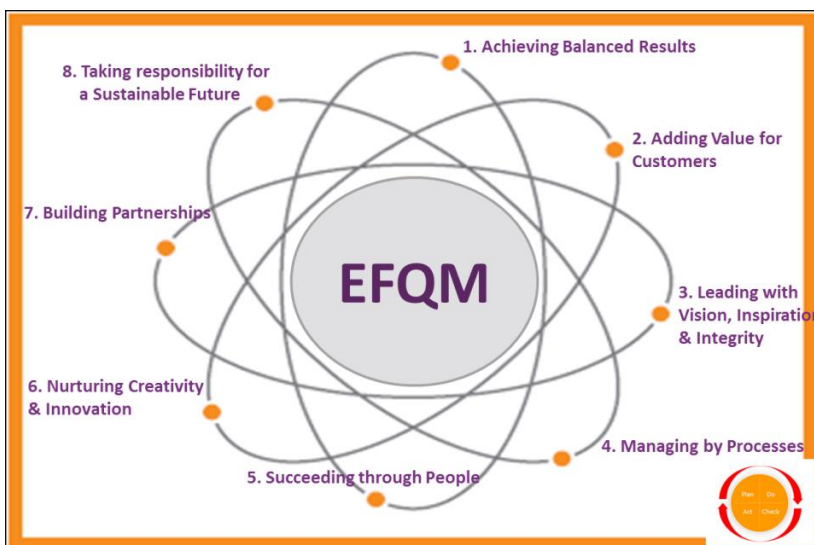
## PARTNER

Currently, CBmed combines the expertise of 22 scientific and 30 industry partners from around the world.



Selected Industry Partners

## QUALITY MANAGEMENT



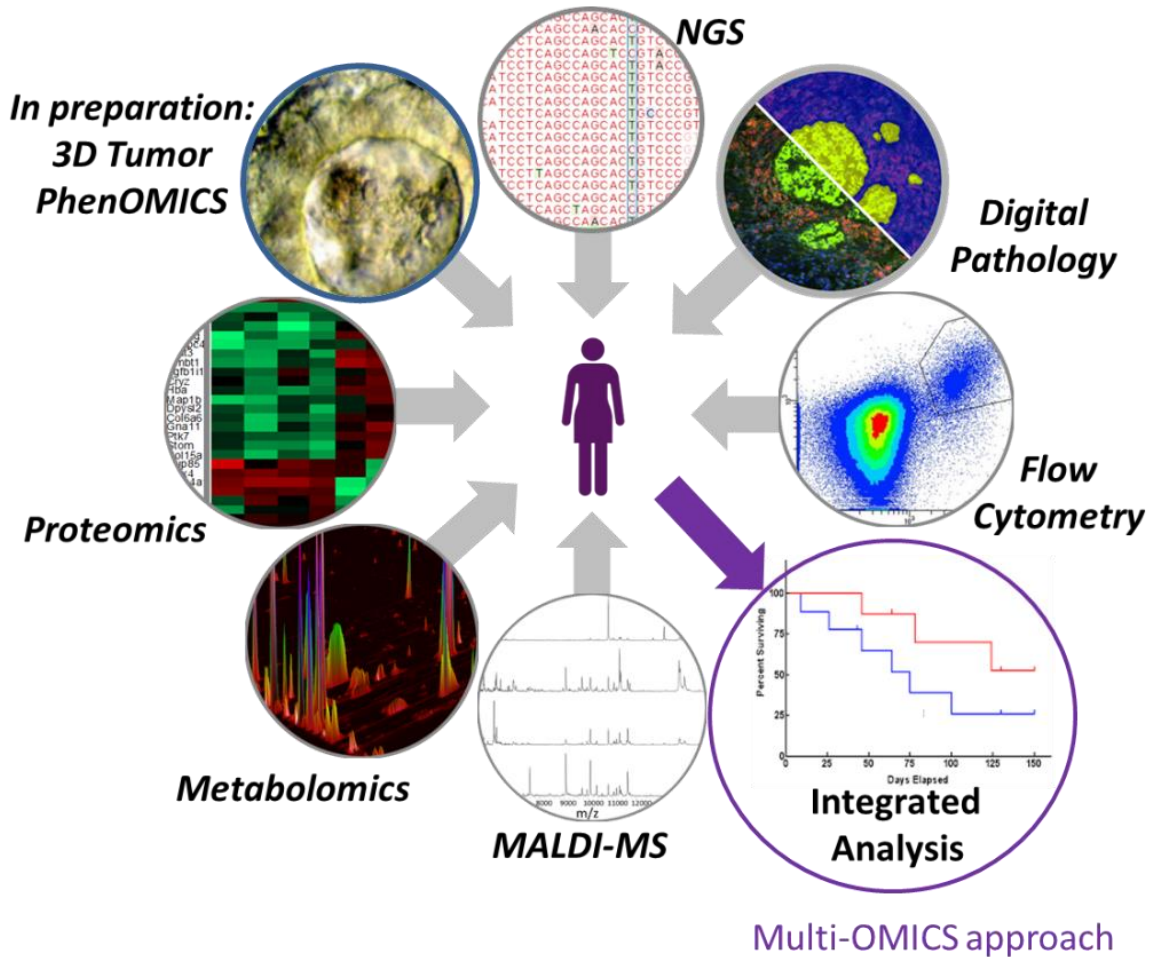
CBmed is establishing EFQM (European Foundation of Quality Management) as a quality management system. The EFQM excellence model provides a business excellence framework for organizational management systems. EFQM is a well suited practical tool for a research organization to measure its own performance, identify possible gaps and find applicable solutions.

EFQM is based on continuous self-assessment and also includes benchmarking with other non-profit organizations on a national and international level.

## Technological Expertise

6 CoreLabs have been established at CBmed covering the following fields: **Proteomics, Metabolomics, Digital Pathology, Genetics & Genomics, Immunology, and MALDI-**

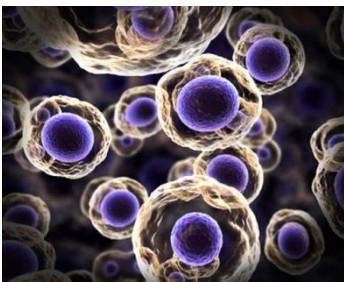
**MS.** Together with an integrated data analysis this unique set-up is used for a multi-omics approach to discover new biomarkers.



Parallel laboratory analyses and the integration of heterogeneous data through data management systems and biostatistics increases the likelihood of identifying relevant prognostic and predictive biomarkers in specific clinical settings. A fast identification of biomarkers through biomarker patterns on a multi-omics level will also allow novel insights into diseases mechanisms. A standardized workflow from feasibility check to cohort assembly, Core-Lab analyses, and integrated data interpretation will make this multi-omics approach easily transferable and applicable for different research questions (various diseases, identification of diagnostic, prognostic, predictive biomarkers and druggable targets).

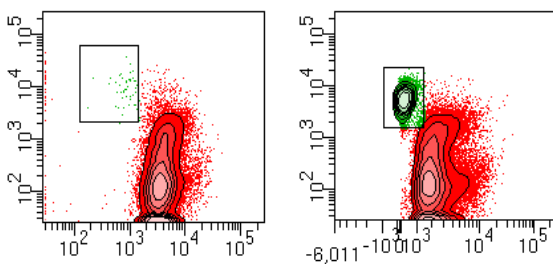
## CORELAB IMMUNOLOGY

High-throughput methods enable the screening of complex biological systems, such as the immune system, for biomarker research. Immunological biomarkers are essential for the assessment of individual risk, diagnosis and prognosis and at CBmed these biomarkers are currently investigated in several autoimmune and inflammatory diseases as well as cancer.



FACS (Fluorescence Activated Cell Sorting) is a laser based technology for cell counting, cell sorting, biomarker detection and protein engineering. It allows a simultaneous multiparametric analysis of the physical and chemical characteristics of many thousands of cells per second.

CBmed is using an LSR Fortessa cell analyser (BD) with 4 lasers which measures 18 parameters (16 fluorochromes, size, granularity). FACS analysis is done in a highly standardized workflow which enables the use of the latest approaches in flow cytometry such as the Infinicyt™ software or absolute quantification of antibodies bound per cell.



FACS profile comparison of healthy controls (left) and rheumatoid arthritis patients (right).

Using this technology, the CoreLab is quantifying subpopulations of T and B immune cells to identify new biomarkers in a wide range of diseases such as type 1 diabetes, rheumatoid arthritis, systemic lupus erythematosus, systemic sclerosis, colorectal cancer, or renal transplantation.

The immunology lab is also quantifying cytokine production by T cells using **ELISpot** (En-



Low, medium and high cytokine levels

zyme **L**inked **I**mmuno **S**pot assay) which is 100-200 fold more sensitive than conventional Elisa for the detection of the secreted cytokines. CBmed also offers ELISA, chemotaxis assays, co-culture assays, proliferation and cell stimulation tests as

well as primary cell cultures and immortalized cell cultures.

## NEWS

Recently, CBmed has been nominated the first Expert Centre by BBMRI-ERIC ([www.bbmri-eric.eu](http://www.bbmri-eric.eu)). Expert centers perform primary analysis of biological samples under internationally standardized conditions in a pre-competitive environment.



## UPCOMING EVENTS

2<sup>nd</sup> Biomarker Conference, 13 - 14 February, 2017, Graz, Austria

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## Member contributions

### *Contribution of Graz University of Technology and University of Graz*

## MRI: Researchers from Graz win first place

At the contest hosted by the MRI Society, researchers compete against each other. This year, mathematicians from the University of Graz and medical engineers from TU Graz won first prize together.

Today's medicine without MRI is unthinkable. To improve this diagnostic method and make it more pleasant for patients thus also saving valuable time and resources, specialists around the world are working on the development of new MRI methods. The International Society for MRI in Medicine – short form: ISMRM – stages a competition each year for particularly interesting hot topics in MRI development. Teams of researchers from international universities, such as Stanford, Harvard and USC to name just a few, compete against each other in the ISMRM Challenge. This year, mathematicians from the University of Graz and medical engineers from TU Graz won first prize together as team “rfcontrol”.

### **Challenge in two categories**

The aim of the competition was to improve excitation of MR signals in two categories. In the first one, the idea was to significantly accelerate investigations by simultaneous activation and measurement of multiple examination layers – in the jargon called “simultaneous multiple slice imaging (SMS)”. In the second one, using the “parallel transmit (pTX)” method, the task was to solve problems in ultra-high field systems – in other words, in systems with magnetic field strengths above 4 Tesla, something still standing in the way of a broad clinical use of these highly sensitive devices.

### **Mathematically optimized MRI pulses**

The Graz researchers took part in the SMS category. Armin Rund from Uni Graz und Christoph Aigner from TU Graz developed mathematical methods and algorithms for this which finally ended up as software. They were able to optimally design the required MRI pulses using this software, thus conclusively winning the competition. And there was more success

to come. The winning team in the pTX category from Stanford University built on a method by Graz researchers that was only published in February.

### **Teamwork as a recipe for success**

The teams led by Karl Kunisch, Uni Graz, and Rudolf Stollberger, TU Graz, have been working together for years in the Special Research Area (SFB) Mathematical Optimization with Application in Biomedical Sciences and also in the framework of the research cooperation project BioTechMed-Graz. And not without success. In the past they were able to achieve second and third place in the worldwide ISMRM Challenge. “What is so distinctive about this research area is that it combines applied mathematics with real biomedical engineering,” stresses Karl Kunisch, head of the mathematics institute and SFB spokesman. “First place at this competition is the best evidence for this great cooperation which has grown over the years.” The method has awoken the interest of a number of international institutes. “This leads to new partnerships at research level,” highlights Stollberger.



**Photo caption:** Armin Rund, Karl Kunisch, Rudolf Stollberger und Christoph Aigner (left to right.) rejoice over the win at the “simultaneous multiple slice imaging” competition of the International Society for MRI in Medicine. (©Tzivanopoulos - Uni Graz)

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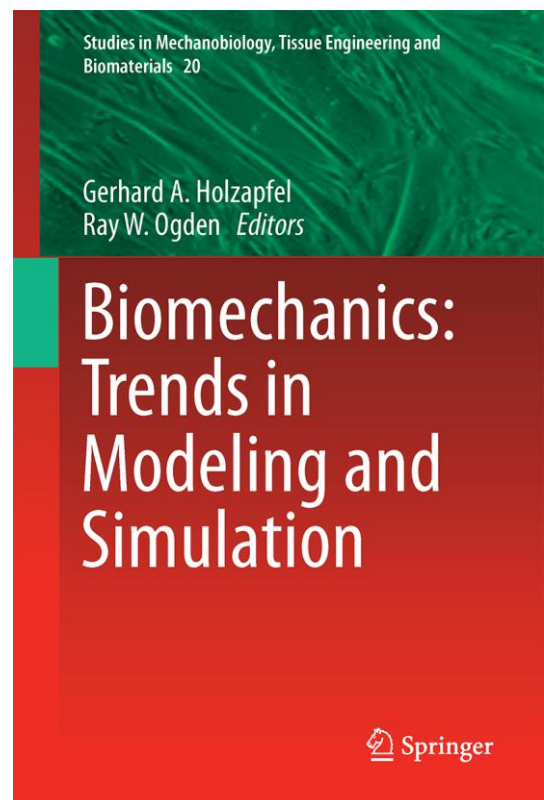
## Contribution of Graz University of Technology

### Book announcement: “Biomechanics: Trends in Modeling and Simulation”

The book presents a state-of-the-art overview of biomechanical and mechanobiological modeling and simulation of soft biological tissues. The combination of modeling and computational methods provides the possibility to simulate multiscale coupled processes as a means to predict (patho)physiological functional interactions. This approach can, for example, provide information of academic, industrial, and clinical relevance that would otherwise not be possible. In the last few years modeling and simulation have significantly advanced our knowledge of the development of pathologies such as atherosclerosis, aneurysms, aortic dissections, and wound healing, and their prognosis. Simulations of clinical applications based on coupled models and powerful computational methods may lead to improved medical device implantations, diagnostics and treatment of tissue disorders, surgical planning and intervention.

Particular topics such as biomolecules, networks and cells as well as failure, multi-scale, agent-based, bio-chemo-mechanical and finite element models appropriate for computational analysis are covered. Applications include arteries, the heart, vascular stents and valve implants as well as adipose, brain, collagenous and engineered tissues. The mechanics of the whole cell and sub-cellular components as well as the extracellular matrix structure and mechanotransduction are described. In particular, the formation and remodeling of stress fibers, cytoskeletal contractility, cell adhesion and the mechanical regulation of fibroblast migration in healing myocardial infarcts are discussed. The essential ingredients of continuum mechanics are provided.

Constitutive models of fiber-reinforced materials with an emphasis on arterial walls and the myocardium are discussed and the important influence of residual stresses on material re-



sponse emphasized. The mechanics and function of the heart, the brain and adipose tissues are discussed as well. Particular attention is focused on microstructural and multi-scale modeling, finite element implementation and simulation of cells and tissues.

Holzapfel, Gerhard A., Ogden, Ray W. (Eds.): [Biomechanics: Trends in Modeling and Simulation](#). Series: Studies in Mechanobiology, Tissue Engineering and Biomaterials, Vol. 20. Springer [1st ed. 2017], 316 p. ISBN 978-3-319-41473-7. Expected publication date: September 30, 2016.

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## *Contribution of Graz University of Technology*

### **Pharmaceutical research: focus on the human being**

How can we design tablets, pills, capsules and other medicines in a way that will ensure the patients take them properly? Researchers at TU Graz embark on field research...



In the last 20 years we have seen many changes in medicine and pharmaceuticals, culminating in the approval of hundreds of new drugs that effectively improve the treatment of acute and chronic diseases. We are starting to gain a more detailed understanding of diseases on the molecular and genetic level, while personalised medicine, where the pharmacotherapy is tailored to patient needs, is increasingly finding its way into routine medical practice. As the average life expectancy keeps increasing year after year, so too does the size of the advanced age patient group.

Because these patients often suffer from multiple chronic diseases, many of them also depend on several different medicines. But managing this is often a complex and difficult challenge for elderly patients. According to Sven Stegemann, in charge of the “Patient-Centred Drug Development and Production Technology” research group at the Institute of Process and Particle Engineering at TU Graz, the complexity of the therapy increases while at the same time elderly persons are affected by illness-related restrictions. As they do not have the sensorimotor skills young people take for granted, for example to open tablet packages, they frequently have to rely on external help. According to one study, 72 % out of 120 elderly test persons were unable to open the package they were given. In combination with swal-

lowing difficulties, impaired vision, compromised hearing ability and cognition, it is often expecting too much from the elderly patients to cope with all these different medicines all by themselves.

“Although we have seen the efficiency of the active ingredients improve continuously, the types of administration and the design of tablets and packaging have hardly changed in recent decades. Some patients today need to take more than 10 different drugs every day. As they are all of a similar size, shape and texture, it is easy to mix them up or take them incorrectly. It is also frequently underestimated that the priorities of rational pharmaceutical therapy with its strong focus on a prolongation of life are sometimes at odds with the personal preferences of the patients, who may rate their present well-being and the social aspects of their life more highly. Even the best drug is no good if it fails to satisfy patient expectations, or if it is not understood properly and therefore either taken incorrectly or not at all,” explains Sven Stegemann. This can have serious consequences. According to the Food and Drug Administration (FDA) in the USA, medication-related errors are to blame for 7,000 fatalities per year in the USA alone.

### **Alternatives to “one size fits all”**

This is precisely where the research of Sven Stegemann, holder of an endowed chair at the Technical University Graz since 2014, comes in. In co-operation with research groups at the Charité in Berlin, der RWTH Aachen University and the Medical University of Graz, his group at TU Graz conducts fundamental research and involves patients in the drug development process to put in question the “one size fits all” product design approach of the pharmaceutical industry.

Aiming to find out how patients use drugs in order to develop medicines that will be taken without difficulty and intuitively correctly, the research group TU Graz is now carrying out several studies with patients. “In one study we give our test persons medication dummies that differ in terms of shape, colour, feel and size. Then we record how the test persons accept them and if they are able to assign them correctly. This leads us to important conclusions for the development of medicines. For example, even people with dementia are better able to recognize a pill if it is coloured,” reports Sven Stegemann. In addition, the test persons are presented with different types of administration to study whether they are suitable for application in practice, for instance by establishing whether swallowing the medi-

cine causes difficulties. Sven Stegemann sums up his objectives as follows: “Ideally a drug does not need any instructions and is used just as intuitively correctly as today’s smartphones”. The results of this basic research will provide valuable input for future cooperation projects in the field of drug development.

## INFORMATION

The endowed chair - established by TU Graz together with Capsugel - is embedded in Bio-TechMed, the partnership of TU Graz, the University of Graz and the Medical University of Graz at the human, technology and health interface. Recently the PatientCentricProductLab was installed at the Institute of Process and Particle Engineering at TU Graz acting as the research and development laboratory for patient-centric medicine design and production.

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Sven Stegemann - © Suppan, TU Graz



## Human technology, reloaded into 2020 with a new strategy...



### **Marketability and flexibility**

It was a great moment being able to unveil the new human technology strategy for the region, "Health Tech Styria 2020", to 150 invited guests from the fields of business, politics and research. After almost a year of analysis, data preparation and discussion, the project was completed and presented to the public as planned.

The new strategy defines two new broad areas of strength: "MedTech" and "Pharma & Bio-Tech". Instead of the three narrowly defined corridors we had previously, which did not leave sufficient scope for expansion of cluster activities, we now hope not only to make it easier to market the region "coherently" at an international level, but above all to address topics that we have not looked at until now and to respond more quickly and flexibly to

changes in regional, national and international constraints. In doing so, we hope to draw companies into the sector that have not been involved in human technology until now and to allow SMEs and large companies from outside the industry to conquer new markets that are of interest to them.

However, "Health Tech Styria 2020" shall on no account be allowed to become a paper tiger that our cluster members simply file away in a few months without any consequences. Instead, we want to start implementing specific, marketable projects and products with our companies as soon as possible. You can find details of the new strategy in our cover story, which starts on page 4.

However, IT doesn't just play a big part in strategy. It is therefore no surprise that at the 4th Technology for the Future day for companies in Styria on 27 June 2016 at MCG Graz, under the heading of "D1G1T0TAL", we focused on IT. The crowds attending the event were a good indicator of how much this subject resonates with the general public.

Our international activities are also in full swing. Our delegation trip to Iran was completed recently, while another delegation set off to Zurich at the beginning of June. Discussions with ETH Zurich, the IBM Research Center and the Balgrist business park focused on future issues and B2B contacts. We will organise further international outings, including a suppliers' day in Ireland and a stand at the CPhI trade fair in Barcelona. For other activities of the HTS cluster, e.g. relating to training or "Medicine meets Technology", please consult our homepage in good time.

### Ready for the future

With the new strategy "Health Tech Styria 2020", the Styrian human technology cluster has defined new focal points: MedTech and Pharma & BioTech. It hopes that this will integrate companies that have not previously been involved in human technology into the sector over the coming years.

Well-known global market leaders are moving into what for them is a new sector. As active members of the Styrian human technology cluster, ams austriamicrosystems, based in Unterpremstätten near Graz, and AT&S Austria Technologie & Systemtechnik AG, located in Leoben, have already done this. Together with universities, research institutions and excellent business enterprises, these companies are producing new products that will ensure a better standard of patient care in future.

One example is the growing market for "wearables" – from the "intelligent pulse and blood pressure analyser" to the "diabetes checker" – which, against the backdrop of an "ageing society" that is calling for "Active & Assisted Living & Ageing", requires appropriate technologies. These technologies are already being used in mobile phones and cars, but need to be adapted and developed for the requirements of the healthcare sector.

### **Advances in technology by crossing borders**

"For innovative Styrian suppliers, and particularly for SMEs, this kind of collaboration offers the opportunity to cooperate with global market leaders from a completely different sector for the first time and to open up new business opportunities, whereby our region's strength lies not only in being able to offer outstanding individual products and services, but above all in the breadth of its portfolio, which encompasses all stages of the value chain," says Johann Harer, head of the cluster, explaining these "double entry opportunities," which he hopes to specifically promote in future. Dr Christian Buchmann, regional minister for the economy, says: "The cluster's strategic focus on the two future-oriented areas of strength of MedTech and Pharma and BioTech will lay the foundations for further growth and new jobs at human technology companies."

Around 70 participants from cluster companies and renowned experts from individual specialist areas were involved in drawing up the new strategy "Health Tech Styria 2020". This was based on a detailed analysis of the sector along with several expert discussions and workshops, in which requirements and demands were defined together with companies and research institutions in the industry and were translated into concrete strategies and areas of action.



"It's particularly important to me that we haven't just produced a paper tiger with our new strategy, but will quickly start to implement specific, marketable projects together with our companies," says Mr Harer, setting out the basic philosophy and direction of work for the next few months.

### **MedTech as an area of strength**

This sector's particular strengths lie in sensors, chip and circuit board technology, in software and IT for medical technology, particularly in the areas of "big data", "software as a medical product" and special "decision support systems". It also makes targeted use of the expertise of Styrian universities, research institutions and companies in the areas of materials, production and process technology, ranging from plastics, metallurgy and biomaterials to the latest surface technologies. In July 2016, Styria became the first region in Austria and one of 74 throughout Europe to be declared a "Reference Region for Active and Healthy Ageing (AHA)".

### **Pharma and BioTech as an area of strength**

Here, the region's special strengths lie in process development, optimisation and simulation, in engineering, equipment and plant construction, in automation and production, in industrial biotechnology and in biomarker research as the basis for developing new medicines (details of the various areas of strength can be found on pages 8 and 9).

### **A unique association of strengths**

Johann Harer, managing director of the cluster, says: "Styrian suppliers and plant construction companies for the medtech and pharmaceutical and biotech sectors are among the most innovative worldwide, as are non-university research centres and centres of excellence. Together, they form a unique association of strengths." Building on this insight, Mr Harer sets out the cluster's vision for the coming years. "Human.technology Styria – the cluster for southern Austria as an internationally recognised hub of excellence in human technology." To be able to implement this vision, the entire cluster team wants to "be open and flexible and listen to what the international market is asking for."

## BioNanoNet *success stories*

### NANOgentools

#### Secondment of BioNanoNet to NovaMechanics Ltd



NANOgentools is a MSCA – RISE project to exchange knowledge in nanosafety. The 4-year European project, devoted to the development and implementation of a new generation of nanosafety assessment tools, was launched in January 2016.

The project addresses the challenge of identifying and controlling the hazards associated with Nanomaterials (NMs) by joining industry and academia to create a collaborative excellence-based knowledge exchange network in the MSCA – RISE framework that will:

- push forward knowledge via method development and pre-validation,
- train scientists in new methodologies to assess long term nanosafety, and
- support the inclusion of methods developed in standardization and present and future EU regulations.

NANOgentools combines genomics (toxicogenomics), proteomics and multidisciplinary science (biophysics, molecular modeling, chemistry, bioinformatics, chemoinformatics) to develop fast in vitro high throughput (HTS) assays, with molecular based computational models for better understanding of the molecular fundamentals of nanotoxicity, and will initiate the development of nanosafety tests for industrial use during product development.

The project will be delivered through cross-sectoral/disciplinary secondments linking EU academic institutes/networks with industry including SMEs and policy makers across 8 countries. The secondments play a key role in facilitating knowledge exchange between experts with different backgrounds and knowledge. By this, the multidisciplinary collaboration is encouraged and enhanced.

In June and July 2016, BioNanoNet seconded its early stage researcher (ESR) Mag. pharm. Susanne Resch to NovaMechanics Ltd, which is a Greek SME located in Athens. NovaMechanics Ltd is an in silico material design company committed to the computer aided design of new materials, small-molecules and nanoparticles. NovaMechanics Ltd is

focused in the development and implementation of in silico methods to guide decisions in the design and selection of promising new compounds. Through the combination of industry-recognized expertise, state of the art software and proprietary computing infrastructure, the company's advanced in silico capabilities in molecular design provide the most effective path to molecular innovation.

NovaMechanics contribution to the NANOGENTOOLS project is the application of cheminformatics methods such as quantitative structure-activity relationship (QSAR) modeling to establish statistically significant relationships between measured biological activity profiles of NMs and their physical, chemical, and other properties, either measured experimentally or computed from the structure of NMs.

This secondment was the very first secondment for both partners involved (BioNanoNet sending resp. NovaMechanics Ltd hosting a person) and provided a great chance to share and exchange knowledge, expertise and experiences. Moreover, it built a solid basis for further collaborations by offering the possibility to get a deep insight into the company's ongoing activities and everyday work.



Impressions of the daily business at NovaMechanics Ltd in Athens, Greece

Further information on the NANOGENTOOLS project and updates on developments can be obtained from <http://www.bionanonet.at/projects/nanogentools>.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 691095.



## NanoDiode



### **A project to develop innovative outreach and dialogue on responsible nanotechnologies in EU civil society**

After three years project runtime, the FP7 funded project NanoDiode has been successfully finalised. From 2013 to 2016, the NanoDiode project has organised an extensive programme for outreach and dialogue on nanotechnologies at different stages of the research and innovation process: from policymaking and research to the diffusion of research outcomes in society. More than 40 outreach and dialogue events throughout Europe have been organised over the course of the project, engaging citizens and stakeholders in the debate on nanotechnologies and related issues. The activities organised within each of the WPs have resulted in a wealth of data, materials and reports, including more than 80 videos, posters, newsletters, presentations and articles, as well as project fact sheets and policy briefs. All these documents are available at [www.nanodiode.eu](http://www.nanodiode.eu).

The common denominator in all these activities was to support the effective governance of nanotechnologies in Europe. The systemic impact of technological innovation on contemporary society requires societal considerations to be more effectively integrated in research and innovation decisions - but the exact mechanisms by which to enhance the responsiveness of nanotechnology research and innovation to societal needs and values are as yet unclear. NanoDiode has highlighted conditions for more productive stakeholder engagement at the different levels of governance. The activities have enhanced mutual understanding between different stakeholders within the consortium, and engaged nanotechnology 'enactors' in the debate on nanotechnology governance. Performed actions offer examples of how the early consideration of ethical and societal dimensions can enhance the quality of research outcomes. These examples suggest a mode for research and innovation that is more responsive to societal needs and values. The project findings also point to major challenges to enhanced responsiveness such as the voluntary nature of stakeholder engagement, the lack of effective integration mechanisms and the dominance of vested interests.

Indeed, a deeper understanding of these barriers may be as valuable as knowledge of the opportunities: it points out that the capacity of research and innovation to effectively respond to societal challenges is a systemic challenge. There are complex interdependencies between decisions at the level of policy making, research and production. The aggregate findings from the NanoDiode project offer recommendations to strengthen nanotechnology governance along three main lines:

1. Encourage the effective integration of societal considerations in research and innovation practice as well as in education (i.e. curricula);
2. Further develop tools available to strengthen the responsiveness of research and innovation to societal considerations;
3. Institutionalise nanotechnology governance mechanisms.

NanoDiode has contributed to the broader experimentation that will be needed to enable effective governance of nanotechnologies in Europe. The challenge now is to integrate societal considerations at the heart of nanotechnologies research and innovation. Buy-in from all stakeholders will be essential for the transition towards a more responsive research and innovation system where societal considerations become part of the innovation drive rather than a problem to be addressed.

The overall objectives of NanoDiode were to:

- Develop new strategies for outreach and dialogue along nanotechnology value chains (WP 1)
- INSPIRE: Organise engagement and dialogue at the 'upstream' level of research policy (WP 2)
- CREATE: Enable processes of co-creation during research and innovation (WP 3)
- EDUCATE: Professionalise nanotechnology education and training (WP 4)
- ENGAGE: Establish a coherent programme for outreach and communication on nanotechnologies (WP 5)
- Assess the impact of the project's activities, establish links between the various levels of governance, and provide policy feedback to Horizon 2020 (WP 6).



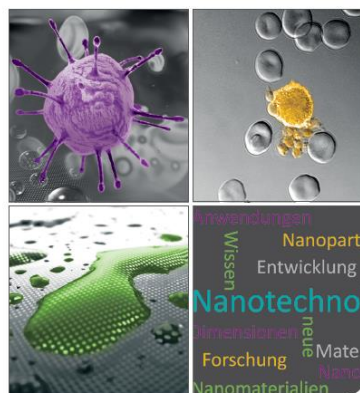
As work package leader of WP 4 - EDUCATE, BioNanoNet has closely worked together with NanoDiode partners in the process of preparing a concept for school and teacher workshops. WP 4 aimed to develop a detailed education strategy, selecting best practices on the basis of previous European experience with nanotechnology education. This strategy formed the basis for a series of education activities focusing on secondary education, including hands-on activities in schools, a school competition and a 'students as journalists' video contest. Educational materials and presentations have been prepared, and teach-the-teacher as well as school workshops at secondary schools have been organised. The performed workshops enjoyed great popularity amongst attending school children, students and teachers.

Build on these activities and the gained experiences during the NanoDiode project lifespan, further school workshops on different educational levels organized by BioNanoNet are envisaged. For more information, please contact [Andreas.Falk@bionanonet.at](mailto:Andreas.Falk@bionanonet.at).

**Click on the Nano@School Workshop Flyer below for DOWNLOAD (Button "Strg")**



## Nano@School Workshops



Schulworkshops zum Thema  
Nanotechnologie



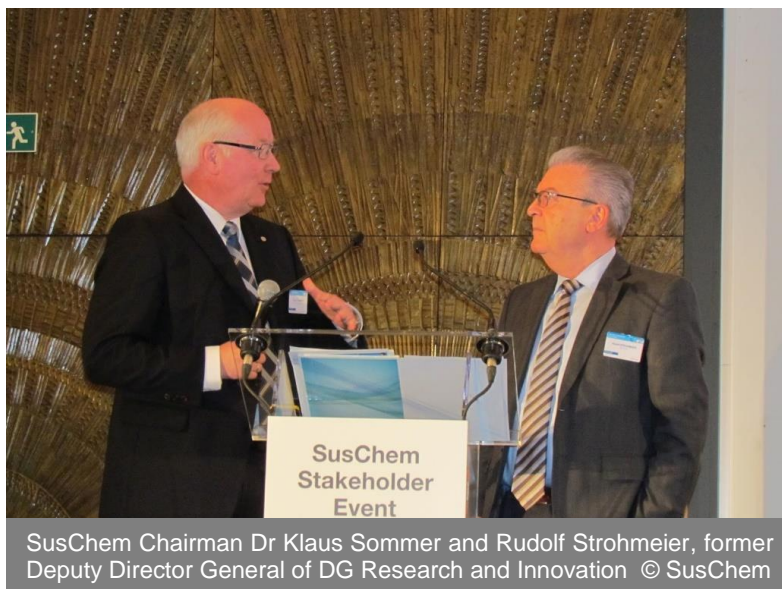
## BioNanoNet *retrospect*

### SusChem Stakeholder event

16<sup>th</sup> June, 2016, Brussels, Belgium



The [2016 SusChem Stakeholder event "Sustainable Chemistry Innovation for Competitiveness"](#) held by the European Technology Platform for Sustainable Chemistry (SusChem) took place in Brussels on 16 June. It is the biggest annual event which brings together the chemical industry, academia, Research Technology Organisations and EU policy representatives to address common challenges and debate priorities in the European chemical and biotechnology innovation sectors. With some 230 delegates registered from 18 European Member States the 2016 annual SusChem stakeholder event demonstrated once again the role of the platform in building a sustainable future for the European Chemical Industry.



SusChem Chairman Dr Klaus Sommer and Rudolf Strohmeier, former Deputy Director General of DG Research and Innovation © SusChem

The platform acts as an effective bridge between the sustainable research and innovation needs of the chemical industry and European Commission policies. The debate demonstrated the excellent fit between the [SusChem Strategic Innovation and Research Agenda \(SIRA\)](#), its technologies and priorities, including a sustainable bioeconomy, materials for energy management, processes and catalysis, ICT for processes, and water, and European Commission initiatives such as the [Energy Union](#), [Digitisation](#) and the [Circular Economy](#). Despite SusChem having no direct funding for R&I activities the influence of the technology platform is huge.

This event included a number of exciting activities and presented important new developments for the SusChem community, including two lively high-level panel debates to discuss the recently published European Commission Innovation Strategy packages on: **Circular Economy** and **Energy Union and Digitization**.

These two panels brought together strategy experts from the EC and captains of industry to discuss the hot topics surrounding these EC packages, such as:

- identifying new challenges and opportunities for sustainable chemistry;
- identifying areas of consensus that align with the priorities of the EC and the European chemical industry;
- defining new ways forward to ensure that the five SusChem innovation priorities identified are systematically considered in these new high-level policy initiatives.
- the latest news and activities from our SusChem National Technology Platform (NTPs).

The SusChem Stakeholder Event is a high-level initiative that aims to:

- improve dialogue between the stakeholders;
- identify innovation drivers for the future;
- present the European chemical industry as a solution provider to address societal challenges;
- promote a shared view between the EC and chemical industry, in order to increase synergies and develop solutions on five innovation priority areas:
  - Sustainable bio-economy
  - ICT for processes
  - Water
  - Catalysis
  - Materials for energy

At the event two new members of the SusChem community of national technology platforms were introduced: [SusChem Austria](#) and SusChem Greece.





Other NTP presentations were made by Suzanne Coles (SusChem UK), Cristina Gonzalez (SusChem Spain), Eric Firtion (SusChem France), Alexis Bazanella (SusChem Germany), Tine Schaerlaekens (SusChem Belgium), Ladislav Novak (SusChem Czech Republic), Nico Versloot (SusChem Netherlands), **Andreas Falk (SusChem Austria)**, **Stelios Bikos (SusChem Greece)** pictured from left to right above. © SusChem



As SusChem Austria platform BioNanoNet ForschungsgmbH endorses the main SusChem ETP objective as to revitalize and inspire the European and national chemical industry research, development and innovation in a sustainable way, through all the stages of the value chain.

As a National Platform, SusChem Austria will bring together industry, academia and research centers to work in the identification and coordination of the EU and National strategies to represent the interests of the Chemical sector in front of the National Governments and the European Commission.

As a member of the SusChem network BioNanoNet will join efforts to achieve a more Sustainable Chemical sector in Europe and therefore contributing to the objective of creating jobs and growths.

## 3<sup>rd</sup> International Conference on Occupational & Environmental Toxicology (ICOETox 2016)



June 21<sup>st</sup> – 23<sup>rd</sup> June, 2016, Porto, Portugal



Impressions from the ICOETox 2016 Conference in Porto

© BioNanoNet

On the 21<sup>st</sup> to 23<sup>rd</sup> June, 2016, the 3<sup>rd</sup> International Conference on Occupational & Environmental Toxicology ICOETox 2016 was held in Porto, Portugal. ICOETox 2016 was held together with IBAMTox (3<sup>rd</sup> Ibero-American Meeting on Toxicology and Environmental Health) creating new synergies and ensuring an excellent scientific meeting.

This multidisciplinary conference provided a forum for both internationally established and young researchers to exchange advanced knowledge on toxicology. The congress comprised of keynote lectures given by world-renowned scholars, in addition to oral and poster sessions. State of the Art developments in different fields of toxicology, new methodologies and developing expertise was covered during presentations.

The programme covered the following panel sessions:

- Genetic Toxicology
- Risk and Susceptibility Factors
- Ecotoxicology
- Mixtures Toxicology
- Nanotoxicology
- Indoor Environment
- Occupational Toxicology
- Environmental Health

The conference highlighted 15 invited and 36 oral presentations, complemented by 85 posters. One of these scientific oral presentations entitled “A Prospective Approach to Safe Nanotechnologies” was about BioNanoNets’ nanosafety activities within the Inspired project which was presented by Christa Schimpel within the Nanotoxicology session.



## European Conference Industrial Technologies 2016

22<sup>nd</sup> – 24<sup>th</sup> of June, 2016, Amsterdam, Netherlands

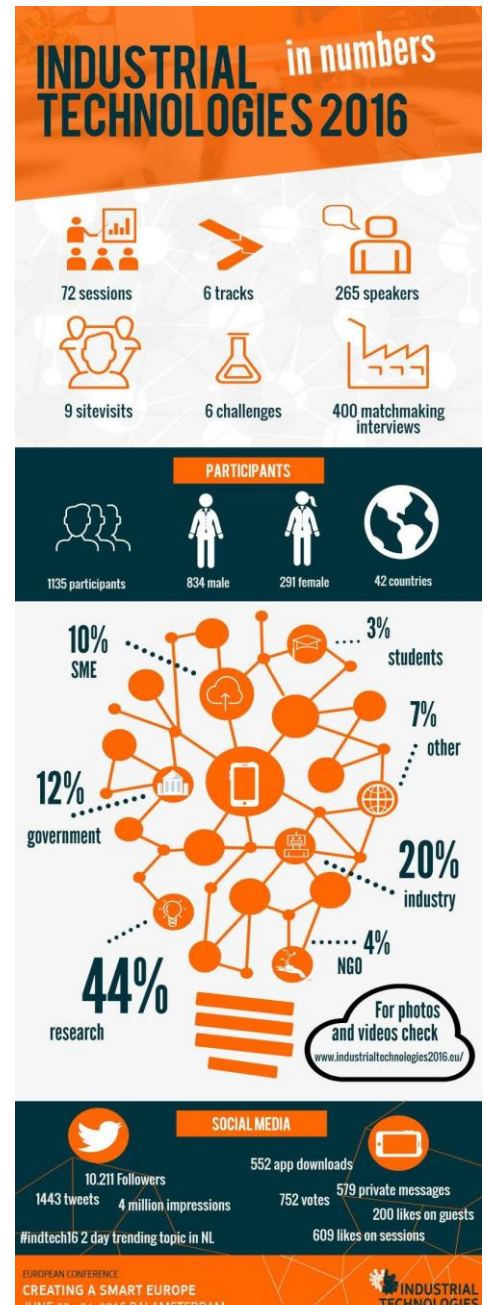
*“Industrial Technologies 2016 is the largest networking conference in the field of new production technologies, materials, nanotechnology, biotechnology and digitalisation in Europe, with high level delegates”.*

The 3-days event, offering a “wide variety of plenary and interactive sessions, inspiring keynote speakers, case studies, eye-opening site visits and numerous opportunities to get in contact with new business partners” was organised as an associated conference of the Netherlands Presidency of the Council of the European Union.

BioNanoNet participated actively by contributing a poster presentation for the EU funded project “R2R Biofluidics” titled “Promoting the Safe Development of Nanotechnologies: A Prospective Approach”. Furthermore it was represented in the Industrial Revolution Workshop “Nanosafety: From research to implementation of risk management and Safe Innovation in the nanotechnology industry”, chaired by Benoit Hazebrouck (European Virtual Institute for Integrated Risk Management) as well as in the workshop “Open Pilot Facilities as a European Resource for Innovation and New Business”, chaired by Hans Hartmann Pedersen (European Commission, DG RTDI).

Further information:

<http://www.industrialtechnologies2016.eu/>



Source:

[www.facebook.com/industrialtechnologies2016](http://www.facebook.com/industrialtechnologies2016)



## BioNanoNet Strategy Workshop & 10<sup>th</sup> Anniversary

15<sup>th</sup> of September, 2016, Laßnitzhöhe, Austria

On 15<sup>th</sup> of September 2016 the third BioNanoNet strategy workshop and the BioNanoNet's 10<sup>th</sup> anniversary took place in hotel Liebmann, Laßnitzhöhe and had the overall topic of „Multi-disciplinary Cooperation in Research: Nanotoxicology, Sensortechnology, Health-Safety, Medicine“, supported by Federal Ministry of Health and Women's Affairs



In the morning session the BioNanoNet technicians presented the BioNanoNet focus areas: Nikolaus Ladenhauf presented the past and future activities of the focus area sensortechnology, Christa Schimpel presented the nanotoxicology area, and Susanne Resch presented the health-safety-medicine area.

Afterwards the BioNanoNet members presented their innovative science and research to the more than 40 participants from all over Austria. The presentations and pictures are available in the [members area of the BioNanoNet website](#).

The afternoon session centered networking to stimulate the communication in between the participants. Intensive bilateral and group discussions as well as SusChem Austria and NanoMedicine-Austria interaction took place and opened the ground for new collaborations and add value addressing common goals.

In the evening the whole BioNanoNet team and its partners celebrated the BioNanoNet's 10<sup>th</sup> anniversary!

We thank all participants for their valuable contributions and hope that the meeting was inspiring for future collaborations.



## Conference Calendar

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### LED professional symposium + Expo LpS 2016

**When?** 20 – 22 September 2016

**Where?** Bregenz, Austria

For more information please visit the [event website](#).

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### NANOINNOVATION 2016

**When?** 20 – 23 September 2016

**Where?** Rome, Italy

For more information please visit the [event website](#).

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### FTI-Bundesländerdialog/Plenumstreffen 2016 der Nationalen Clusterplattform

**When?** 21 September 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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### 2<sup>nd</sup> International Congress on Clinical Trials for Medical Devices (CTMD2016)

**When?** 21 – 22 September 2016

**Where?** Berlin, Germany

For more information please visit the [event website](#).

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### 6. Steirischer Krebstag

**When?** 24 September 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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### TNT2016 - 17<sup>th</sup> edition of Trends in Nanotechnology

**When?** 25 – 28 September 2016

**Where?** Fribourg, Switzerland

For more information please visit the [event website](#).

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### 4<sup>th</sup> Conference on Innovation in Drug Delivery: Site-Specific Drug Delivery

**When?** 25 – 28 September 2016

**Where?** Antibes-Juan-les-Pins, France

For more information please visit the [event website](#).

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### **AM Ceramics 2016: Additive Manufacturing + Ceramics = Innovation**

**When?** 26 – 27 September 2016

**Where?** Nürnberg, Germany

For more information please visit the [event website](#).

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### **ICT Proposers' Day 2016**

**When?** 26 – 27 September 2016

**Where?** Bratislava, Slovakia

For more information please visit the [event website](#).

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### **Seminar sicheres Arbeiten mit Nanomaterialien**

**When?** 26 – 28 September 2016

**Where?** Dresden, Germany

For more information please visit the [event website](#).

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### **11<sup>th</sup> International Particle Toxicology Conference – IPTC**

**When?** 26 – 30 September 2016

**Where?** Singapore, China

For more information please visit the [event website](#).

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### **Kooperationsforum**

**When?** 27 September 2016

**Where?** Basel, Switzerland

For more information please visit the [event website](#).

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### **H2020 Consortia Building Workshop**

**When?** 27 September 2016

**Where?** London, United Kingdom

For more information please visit the [event website](#).

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### **16<sup>th</sup> Annual Biotech in Europe Forum**

**When?** 27 – 28 September 2016

**Where?** Basel, Switzerland

For more information please visit the [event website](#).

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### **MICRONORA 2016**

**When?** 27 – 30 September 2016

**Where?** Besancon, France

For more information please visit the [event website](#).

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### **Science Brunch der Biobank Graz & MEFO**

**When?** 28 September 2016, 9:00 a.m. – 12:00 p.m.

**Where?** Graz, Austria

For more information please visit the [event website](#).

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### **IMI Stakeholder Forum**

**When?** 28 – 29 September 2016

**Where?** Brussels, Belgium

For more information please visit the [event website](#).

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### **Micro Nano MEMS 2016**

**When?** 28 – 29 September 2016

**Where?** Birmingham, United Kingdom

For more information please visit the [event website](#).

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### **Sensors and Instrumentation for Test, Measurement and Control**

**When?** 28 – 29 September 2016

**Where?** Birmingham, United Kingdom

For more information please visit the [event website](#).

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### **ICONAN 2016 - International Conference On Nanomedicine And Nanobiotechnology**

**When?** 28 – 30 September 2016

**Where?** Paris, France

For more information please visit the [event website](#).

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### **19<sup>th</sup> European Health Forum Gastein**

**When?** 28 – 30 September 2016

**Where?** Bad Hofgastein, Austria

For more information please visit the [event website](#).

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### **24<sup>th</sup> International Conference on Materials & Technology (24 ICM&T)**

**When?** 28 – 30 September 2016

**Where?** Portoroz, Slovenija

For more information please visit the [event website](#).

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### **Physikalisch-technische Grundlagen der Computertomographie**

**When?** 29 September 2016

**Where?** Essen, Germany

For more information please visit the [event website](#).

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### **Workshop "Additive Manufacturing for medical applications"**

**When?** 29 – 30 September 2016

**Where?** Steyr, Austria

For more information please visit the [event website](#).

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### **Add+it 2016**

**When?** 29 – 30 September 2016

**Where?** Steyr, Austria

For more information please visit the [event website](#).

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### **10<sup>th</sup> Micro Nano Event**

**When?** 29 – 30 September 2016

**Where?** Besancon, France

For more information please visit the [event website](#).

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### **4<sup>th</sup> International Conference on Competitive Materials and Technology Processes (ic-cmtp4)**

**When?** 3 – 7 October 2016

**Where?** Miskolc-Lillafured, Hungary

For more information please visit the [event website](#).

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### **CPhI worldwide**

**When?** 4 – 6 October 2016

**Where?** Barcelona, Spain

For more information please visit the [event website](#).

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### **FFG Akademie Training: AntragstellerInnen KMU Instrument**

**When?** 5 October 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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### **Antragstellung in Horizon 2020 - Schwerpunkt kooperative Projekte**

**When?** 5 - 6 October 2016

**Where?** Graz, Austria

For more information please visit the [event website](#).

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### **Smarthome Kongress**

**When?** 5 – 6 October 2016

**Where?** Würzburg, Germany

For more information please visit the [event website](#).

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### **Biomarker Summit Europe 2016**

**When?** 5 - 7 October 2016

**Where?** Berlin, Germany

For more information please visit the [event website](#).

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### **Workshop Nanotechnologie im Rahmen der SALTEX 2016**

**When?** 6 October 2016

**Where?** Dornbirn, Germany

For more information please visit the [event website](#).

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### **Stakeholderkonferenz zum 9. EU-Forschungsrahmenprogramm**

**When?** 10 October 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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### **Zukunftsreise Composit- und Nanomaterialien**

**When?** 10 – 12 October 2016

**Where?** Moscow, Russia

For more information please visit the [event website](#).

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### **PROFACTOR Fachexkursion**

**When?** 11 October 2016

**Where?** Steyr, Austria

For more information please visit the [event website](#).

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### **Nanoforum 2016**

**When?** 11 – 13 October 2016

**Where?** Milano, Italy

For more information please visit the [event website](#).

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### **LISAvienna Business Treff in Kooperation mit Fit for Health 2.0: SMEs in Horizon 2020**

**When?** 12 October 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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### **Eurostars-Event 2016**

**When?** 12 October 2016

**Where?** Amsterdam, The Netherlands

For more information please visit the [event website](#).

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### **Netzwerktag 2016 - Chemie-Cluster Bayern GmbH**

**When?** 12 October 2016

**Where?** Munich, Germany

For more information please visit the [event website](#).

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### **Interreg Alpine Space Workshops**

**When?** 12 - 13 October 2016

**Where?** Grassau, Germany

For more information please visit the [event website](#).

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### **DIGITAL Medtech – be inspired**

**When?** 13 October 2016

**Where?** Linz, Austria

For more information please visit the [event website](#).

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### **Haftung und Versicherung bei klinischen Studien**

**When?** 13 October 2016

**Where?** Nürnberg, Germany

For more information please visit the [event website](#).

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### **Herald's International Conference and Exhibition on Nanomedicine and Nanotechnology (Nano-2016)**

**When?** 12 – 14 October 2016

**Where?** Baltimore, United States

For more information please visit the [event website](#).

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### **7<sup>th</sup> Szeged International Workshop on Advances in Nanoscience (SIWAN7)**

**When?** 12 – 15 October 2016

**Where?** Szeged, Hungary

For more information please visit the [event website](#).

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### **Medtech meets IT - smart technologies for medicine**

**When?** 13 October 2016

**Where?** Linz, Austria

For more information please visit the [event website](#).

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### **Research Public-Private Partnerships Infoday**

**When?** 14 October 2016

**Where?** Brussels, Austria

For more information please visit the [event website](#).

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### **Partnering Day „Solutions for a better life“**

**When?** 17 October 2016

**Where?** Linz, Austria

For more information please visit the [event website](#).

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### **Erfolgreiches Marketing von Medizinprodukten**

**When?** 18 October 2016

**Where?** Nürnberg, Germany

For more information please visit the [event website](#).

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### **Medical Software und APPs gesetzeskonform entwickeln**

**When?** 19 October 2016

**Where?** Munich, Germany

For more information please visit the [event website](#).

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### **NANOCON 2016**

**When?** 19 – 21 October 2016

**Where?** Brno, Czech Republic

For more information please visit the [event website](#).

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### **„Academia Meets Industry: Nanotechnology & High-Energy Physics**

**When?** 20 - 21 October 2016

**Where?** Darmstadt, Germany

For more information please visit the [event website](#).

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### **11<sup>th</sup> International Conference and Expo on Nanoscience and Molecular Nanotechnology**

**When?** 20 – 22 October 2016

**Where?** Rome, Italy

For more information please visit the [event website](#).

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### **13. Austrian Research and Innovation Talk – ARIT**

**When?** 22 October 2016

**Where?** Toronto, Canada

For more information please visit the [event website](#).

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### **FFG-Akademie Training: Marie Skłodowska-Curie**

**When?** 24 – 25 October 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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### **Nano 2016 - 4<sup>th</sup> International Conference “Nanotechnologies”**

**When?** 24 – 27 October 2016

**Where?** Tbilisi, Georgia

For more information please visit the [event website](#).

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### **European Pathways to Open Science**

**When?** 25 October 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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### **Crashkurs Vertragsmanagement und Produkthaftung für Medizinproduktehersteller**

**When?** 25 October 2016

**Where?** Nürnberg, Germany

For more information please visit the [event website](#).

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### **Active, Healthy Ageing in the EU: Growing the Silver Economy through Innovation and Partnership**

**When?** 26 October 2016

**Where?** Brussels, Belgium

For more information please visit the [event website](#).

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### **Conference Re-Industrialisation of the European Union 2016**

**When?** 26 – 28 October 2016

**Where?** Bratislava, Slovakia

For more information please visit the [event website](#).

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### **BIT's 6<sup>th</sup> Annual World Congress of NanoScience & Technology**

**When?** 26 – 28 October 2016

**Where?** Singapore, China

For more information please visit the [event website](#).

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### **Innovate 2016**

**When?** 2 – 3 November 2016

**Where?** Manchester, United Kingdom

For more information please visit the [event website](#).

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### **14<sup>th</sup> International Scientific Conference on Food Engineering and Biotechnology**

**When?** 5 – 6 November 2016

**Where?** Kuta, Bali-Indonesia

For more information please visit the [event website](#).

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### **Antragstellung in Horizon 2020 - Schwerpunkt kooperative Projekte**

**When?** 7 – 8 November 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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### **4<sup>th</sup> International Conference on Nanotechnology in Medicine**

**When?** 7 – 9 November 2016

**Where?** Warsaw, Poland

For more information please visit the [event website](#).

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### **5<sup>th</sup> International Conference NANOSAFE 2016**

**When?** 7 – 10 November 2016

**Where?** Grenoble, France

For more information please visit the [event website](#).

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## Applied Nanotechnology and Nanoscience International Conference – ANNIC 2016

**When?** 9 – 11 November 2016

**Where?** Barcelona, Spain

For more information please visit the [event website](#).

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## ISACS21: Challenges in Nanoscience

**When?** 10 – 12 November 2016

**Where?** Beijing, China

For more information please visit the [event website](#).

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## European Summit of Industrial Biotechnology

**When?** 14 - 16 November 2016

**Where?** Graz, Austria

For more information please visit the [event website](#).

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## Nano Bio Clean Tech 2016

**When?** 14 - 16 November 2016

**Where?** San Francisco, California

For more information please visit the [event website](#).

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## 9<sup>th</sup> Nanotrust Tagung

**When?** 17 November 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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## MAD-Nano 2016

**When?** 17 - 20 November 2016

**Where?** Madeira, Portugal

For more information please visit the [event website](#).

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## Projektmanagement in Horizon 2020

**When?** 22 - 23 November 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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### **Nano Bio Med 2016**

**When?** 22 - 24 November 2016

**Where?** Barcelona, Spain

For more information please visit the [event website](#).

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### **Klinische Studien für Medizinprodukte Qualifizierung zur Studienleitung nach MPG**

**When?** 23 -24 November 2016

**Where?** Munich, Germany

For more information please visit the [event website](#).

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### **3<sup>rd</sup> International Workshop on Material Science and Chemical Engineering**

**When?** 26 - 27 November 2016

**Where?** Istanbul, Turkey

For more information please visit the [event website](#).

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### **Joint scientific conference of NANoREG, ProSafe & OECD**

**When?** 29 November – 1 December 2016

**Where?** OECD/Paris, France

For more information please visit the [event website](#).

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### **World Congress on Clinical Trials in Diabetes (WCTD2016)**

**When?** 30 November – 1 December 2016

**Where?** Berlin, Germany

For more information please visit the [event website](#).

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### **FFG Akademie Training - Eurostars: Was macht einen guten Antrag aus?**

**When?** 1 December 2016

**Where?** Vienna, Austria

For more information please visit the [event website](#).

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### **Schäden vermeiden – Kosten sparen - Werterhaltung im Zusammenhang mit Reinigung und Desinfektion**

**When?** 1 December 2016

**Where?** Graz, Austria

For more information please visit the [event website](#).

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### **ICI Meeting 2016**

**When?** 4 – 6 December 2016

**Where?** Tel Aviv, Israel

For more information please visit the [event website](#).

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### **13<sup>th</sup> International Conference on Nanotek and Expo**

**When?** 5 – 7 December 2016

**Where?** Phoenix, Arizona

For more information please visit the [event website](#).

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### **European Summit on Innovation for Active and Healthy Ageing**

**When?** 5 – 8 December 2016

**Where?** Brussels, Belgium

For more information please visit the [event website](#).

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### **7<sup>th</sup> NRW Nano-Konferenz**

**When?** 7 – 8 December 2016

**Where?** Münster, Germany

For more information please visit the [event website](#).

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### **Nanophotonics and Micro/Nano Optics International Conference – NANOP 2016**

**When?** 7 – 9 December 2016

**Where?** Paris, France

For more information please visit the [event website](#).

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### **International Conference on Soft Materials (ICSM 2016)**

**When?** 12 – 16 December 2016

**Where?** Jaipur, India

For more information please visit the [event website](#).

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### **International MicroNanoConference 2016**

**When?** 13 – 14 December 2016

**Where?** Amsterdam, The Netherlands

For more information please visit the [event website](#).

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### **ICNSNT - 3<sup>rd</sup> Annual International Conference on Nanoscience & Nanotechnology**

**When?** 15 – 16 December 2016

**Where?** Colombo, Sri Lanka

For more information please visit the [event website](#).

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### **International Symposium on Nanoelectronic and Information Systems (IEEE-iNIS)**

**When?** 19 – 21 December 2016

**Where?** Gwalior, India

For more information please visit the [event website](#).

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### **RNA Nanotechnology and Extracellular RNA**

**When?** 21 – 22 January 2017

**Where?** Ventura, California

For more information please visit the [event website](#).

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### **Complex Active & Adaptive Material Systems**

**When?** 29 January – 3 February 2017

**Where?** Ventura, California

For more information please visit the [event website](#).

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### **2017 Malaga**

**When?** 7 – 9 February 2017

**Where?** Malaga, Spain

For more information please visit the [event website](#).

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### **2<sup>nd</sup> Biomarker conference**

**When?** 13 – 14 February 2017

**Where?** Graz, Austria

For more information please visit the [event website](#).

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### **ATTD - 10<sup>th</sup> Int. Conference on Advanced Technologies & Treatments for Diabetes**

**When?** 15 – 18 February 2017

**Where?** Paris, France

For more information please visit the [event website](#).

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### **Nano tech 2017**

**When?** 15 – 17 February 2017

**Where?** Tokyo, Japan

For more information please visit the [event website](#).

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### **International Conference on "Advances in Biological Systems and Materials Science in NanoWorld"**

**When?** 19 – 22 February 2017

**Where?** Varanasi, India

For more information please visit the [event website](#).

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### **7<sup>th</sup> Annual Congress on Materials Research and Technology**

**When?** 20 – 22 February 2017

**Where?** Berlin, Germany

For more information please visit the [event website](#).

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### **Crash-Kurs Klinisches Risikomanagement und dessen Rahmenbedingungen**

**When?** 21 February 2017

**Where?** Nürnberg, Germany

For more information please visit the [event website](#).

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### **Biomarkers for Cancer Immunotherapy Symposium**

**When?** 23 – 24 February 2017

**Where?** San Francisco, USA

For more information please visit the [event website](#).

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### **Nanomaterials for Applications in Energy Technology**

**When?** 26 February – 3 March 2017

**Where?** Ventura, California

For more information please visit the [event website](#).

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### **Society for Risk Analysis Policy Forum: Risk Governance for Key Enabling Technologies**

**When?** 1 – 3 March 2017

**Where?** Venice, Italy

For more information please visit the [event website](#).

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### **5<sup>th</sup> International Conference on Multifunctional, Hybrid and Nanomaterials**

**When?** 6 - 10 March 2017

**Where?** Lisbon, Portugal

For more information please visit the [event website](#).

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### **NANOTEK 2017**

**When?** 11 – 13 March 2017

**Where?** Hamburg, Germany

For more information please visit the [event website](#).

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### **10<sup>th</sup> International Conference and Exhibition on Pharmaceutics & Novel Drug Delivery Systems**

**When?** 13 – 15 March 2017

**Where?** London, Great Britain

For more information please visit the [event website](#).

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### **3<sup>rd</sup> Annual World Congress of Smart Materials-2017**

**When?** 16 – 18 March 2017

**Where?** Bangkok, Thailand

For more information please visit the [event website](#).

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### **3<sup>rd</sup> International Conference on Smart Materials & Structures**

**When?** 20 –22 March 2017

**Where?** Orlando, FL, USA

For more information please visit the [event website](#).

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### **BioNanoMed 2017**

**When?** 20 –22 March 2017

**Where?** Krems, Austria

For more information please visit the [event website](#).

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### **World Congress and Expo on Nanotechnology and Nanoengineering**

**When?** 27 –29 March 2017

**Where?** Dubai, United Arab Emirates

For more information please visit the [event website](#).

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### **Graphene 2017**

**When?** 28 – 31 March 2017

**Where?** Barcelona, Spain

For more information please visit the [event website](#).

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### **14<sup>th</sup> Global Experts Meeting on Nanomaterials and Nanotechnology**

**When?** 30 – 31 March 2017

**Where?** Madrid, Spain

For more information please visit the [event website](#).

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### **Plant Based Summit - The Biobased Solutions international conference and exhibition**

**When?** 25 – 26 April 2017

**Where?** Lille, France

For more information please visit the [event website](#).

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### **Panel on Nanomedicine & Nanobiotechnology**

**When?** 1 – 4 May 2017

**Where?** Athens, Greece

For more information please visit the [event website](#).

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### **CLINAM 2017**

**When?** 7 – 10 May 2017

**Where?** Basel, Switzerland

For more information please visit the [event website](#).

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### **Maastricht Conclave 2017**

**When?** 10 – 11 May 2017

For more information please visit the [event website](#).

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### **2<sup>nd</sup> World Congress on Polymer Science and Engineering**

**When?** 15 – 17 May 2017

**Where?** Valencia, Spain

For more information please visit the [event website](#).

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### **15<sup>th</sup> World Medical Nanotechnology Congress & Expo**

**When?** 22 – 23 May 2017

**Where?** Osaka, Japan

For more information please visit the [event website](#).

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### **8<sup>th</sup> International Conference and Exhibition on Materials Science and Engineering**

**When?** 29 – 31 May 2017

**Where?** Osaka, Japan

For more information please visit the [event website](#).

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### **16<sup>th</sup> World Nano Conference**

**When?** 5 – 6 June 2017

**Where?** Milano, Italy

For more information please visit the [event website](#).

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### **International Workshop on Computational Nanotechnology**

**When?** 6 – 9 June 2017

**Where?** Windermere, United Kingdom

For more information please visit the [event website](#).

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### **ADA 77<sup>th</sup> Scientific Sessions**

**When?** 9 – 13 June 2017

**Where?** San Diego, United States

For more information please visit the [event website](#).

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### **9<sup>th</sup> World Congress on Materials Science & Engineering**

**When?** 12 – 14 June 2017

**Where?** Rome, Italy

For more information please visit the [event website](#).

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### **6<sup>th</sup> Annual World Congress of Advanced Materials 2017**

**When?** 14 – 16 June 2017

**Where?** Xi'an, China

For more information please visit the [event website](#).

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### **Euro Nano Forum 2017**

**When?** 21 – 23 June 2017

**Where?** Valetta, Malta

For more information please visit the [event website](#).

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## **NANOTECHNOLOGY 2017**

**When?** 1 – 8 July 2017

**Where?** Thessaloniki, Greece

For more information please visit the [event website](#)

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## **10<sup>th</sup> Advanced Study Course on Optical Chemical Sensors (ASCOS)**

**When?** 20 - 28 July 2017

**Where?** Trest, Czech Republic

For more information please visit the [event website](#)

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## **NanoTox 2018**

**When?** 18 – 21 September 2018

**Where?** Düsseldorf, Germany

Save the date!

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## Finally

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

Our next BioNanoNet newsletter will be published in December 2016.

BioNanoNet partners are welcome to send their contributions until 12<sup>th</sup> of December 2016!

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The BioNanoNet team - from the left: Christa Schimpel, Susanne Resch, Nikolaus Ladenhauf, Gabriele Katz, Andreas Falk, Simone Jagersbacher, Petra Zechner and Angelika Halbedl-Herrich © BioNanoNet