Nano-medicine

Minute robots which are injected into our bodies in order to seek out and repair specific organs or cells which have suffered damage may still be the stuff of science fiction today. However, in the fields of diagnostics and therapy developments in nanotechnology are making it possible, for example, to target and destroy a tumour without damaging neighbouring healthy tissue. Or ensuring that implants grow together with the body's own tissue, even encouraging it to regenerate. Or helping to diagnose diseases significantly faster than before, thereby enabling treatment to begin earlier.

Nano for energy and environmental technologies

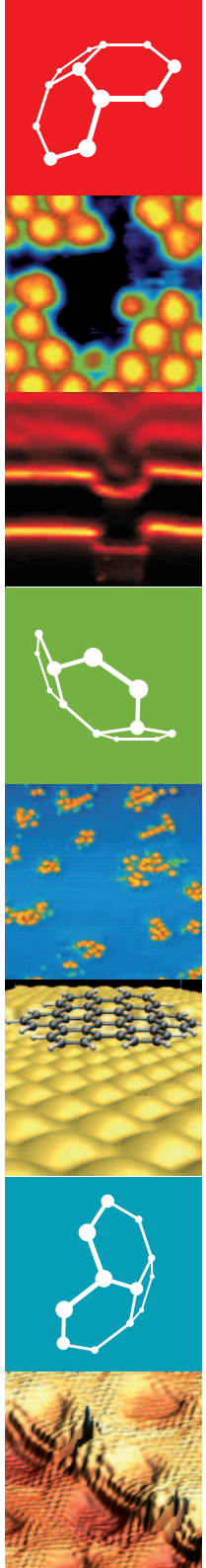
It is not just our fossil fuels which are slowly running out – other resources are gradually becoming scarce too, which is why energy and resource efficiency is a topic of increasing significance. Whether in innovative, polymer-based solar cells, in the course of the remediation of contaminated soil and water, or in the form of more efficient catalytic technologies for keeping the air clean – nanoscale effects and nanostructured materials with novel properties are very promising in terms of sustainable energy generation in the post-fossil-fuel age. And under the label "Green Nano" they also find important applications in environmental and resource-friendly technologies.

Nano security

How safe and unproblematic are "nano" technologies? Which nanotechnology applications are harmless, which ones do we need to treat with caution? And how do we – society in general – deal with novel technologies, which are by definition associated with inherent risks? To answer these questions satisfactorily requires in the first instance a great deal of research work which will identify the possible risks involved with nanotechnology. Only so can we differentiate between beneficial applications and those which bring risk in their wake – in other words establishing a secure basis for the responsible exploitation of nanotechnology.

Nano for IT and electronics

Over the past years our computers have become increasingly more powerful thanks to progress in microtechnology. If current trends continue then tomorrow's computers will necessarily have to use nanoelectronic circuits. Electronic components consisting of individual molecules, bits "coded" by means of sub-atomic properties, and storage devices which will be able to handle gigantic amounts of data with complete security (because they are non-erasable)….these are just a sample of the promising developments offered by "nano" in the worlds of information and communication technology which may soon be reality.



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nanoconvention 2009

Nanotechnology and its Effects on Medicine, the Economy, the Environment and Society

3rd Nanoconvention, Monday 6th July, at the Swissôtel Zurich-Oerlikon

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nanoCONVENTION 2009

As one of the key technologies of the 21st century, nanotechnology will significantly shape our economy, our society and indeed our lives. Already today it finds uses in many areas, from IT and electronics via materials with "tailor-made" properties to medical applications in the fields of diagnostics and therapy. But the bright future for products and processes improved and enhanced by nanotechnology is clouded by questions of safety and security. How do nanoparticles behave in the human body? How do they react with our environment?

In order to discuss these questions, and also future (more or less) desirable developments related to the "nano" theme, among as wide an audience as possible, Empa decided three years ago to establish a platform for dialog – the NanoConvention. In 2009, for the third time, we are bringing together the most important players from science, industry, the economy, finance, politics, the administration and society, this time in Zurich. Workshops, lectures and discussion sessions will be organized where high profile speakers from Switzerland and abroad will illuminate from various perspectives the latest developments in the world of nanotechnology, debate the risks involved and the opportunities offered, and dare to predict what the future holds in store.

The aim is to encourage research and development activities in this promising field, with the object of paving the way for the development of safe and sustainable nanotechnology. For only by responsibly handling new technologies will they become the engines of national economies reliant on innovation such as those of Switzerland. Society and science have learnt from the past that evaluating the consequential effects of new technologies is an essential part of the development and implementation process.

We are convinced that the Swiss NanoConvention 2009 – now practically a traditional event – will offer an excellent opportunity for fascinating, controversial discussion, and we cordially invite you to Zurich to be a part of it.

Target audience

- Those involved in education, research and innovation in the field of nano(bio)technology
- High-tech SMEs and companies active the in the field of nanotechnology
- Business associations, cantonal economic development bodies, CCIs, banks, in-vestors
- Local and central government departments and administrations, research support and development organizations, interested parliamentarians
- Insurance companies, specialists in technology assessment

Program

Begrüssung	**9:00**	Prof. Dr. Hans-Joachim Güntherodt, Uni Basel Dr. Ingrid Kissling-Näf, KTI	
Keynote 1	**9:15**	Prof. Dr. Wolfgang Heckl, LMU/Deutsches Museum	
Pause/Break	**10:15**		
	10:45	**Session 1: Nano-Medizin** Dr. Andreas Jordan, MagForce Dr. Michael Schuleit, Novartis Prof. Dr. Markus Textor, ETH Zürich **Chair** Prof. Dr. Hans-Joachim Güntherodt, Uni Basel	**SATW-Session: Nano für Energie- und Umwelttechnologien** Prof. Dr. Christoph Ballif, EPFL-IMT Neuenburg Prof. Dr. Andreas Züttel, Empa Dr. Jean-Pierre Petit, Georg Fischer **Chair** Dr. Pierangelo Gröning, Empa
Lunch	**12:15**		
Keynote 2	**13:15**	Dr. Gerd Grenner, Roche Diagnostics	
	14:15	**Session 3: Nano-Sicherheit** Dr. Péter Krüger, Bayer MaterialScience AG Prof. Dr. Alfred Nordmann, TU Darmstadt Dr. Maureen Gwinn, US Environmental Protection Agency **Chair** Prof. Dr. Harald Krug, Empa	**Session 4: Nano für IT und Elektronik** Dr. Paul Seidler, IBM Research Zürich Prof. Dr. Daniel Loss, Uni Basel Prof. Dr. John Boland, CRANN/Trinity College **Chair** Prof. Dr. Hans Josef Hug, Empa
Pause/Break	**15:45**		
Keynote 3	**16:15**	Dr. Bertrand Piccard, Solar Impulse	
MNT Master-Laudatio	**17:15**	Prof. Dr. Rudi Feurstein, FH Vorarlberg	
Verabschiedung	**17:30**	Prof. Dr. Hans Josef Hug, Empa	
Networking-Apéro	**17:40**		

Conference fee CHF 380.– (CHF 80.- for students) The conference fee covers entry to the convention, lunch, refreshments during breaks, a cocktail reception and the conference package including proceedings.

Registration Register online here or by post, by latest 19th June 2009. You will receive confirmation of your registration together with the invoice.

Cancellation The Cancellation Fee is CHF 100.- for cancellation up to 10 days prior to the event. In case of later cancellation you will be charged the full conference fee. You may nominate a person to replace you at any time.