

Press release

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NanoPubli: A look into nanotechnology offered to the public at large

Tiny “great” nanoparts

Our daily lives are influenced by tiny nanoparticles. These small units are present in such common products as artificial hip joints, metal cake containers, ties, bicycles or holograms, to name a few. At the recent Nano Publi Fair in St. Gallen, EMPA together with 13 Nanotechnology firms and organizations exhibited and expounded to students and the public at large the opportunities and risks of nanotechnology.

The NanoPubli Fair took place at the Olma Exhibition Halls in St. Gallen from September, 12 to 14, while a scientific conference on Nanotechnology was in progress next door. As in the previous NanoPubli Fair, various aspects of the ever booming nano research were reported, in an easy to understand manner, designed to inform a wider public.

An eye opener for opportunities and risks

“Nano components with mega effects”, and “The hard disc – possible with nano magnetism” were two of the new topics about which information was presented by Empa experts. The various demonstration experiments were very popular, and more than 400 students and other visitors from the Eastern part of Switzerland could participate. One student from the St. Gallen Canton School who tried and failed to break a gossamer thin ceramic stick said: “The Nano film we saw gave us a good background, and I now understand why I had no chance of breaking this ceramic rod”. Afterwards, his curiosity aroused, he talked at length with Empa-expert Thomas Graule, about the nanostructure of the ceramic stick. In show presentations, the public could see several times a day how small a nanometer actually is. Peter Wick, the Empa expert, explained to the astounded audience, that the relation of a nanometer to the height of an average person is like the relation between that person’s height and the size of the sun. In another experiment, the audience readily saw one of the many advantages of nanoparticles that can only be seen with the aid of a atomic force microscope: many small particles together have a larger surface than a large individual particle, and therefore react better chemically. A demonstration with sugar was presented: while small powder sugar particles with their large surface dissolved instantly in water, the

same amount of sugar in the form of one rock crystal with a smaller surface, remained solid for some minutes.

The discussions dealt not only with the opportunities presented by the new technology, but also with the risks thereof. Empa is a leader in research in this field as well, and at the NanoPubli Fair, Empa showed how, for example, it attempts to measure and determine risks posed by the effects of nanoparticles on biological materials.

Invisibly small and yet present everywhere

In addition to Empa, 13 nanotechnology firms and organizations also exhibited their products at the NanoPubli Fair. A manufacturer of kitchenware demonstrated how thanks to a coating by nanoparticles, cake tins need no longer be scrubbed; a proud Swiss textile entrepreneur showed his tie collection from which a stain made by salad oil can easily be washed off; at a bicycle maker's display, one could see ultra light bicycles strengthened with nano particles, and yet another business man explained how with the aid of nano holograms he can be certain that currencies from 70 various countries are genuine.

The largest European conference

The NanoPubli Fair took place during the NanoEurope Fair & Conference. NanoEurope is the largest of its type in Europe and was organized for the fourth time by OLMA Messen St. Gallen and the "Micro and Nanotechnology Center Euregio, Lake Constance"(MNCB), an international nanotech professional center. This year, scientists from many countries discussed nano applications in medical technology, in the textile industry and in plastics. Another important discussion topic dealt with the legal regulations of nanotechnology. The NanoPubli Fair was rated highly as part of the NanoEurope Fair & Conference. As Hanspeter Egli, the director of the OLMA said: "The NanoPubli Fair is important because it disseminates knowledge in concrete form". Walter Muster, a member of Empa's Board of Directors added: "Nanotechnology sets new trends, for example in sport equipment, and holds a great potential for new professional opportunities. Therefore it is especially of great interest to young people about to embark on a career".

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