Lausanne, 2nd July, 2013

Press release

Harnessing infinitely small matter to dose medication, manage pollution and predict landslides

In 2008, the Swiss federal parliament launched the Nano-Tera.ch research initiative in the fields of healthcare, the environment, energy and security. The Swiss National Science Foundation (SNSF) is responsible for the evaluation of the projects. Five years later, concrete results have been presented, revealing game-changing medical and technological innovations in the areas of healthcare, air/water pollution management and landslide prevention.

By harnessing the power of miniaturised devices and wireless communication systems, Nano-Tera.ch aims to design ultra-small (nano) electronic systems that can produce and process large (tera) volumes of data.

Nano-Tera? Small technology, big impact

Nano-Tera.ch is built around clear objectives. Researchers working in higher education institutions and industry research centres have firmly set their sights on providing tangible solutions to today's problems. In the field of healthcare, for example, they have developed a miniaturized subdermal blood analysis lab measuring human metabolites and transmitting their results through wireless channels, as well as a portable device capable of monitoring cardiac parameters (ECG). In the field of medical treatment, it will in the future be possible to tailor drug dosages to the needs of each patient, thereby reducing costs. Another project has created a system for obtaining detailed measurements of urban air pollution by placing sensors on public transport vehicles. By installing a network of detectors in steep areas across the Swiss Alps, it is now possible to measure the changing extent of land displacement. Lastly, an inter-disciplinary team has come up with a system for measuring water quality through continuous monitoring, based on the reaction of living cells to pollutants.

Nano-Tera.ch involves the key players of Swiss research in the field: the two federal institutes of technology, 9 universities, several universities of applied sciences as well as public and private research centres. The program is evaluated by the Swiss National Science Foundation. Starting in 2013, activity will be broadened to include new projects in association

with hospitals in Zurich, Berne, Lausanne and Schaffhausen. The emphasis on concrete applications will be further strengthened.

On this subject

More information can be found on the program website (http://www.nano-tera.ch), in particular:

- Video presenting the overall Nano-Tera program.
- A description of the research projects from Nano-Tera Phase I 2008-2013 (http://www.nano-tera.ch/forward/brochure.html)
- The list of all research projects funded by Nano-Tera, with a specific page providing videos and photos.

Contact

Dr. Patrick Mayor
Scientific Coordinator, Nano-Tera.ch
EPFL
CH-1015 Lausanne
Phone: +41 21 693 81 66
E-mail: patrick.mayor@nano-tera.ch