

Center for Applied Nanotechnology

Newsletter . Edition 1 – July 2007

CAN GmbH makes a successful start in Hamburg, a city of science and research

Merck, the chemical and pharmaceutical group, joins the CAN Sponsoring Body

Approximately 18 months after being opened, the Center for Applied Nanotechnology (CAN) has established itself as a center for development and application in Hamburg, a location focused upon science and research. CAN Executive Vice President, Dr. Frank Schröder-Oeynhaus, reports, “We have fulfilled the high expectations with regard to business developments for the past months. In this way, we have been able to acquire in 2006 already 18 development and support orders for industrial nanotechnological applications with a sales volume of approximately € 900,000.” What started as a core team at the beginning of 2006 with six employees, has now grown to a CAN-team of 15 staff and is due to grow to a size of 50 by the year 2010.



Recently, a further leading company from within the chemical and pharmaceutical industry, Merck KGaA, was secured as a member of the Sponsoring Body of CAN GmbH. “With its well-established know-how of the various application areas of nanotechnology, CAN GmbH is an ideal partner for our company,” declares Dr. Volker Hilarius, Head of Licensing within the Chemicals Business Development sector of Merck, who is looking forward to the new partnership with CAN.

“We expect to achieve a profitable liaison for both parties and are presently sounding out the optimal form of future cooperation.”

The Supervisory Board also confirmed the success of CAN GmbH. “The involvement of industry in CAN GmbH via the Sponsoring Body has proved itself. This guarantees a market and product-oriented alignment of CAN’s activities,” reports Prof. Dr. Klaus-Peter Wittern, Head of Research and Development at Beiersdorf AG and Chairman of the Sponsoring Body and Supervisory Board. “CAN offers us, as a company, direct access to the development of new processes and products with the aid of nanotechnology.”

CAN widens its partnership basis: Nanogate AG as licensee



After acquiring a substantial block of patents from the insolvency assets of Nanosolutions GmbH, CAN licensed out some of them to Nanogate AG for the area of product and trademark protection. Nanogate AG works together very closely in this field with the US company, Authentix Inc., a global market leader in this sector. The technology concerns special, nanoscale marker materials which are non-copyable and only recognizable with the use of special identification technologies. “We have acquired in Nanogate a further important industry partner,” reports CAN Executive Vice President, Dr. Frank Schröder-Oeynhaus.

en. “In the area of marker material applications for safety technology, the Center has carried out important preparatory work which will now be translated into the market with the cooperation between Nanogate and Authentix.” The advantage of the technology is that the system can be customized to fit the needs of the respective customer. In this way, pharmacy products, consumer goods and banknotes can be tagged with the trademark protection. In doing so, CAN GmbH will profit directly from the sales successes of Nanogate AG and Authentix. Furthermore, new projects are in the planning within the scope of the partnership between Nanogate AG and Authentix.

Contact Dr. Frank Schröder-Oeynhaus (Executive Vice President), e-mail: fso@can-hamburg.de

INCH begins work in Hamburg

In addition to CAN, the Interdisciplinary Nano Center Hamburg (INCH) which deals with all aspects of basic research, was set up at the beginning of June. “The multidisciplinary character of nanotechnology requires a strong and efficient networking of scientists,” declares Prof. Dr. Horst Weller, Scientific Director of CAN GmbH as well as one of the coordinators of INCH. “Having INCH as an affiliated organization to CAN enables us to widen our profile strategically with the collaborative and interdisciplinary basic research of scientists from the fields of physics, chemistry, biology, medicine and information technology.” With the arrival of INCH, the nanotechnological expertise and service offering in place in Hamburg will be expanded in future to include approximately 50 further scientific staff.

Contact Prof. Dr. Horst Weller (Scientific Director), e-mail: weller@can-hamburg.de

New cosmetic applications under development



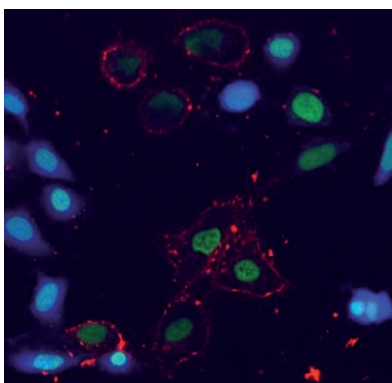
Nanoparticles are now used in many cosmetic products. Sunscreens with titanium dioxide particles are already on the market, as are day creams with nanospheres made of zinc oxide to combat harmful UV rays. CAN nanotechnology finds use in the development of new applications of nanoparticles and special polymers for cosmetic products. For example, the active substances of a deodorant can be selectively encapsulated in nanodroplets that penetrate the skin more easily and are therefore tolerated better by

sensitive skin. Furthermore, in a special project being carried out by CAN GmbH, toxicity tests are being developed on different cellular skin cells (fibroblasts and keratinocytes) which will make it possible to comment on the tolerance of nanoparticles on the skin.

Contact Dr. Vesna Aleksandrovic (Cosmetics), e-mail: aleksandrovic@can-hamburg.de

Innovationsstiftung sponsors new toxicological tests

In a project sponsored by the Innovationsstiftung (Hamburg Foundation for Innovation Support), CAN is developing a standardized test for use in the field of interactions of nanoscale materials



with human skin cells, respiratory tracts and the alimentary canal. This test procedure allows an assessment of the potential toxicological effect of nanoparticles with a high throughput of test material (cells). The focus of this test concentrates on synthetically created, “functional” nanoparticles. These are brought into contact with the cells, whose reaction is measured and analyzed. A standardized reaction sequence (assay) to be developed shows the stress reaction induced by the nanoparticles. The applications for this range from pure toxicological tests to research in the field of diagnostics and therapy applications.

The approach is particularly meaningful for use in the pharmaceutical industry or cosmetics.

Contact Dr. Tatjana Achenbach (Nanobiotechnology), e-mail: achenbach@can-hamburg.de

Services for Industry and Research

The Research and Development department of CAN GmbH advises industrial enterprises and research institutions on the optimization of products and processes, deploying all of its experience. In assisting the customer, CAN draws upon its own know-how and equipment in the field of



synthesis, modification and analysis of nanoparticles. In the characterization of nanostructured systems, imaging, quantifiable and structural analysis techniques are employed: with the help of CAN nanoanalysis, the characteristic properties of nanostructures, such as size, form, chemical composition, surface structure, but also electrical and physico-chemical features are directly accessible. The wide range of available methods enables CAN to carry out specific research for industrial custom-

ers and make reliable statements regarding both quality assurance as well as ongoing development of a product.

Contact Dr. Christoph Gimmler (Nanoparticle Technology), e-mail: gimmler@can-hamburg.de

Well run!

Taking part on June 2nd was what counted – for CAN GmbH, too. A team of 13 employees from CAN with the start number A/292 took part in the four kilometer HSH Nordbank Run VI through the HafenCity in order to support the campaign “Kinder helfen Kindern” (Children help children)



with the donation of the entry fee. In optimal weather conditions for running the circuit through Hamburg’s new district, all “finishers” were welcomed with enthusiastic cheers at the finishing line by our supporters – the friends of CAN. After the successful run, we wrapped up the day listening to music from the stage and enjoying the culinary offerings. We also gave some thought to our participation next year, when it’s time for: On your marks, get set, go!

CAN Partners

In good company

Beiersdorf AG www.beiersdorf.com
Eppendorf AG www.eppendorf.com
Olympus Winter und Ibe GmbH www.olympus-owi.de
Evotec Technologies GmbH www.evotec-technologies.com
Nanogate AG www.nanogate.com
Merck KGaA www.merck.de
Freie und Hansestadt Hamburg, Behörde für Wissenschaft und Forschung
<http://fhh.hamburg.de/stadt/Aktuell/behoerden/wissenschaft-forschung>
Hamburger Sparkasse www.haspa.de
Handelskammer Hamburg www.hk24.de
Innovationsstiftung Hamburg www.innovationsstiftung.de
Norddeutsche Life Science Agentur Norgenta www.norgenta.de
Kompetenzzentrum Hansenanotec www.nanoscience.de/hansenanotec
Universität Hamburg www.uni-hamburg.de



CAN GmbH offers companies and research institutions contract research and development services in the area of nanotechnology and participates in national and international research programs. The focus of activities is on the utilization of new findings made in chemical nanotechnology and nanoanalysis, particularly in the areas of consumables, special polymers and health care. The main areas of expertise include, in addition to the characterization of nanostructures, the production of numerous nanoparticulate and nanocomposite materials, the encapsulation of active substances as well as the development of nanoparticle-based biological and medical markers.

CAN GmbH
Grindelallee 117
20146 Hamburg
Germany

P +49.40.428 38 - 49 83
F +49.40.428 38 - 57 97
info@can-hamburg.de
www.can-hamburg.de