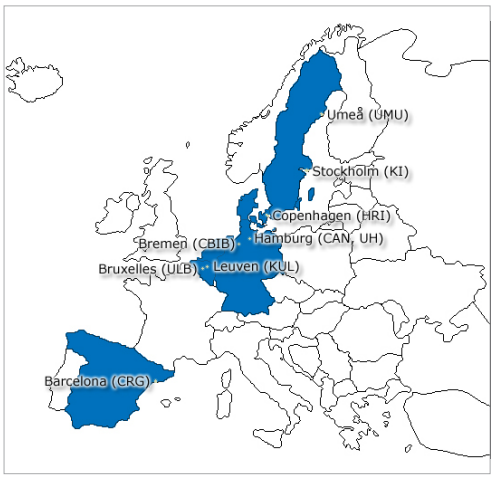
Center for Applied Nanotechnology

Newsletter . Edition 8 - September 2009

CAN GmbH Coordinates International Consortium

EU Project VIBRANT for Early Diagnosis of Diabetes



The major European project "VIBRANT" (in Vivo Imaging of Beta Cell Receptors by Applied Nanotechnology) for early diagnosis of diabetes initiated and coordinated by CAN GmbH has been approved by the European Commission and began work on 1 July. Just under half of the total funding of approx. eight million Euros has already been provided to start research work. For the next four years an international consortium of nine renowned European research institutions will study the labeling and quantification of pancreatic beta cells with the objective of early detection of diabetes and finding new therapeutic approaches for the prevention and cure of diabetes.

"As the originator of the idea and applicant, CAN GmbH is responsible for coordination of the whole project and development of the required highly complex nanoparticles," said Business Development Expert and Project Manager Dr. Theo Schotten of CAN GmbH. "The grant agreement has now been signed by Brussels and work has begun." To make the results of VIBRANT available for clinical development, the project will be supported by an "Industrial Advisory Board" (IAB). This will allow incorporation of the experience and requirements of the pharmaceutical industry from the very start of the project. Two important pharmaceutical companies doing research internationally that specialize in diabetes are about to sign the agreement that will make their participation possible. Participation is free of charge for interested companies. The agreement assures equal treatment of all industrial partners involved in the IAB. The VIBRANT Consortium is striving to fill the IAB with five to eight pharmaceutical companies. Interested companies are requested to contact the project coordinator directly. Further information on the Consortium can be found at www.fp7-vibrant.eu

Contact Dr. Theo Schotten, E-Mail: ts@can-hamburg.de

Infection Quick Test for Serums

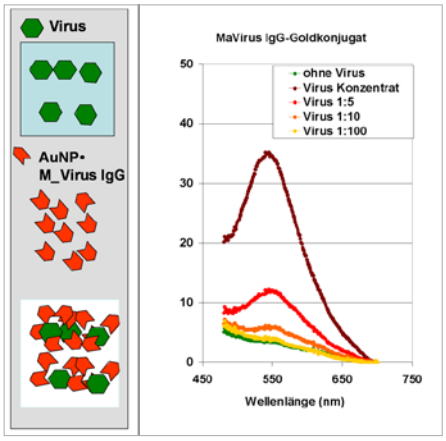


Plate-based capture assay for detection of virus production in cell culture

In a BMBF (Federal Ministry of Education and Research)-funded feasibility study CAN GmbH is developing a field test for diagnosis of a viral infection in humans based on a lateral flow assay. The aim of the project is optimization of suitable nanoparticle systems and their binding to the corresponding biomarker proteins. The focus is on analysis of biomolecular hybrids of spherical and rod-shaped gold nanoparticles as well as water-dispersible fluorescent semiconductor nanoparticles. The Hamburg Bernhard-Nocht-Institute for Topical Medicine has provided for this study a monoclonal antibody to the virus as well as in vitro amplified deactivated viruses. Highly sensitive tests are needed to be able to already measure the still low antibody titre shortly after infection. This currently requires sophisticated laboratory equipment and a trained staff, which the main areas of infection, however, usually still lack. A highly sensitive, field point-of-care test that allows identification of this virus infection and a differential diagnosis with simple technical resources at nearly any point of use would be extremely helpful to the affected patients and the medical staff. With this project CAN GmbH is expanding its nanobiotechnology portfolio and gaining insights into the size- and shape-dependent behaviour of conjugated metallic and metalloid nanoparticles.

Contact Katja Werner, E-Mail: kw@can-hamburg.de

Cluster of Excellence “Nanotechnology in Medicine“ Approved

As part of the Hamburg State Excellence Initiative, the Grants Committee of the Hamburg government has recommended funding for the “Nanotechnology in Medicine (NaMe)” cluster of excellence. The cluster, which was based on already established interdisciplinary cooperation in Hamburg and an excellent expert opinion for the last federal excellence initiative, will research potential uses of artificial nanostructures in experimental medicine. It combines in a unique way the world’s leading expertise in the synthesis of nanostructures for biomedical applications, molecular imaging techniques and selected areas of medical research. The nanostructures used will be custom-made nanoparticles, beads and capsules that are tagged with molecular recognition structures and allow cellular targeting. When combined with sophisticated methods of molecular imaging, single-particle and single-cell detection becomes possible under in vitro and in vivo conditions. The objective is to use these techniques for the diagnosis and therapy of cancer, metabolic, neurologic and infectious diseases as well as arteriosclerosis. CAN’s involvement in the project entails not only preparing the nanoparticle systems but also studying their toxicity. In addition, the CAN Team brings to the cluster of excellence expertise in technology transfer.

Contact Dr. Frank Schröder-Oeynhausen, E-Mail: fso@can-hamburg.de

Sponsor of the Colloid Society Meeting in Hamburg

From 28 to 30 September the 44th Biennial Meeting of the German Colloid Society will take place in Hamburg. The topic of the meeting is: "Interface biology with synthetic nanostructures". This year CAN GmbH is one of the sponsors of the General Meeting in the Hansestadt. Many internationally renowned scientists, who will present their research results on the meeting topic in papers and posters, are expected. Information on the programme and registration can be found at: www.colloid2009.chemie.uni-hamburg.de/index.htm

Contact Dr. Thomas Frahm, E-Mail: tf@can-hamburg.de

Trade Show Presence at the SEPAWA Congress in Wurzburg

For the first time CAN GmbH will be present as an exhibitor at the SEPAWA Congress in Wurzburg from 14 to 16 October 2009 (Booth 47a). SEPAWA (Association of Soap, Perfume and Detergent Experts e.V.) is with more than 1,200 members one of the largest expert associations in Europe. The goal of this national association is to support the branches of the detergents and cleaners, cosmetics and perfume industries as well as chemical technical applications. During this expert congress CAN GmbH will present its expertise and technology platforms in the field of cosmetics to an interested public. The focus will be on the latest results and concepts from the areas of chemical nanotechnology and nanoanalysis that are finding their way directly into new consumer and medical products. The main interests of CAN research are the preparation of nanoparticle functional materials, thickeners, emulsions, encapsulation of active substances as well as development of new actives for the cosmetic industry. The development of nanomaterials and polymers is accompanied by studies on the biocompatibility and toxicity, which are likewise performed at CAN. In a paper by Dr. Andrea Salcher, CAN's main research interests and their fields of application will be presented at the congress.

Contact Dr. Vesna Aleksandrovic, E-Mail: va@can-hamburg.de

CAN in Vienna at BIO-Europe 2009

At BIO-Europe in Vienna from 2 to 5 November, CAN GmbH will be expanding its international clientele from the pharmaceutical industry and the field of medical technology again this year as part of the professional partnering programme. Sought are project partners and strategic partnerships for the "Medical Applications" business area. This year CAN GmbH is focussing on the market launch of several CANdot® series and the prospects of a customer-specific implementation for medical and pharmaceutical applications.

Contact Dr. Thomas Frahm, E-Mail: tf@can-hamburg.de

Guest of the German Pharmaceutical Association

During the event "Nanotechnologies in Pharmacy and Medicine: Small Particles, Big Effect?" on the 28th of September at the annual meeting of the German Pharmaceutical Society e.V. experts will present the latest applications from the field of nanotechnology. CAN GmbH will be presenting a paper on the targeted development of nontoxic nanoparticles (Title: "Effect-optimised development of nanoparticles"). The programme and further information can be found at: www.dphg2009.uni-jena.de

Contact Dr. Thomas Frahm, E-Mail: tf@can-hamburg.de

New Course of Studies: "Nanoscience and Nanotechnology"

As of the Winter Semester 2009/2010 the University of Hamburg will establish a new Bachelor's degree programme in "Nanoscience and Nanotechnology". The course of studies will be offered jointly by the Chemistry, Computer Science and Physics Departments. Lasting six semesters, the Bachelor's programme will consist of lectures, tutorials, laboratory courses and seminars and include modules in the following subjects: chemistry, biochemistry and molecular biology, computer science, mathematics and physics. It will comprise a broad interdisciplinary education in the natural sciences and allow in the final semesters greater specialisation or acquisition of advanced qualifications in the area of nanosciences. Further information can be found at: www.nano.uni-hamburg.de

Contact Prof. Dr. Alf Mews, E-Mail: Mews@chemie.uni-hamburg.de

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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