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INTERNATIONAL COLLOQUIUM "BIOINTERFACE"
DETECTION AND CONTROL OF SURFACE-INDICATED
BIOMOLECULAR AND CELLULAR FUNCTIONS
(ROLDUC, KERKRADE, THE NETHERLANDS, JUNE 22–24, 2008)

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The colloquium "Biointerface" took place at the former abbey Rolduc, which was built in the beginning of the 12th century. In 1971 it was converted into a hotel and conference centre. Rolduc's central location and scenic surroundings make it an excellent venue for an effective meeting in a relaxed and comfortable atmosphere.

The understanding and control of interactions between cells and material surfaces are of outermost importance, *e.g.*, for development of medical implants, biosensors, and bio-chips. Biointerfaces are micro- and nanostructured, biofunctionalized material surface directing molecular and cellular functions. The expertise of chemistry, biology, biophysics, medicine and analytics has to be accomplished to create such intelligent surface.

The international colloquium "Biointerface" was organized by Prof. Dr. Martin Moeller and Prof. Dr. Doris Klee (Institute of Technical and Macromolecular Chemistry, RWTH Aachen University and DWI an der RWTH Aachen e. V.). About 100 participants from 25 research centers took part in this colloquium. The program of the conference included 15 oral presentations.

Prof. David Grainger (University of Utah, Salt Lake City, Utah, USA) gave presentation about unique macrophage attachment to fluorinated biomaterials surfaces. The lecture of Prof. Dick Broer (Philips Research Laboratories and Eindhoven University of Technology, Eindhoven, the Netherlands) was devoted to macromolecular sculptures at the interface between biology and technology. The results relating the synthetic vaccines based on tumor-associated glycopeptide antigens were included in the talk of Prof. Horst Kunz (Institute of Organic Chemistry, University of Mainz, Mainz, Germany). Dr. Raghavendra Kikkeri (Laboratory of Organic Chemistry, ETH Zurich, Switzerland) spoke about direct optical and electrochemical detection of lectins and carbohydrates by metallo-glycodendrimers.

The lecture of Prof. Horst Kessler (Institute of Organic and Biochemistry, Technical University, Munich, Germany) was devoted to selective integrin ligands and their application for tumor therapy, molecular imaging and

improved biomaterials. The information about nanobiotechnology – utilizing natural building blocks for novel applications was included in the lecture of Prof. Christof Niemeyer (Division of Biochemical Microstructures, University of Dortmund, Germany). Prof. Rudolf Merkel (Institute of Bio- and Nanosystems, Julich Research Center, Berlin, Germany) spoke about softness matters (controlling cell behavior via substrate mechanics).

The lecture of Prof. Christian Weber (Hers-Kreislauf Research Molecular Institute, Aachen University, Aachen, Germany) was devoted to vascular remodeling. The problems of molecular adhesion and remodeling mechanisms of cells to collagen matrices were discussed by Prof. Daniel Mueller (Center of Biotechnology, Technical University of Dresden, Dresden, Germany). Dr. Rita Gerardy-Schahn (Division of Chemistry of Cells, Medical High School of Hannover, Hannover, Germany) spoke about nerve conduits made from polysialic acid.

The last five oral presentations were devoted to problems of self assembly of biomembrane mimics for biosensing (Dr. Eric Olof Reimhult, Laboratory of Surface Science and Technology, ETH Zurich, Switzerland), biofunctional surfaces generated via surface-initiated atom transfer radical polymerization (Dr. Harm-Anton Klok, Ecole Polytechnic Federale de Lausanne, Switzerland), surface modification of polymer and metal implants to improve the host response (Dr. Veronique Migonney, Institute of Gallilee, University of Paris, France), functionalized polymers for micro-biosensors (Dr. Gerald Urban, Institute of Microsystem Technique, Albert-Ludwigs University, Freiburg, Germany) and interfacing biological systems with electronic devices (Dr. Andreas Offenhausser, Institute of Bio- and Nanosystems, Julich Research Center, Berlin, Germany).

Poster session included 20 reports about some aspects of detection and control of surface-indicated biomolecular and cellular functions.

The International Colloquium showed that the problems of biointerface interaction are of great importance for pure and applied science.