CARL VON OSSIETZKY universität OLDENBURG
FAKULTÄT V
MATHEMATIK UND NATURWISSENSCHAFTEN

GDCh- und Chemisches Kolloquium

Der GDCh-Ortsverband Oldenburg und das Institut für Reine und Angewandte Chemie der Carl von Ossietzky Universität Oldenburg laden zu einem Vortrag

von Prof. Dr. David N. Reinhoudt
Laboratory of Supramolecular Chemistry and Technology
MESA$^+$ Research Institute for Nanotechnology
University of Twente, Niederlande

zum Thema Molecular Printboards

herzlich ein.

Termin: **Donnerstag, den 13.12.2007 17 Uhr c.t.**
Großer Hörsaal der Naturwissenschaften, W3-1-161,
Carl-von-Ossietzky-Straße 9-11

Einladender Prof. Dr. Gunther Wittstock

Nanotechnology is a part of the chemical domain, because the ultimate goal is to build nanostructures with precision at the molecular level. This requires the ability to manipulate and modify molecules individually level rather than in the bulk. There are many challenges for chemists and in particular for supramolecular chemistry. In our group we are studying several aspects that may contribute to the bottom-up approach to nanostructures. Firstly**,** molecular printboards will be discussed that can be used to confine molecules in time and space. These printboards are self-assembled monolayers of receptor molecules on flat services. The regular molecular assemblies offer anchoring points for (individual) molecules that can be immobilized (and erased) by supramolecular host-guest interactions. Suitable printboards are composed of cyclodextrine derivatives, immobilized on gold or glass surfaces. By force-distance spectrocopy we can analyse the forces involved between individual guest molecules and these receptors. Subsequently we can write or print guest molecules like dendrimers on these printboards by softlithographic techniques. We can also use layer-by-layer assembly processes and metal deposition in order to extend 2D-patterns to 3D-objects. By using these assembly processes we are able to fabricate electronic devices. Finally, covalent chemistry has been recently developed for similar purposes. Both imine and click chemistry on SAMs will be discussed.

GDCh-Ortsverband Oldenburg
Der Vorsitzende

Institut für Reine und Angewandte Chemie
Der Direktor

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Ortsverband Oldenburg