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## INVITATION

### Mechatronics Seminars 2005 **Focus on Nanosystems**

#### *Molecules between Contacts: from long to short molecules*

**Prof. Dr. Christian Schönenberger**

Nanocenter Basel and Institute of Physics, University of Basel, Switzerland

**Tuesday, 03.05.2005, in Building ML, D-Floor  
Room ML D28 at 4.15 p.m.  
ETH-Zentrum, Clausiusstrasse/Tannenstrasse, 8092 Zurich**

#### **Abstract**

**Molecular electronics** is attracting a growing attention today. On the one hand this is due to the recognition that molecules offer (in principle) unprecedented precision down to single atoms and on the other hand due to the sophisticated tools of nanoscience and technology which today have penetrated well into molecular size regime.

In the present talk I will try to summarize experimental research in this area conducted at Basel in my research group. We distinguish between long "solid-like" molecules and short "true" molecules and are primarily interested in charge transport through single molecular entities. State-of-the-art model systems for the former class are **carbon nanotubes**. Whereas carbon nanotubes have been shown to be powerful systems for the exploration of transport in reduced dimensions (from 2d over 1d to 0d), molecular electronics with short **synthesized molecules** is still in its infancy.

Best Regards  
Christofer Hierold, 26<sup>th</sup> April 2005