



The competence centre in Atomic Layer Deposition

The ALD Lab Dresden is a collaboration of research institutes in Dresden applying and developing atomic layer deposition (ALD). ALD is a unique thin film deposition method which is based on alternating saturated surface reactions and thereby the film growth proceeds in a self-limiting manner. Due to the particular advantages like the simple and accurate control of the film thickness, the excellent uniformity and conformity as well as lower deposition temperatures compared to other methods (e.g. CVD, PVD) ALD has been implemented in high volume manufacturing for technologically advanced products and devices (e.g. semiconductor applications and functional coatings).

In ALD Lab Dresden the participating institutes have brought together their expertise and capabilities in ALD and beyond. Thus a unique competence centre in atomic layer deposition has been formed. Activities are ranging from fundamental research and precursor evaluation to large scale process development for novel materials for industrial coatings, future electronic devices and energy harvesting devices such as solar cells. In this session the ALD Lab Dresden, the involved institutes and selected topics of their current work on atomic layer deposition will be presented.

Date: **Tuesday, October 9, 2012**

Time: **09:30 – 12:25**

Location: **Hall 4, Room Breslau**

- 09:30 – 09:35 **Welcome**
Prof. Dr.rer.nat Johann W. Bartha, IHM, TU Dresden
- 09:35 – 10:00 **Introduction to ALD Lab Dresden and Atomic Layer Deposition**
Jonas Sundqvist, Fraunhofer CNT
- 10:00 – 10:20 **Material Deposition by ALD for Future Devices**
Prof. Dr.-Ing. Thomas Mikolajick, NaMLab gGmbH
- 10:20 – 10:40 **In-situ analytics for development and control of ALD processes**
Martin Knaut, IHM, TU Dresden
- 10:40 – 11:00 **ZrO₂ ALD process with doubled growth rate and optimized interface properties in MIM capacitors** Wenke Weinreich, Fraunhofer CNT
- 11:00 – 11:20 **ALD for Solar Cell Applications**
Ingo Dirnstorfer, NaMLab gGmbH
- 11:20 – 11:40 **ALD and MLD for Organic Electronics**
Christoph Hoßbach, IHM, TU Dresden
- 11:40 – 12:05 **Functional ALD Layers Beyond Microelectronics**
Mario Krug, Fraunhofer IKTS
- 12:05 – 12:25 **ALD at the Fraunhofer IPMS**
Tom Richter, Fraunhofer IPMS

