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# European Coating Symposium 2009 in Karlsruhe

Public Relations and Marketing Department (PKM)



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From September 7 to September 9, 146 participants from Europe, Asia and the USA met in Karlsruhe at the eighth <u>Leuropean Coating</u> Symposium<sup>a</sup> (ECS) to learn and talk about the latest developments and progresses in coating and drying of thin films.



The symposium taking place biennally since 1995 was organized by the group "Thin Film Technology", the new chair at the <u>Institute of</u> <u>Thermal Process Engineering</u> under the direction of Prof. Wilhelm Schabel who is holding a shared professorship at KIT.



Apart from KIT the ECS 2009 was sponsored by <u>TSE Troller AG</u>, <u>Coatema</u>, <u>Bayer</u>, <u>BASE</u>, <u>Roche</u> and the <u>International Society of</u> <u>Coating Science and Technology</u>.

# Organic illumination

A focus of the ECS for the 78 research and 70 industry experts was the domain of organic electronics – a research field promising to be an up-and-coming market reaching from organic photovoltaics to printed organic semi-conductors and organic diods and sensors.

On Monday morning Dr. Frederik Krebs from the Danish Risø Institute presented the current world bank project "Lighting Africa" where with the help of organic photovoltaics cheap and sustainable lamps are produced – as a start for Ghana and Kenya. Ike de Vries from the Holst Centre in Eindhoven, Netherlands, introduced the cost-effective continuous roll-to-roll (R2R) production of organic light emiting diods (OLED). At the symposium he presented a first prototype of a flexible OLED produced in a R2R process by liquid film application.



David Müller from Merck Chemicals introduced the topic "Organic Electronics" in his opening talk. He reported the work of the regional top level cluster "Forum organic electronics", a network of three DAX listed companies, eight international companies, five mediumsized enterprises as well as eleven research institutions and universities. Also different KIT institutions such as the <u>Light Technology</u> <u>Institute</u> under Prof. Uli Lemmer and the chair of Prof. Schabel at the <u>Institute of Thermal Process Engineering</u> are represented in this network in the field of organic photovoltaics and printed organic light emitting diodes.



# **KIT** contributions

Further topics that were discussed in the sessions were mass transfer in thin films and membranes, rheology of complex fluids, dynamic wetting, diffusion and thermodynamics, fluid dynamics with interfaces, film structures on a micro- and nanoscale, functional films, and drying of thin films.

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About 20 contributions at the symposium were from institutes of KIT such as the Institute of Thermal Process Engineering, the Light Technology Institute, the Institute of Nanotechnology, the Institute of Mechanical Process Engineering and Mechanics, and the Institute of Chemical Technology and Polymer Chemistry.

One of these contributions was the talk by Benjamin Schmidt-Hansberg from the research group of Prof. Schabel. He presented first measurements on the morphology and decrease of film thickness for drying semi-conductor films for polymer solar cells. For these measurements he had travelled to the European Synchrotron Radiation Facility (ESRF) in Grenoble after first measurements at ANKA in Karlsruhe.

### Insights in industrial research and application

In the lobby of the conference area companies such as Anton Paar, Berndorf Band, Capacitec, Coatema, Max Kroenert, McNally Industries, TSE Troller and Quantachrome showed their innovative products in an industrial exhibition.

The KIT spin-off <u>Nanoscribe</u> and the enterprise <u>Cynora</u> that moved into the KIT high-tech incubator in 2008 were able to present their developments to the experts through a talk and a poster respectively.

## Conference dinner and symposium conclusion

At the conference dinner in the Karlsruhe Palace on Tuesday evening the conference participants not only had time to hear about the history of the palace from the margrave himself and to enjoy the buffet to the sounds of jazz music. They could also study the posters that had been presented during the symposium in short five-minute talks.



The conference program was completed by a visit to the UNESCO world cultural heritage of the Maulbronn monastery and a wine tasting on Wednesday afternoon.

### Warmhearted tribute

At the beginning of the symposium Prof. Dr.-Ing. Dr. h.c. mult. Ernst-Ulrich Schlünder was honored on the occasion of his 80th birthday. Prof. Schlünder was the successor of Prof. Emil Kirschbaum and was head of the <u>Institute of Thermal Process</u> <u>Engineering</u> from 1967 to 1997. He rendered outstanding services to the research and teaching in chemical engineering and received awards and honorary doctoral titles e.g. from the University of Surrey and the Institut National Polytechnique de Lorraine.

He wrote various contributions to the pertinent research literature in the fields of heat and mass transfer and thermal separation processes. Furthermore he had a major impact on the standard work for chemical engineers, the "VDI Waermeatlas", which he edited from the 2nd to the 8th edition and which is now available in the tenth edition as well as on the internationally known Heat Exchanger Design Handbook.

Services - European Coating Symposium 2009 in Karlsruhe



KIT - University of the State of Baden-Wuerttemberg and National Laboratory of the Helmholtz Association

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