



ICE SOUTH EAST ASIA PREVIEW



CCE SOUTH EAST ASIA PREVIEW

SLITTING, WINDING

➤ A new development phase

WEBHANDLING, WEBCONTROL

➤ Inertial roll alignment

THIN FILM TECHNOLOGY FORUM REVIEW

LABELS

➤ Sophisticated label substrates lead the charge

COATING SYSTEMS

➤ Advances in slot die coating for hot melt adhesives

Thin Film Technology

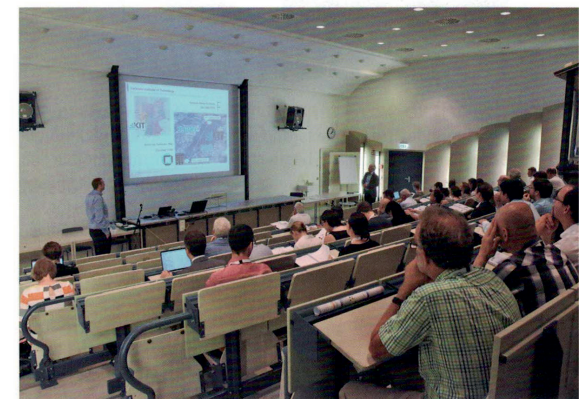
Numerous guests from ten nations in Europe, America and Asia attended the 3rd Thin Film Technology Forum on 7–8 June 2018 in Karlsruhe, Germany. Presented in three thematic blocks, experts in the field of printed electronics, battery and smart coatings explained the latest developments in thin-film technology.

Following a welcome by the Head of the Division at KIT – Professor Doris Wedlich – and the organizers of this series of events, the opening speech on printed electronics was given by Ike de Vries from Holst Centre in Eindhoven. This is one of Europe's leading institutions in this field. He described recent developments of printed electronics with regard to resource scarcity and the growing global demand for energy. His paper also dealt with the current state of research on their special properties in structured stripe and intermittent slot die coating. Using examples of printed electronics, Lisa Merklein from KIT showed the latest results in the field of multilayer deposition, state of the art technology and the consequences of layer inter-mixing and strategies for investigating and avoiding them. Professor Fritz Bircher, Director of the iPrint Institute in Fribourg (CH), highlighted the latest developments in digital printing and inkjet technologies. Impressive examples of large-area printing on three-dimensional surfaces were shown. Professor Tobias Kraus – Leibniz Institute for New Materials – explained the production of functional layers of hybrid metal-polymer inks and transparent printed lattices by structuring ultrathin metal wires in the session.

In the morning of the second day of the TFT Forum, the focus was on particulate thin-film systems for lithium-ion battery electrodes and separators. Professor Stefano Passerini from the Helmholtz Institute in Ulm gave an insight into the state of the art in lithium-ion batteries. His outlook to future trends in post-lithium battery systems shows the enormous potential of the new technologies, which go beyond the current state of the art, especially with regard to future availability and worldwide shortage of electrode materials. Dr Armin Modlinger from Volkswagen AG presented the current technological developments in process technology for the manufacture of batteries. PhD student Ralf Diehm from the TFT group at KIT shed light on the new findings in the field of coating of lithium-ion battery electrodes and a technology that has set a world record in the field of intermittent high-speed electrode coating. Jana Kumberg – also KIT – gave details on the latest research results on the drying of high-capacity multilayer electrodes. Topics on simulation and basics in the field of drying of particulate layers were previously dealt with by Prof. Wilhelm Schabel in the Short Course and deepened in the forum by Professor Günter Brenn of TU Graz (AU) based on current research.

Finally, representatives from the industry presented current research challenges in the field of thin films. Dr Marcel Schmitt from BASF SE gave detailed insight into problems and solution strategies from the industry. Dr Wegener from Schaeffler AG described the research of Schaeffler AG in the field of coating technology. Dr Kampioti – CNRS Bordeaux (FR) – introduced interesting new findings in the production of electrically conductive inks based on graphene suspensions.

Next year's event will again take place in Karlsruhe, Germany, on 16–17 May 2019. In addition to general topics on «Functional Films and Smart Coatings», the focus will be on functional 3D printed multilayers and battery coatings. At the request of the participants from industry, there will also be the opportunity for them to present research and developments in this area in a short poster session in the foyer together with further exhibitors. This will provide starting points for technical discussions and a broader spectrum of research in the field of «Advances in Coating and Drying of Thin Films». ⚡



Opening of the third «Thin Film Technology Forum» in Karlsruhe

Thin Film Technology, Technologie dünner Schichten
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