

Conference Report

**International Conference on Organic Electronics (ICOE):
June 15 – 17, 2009 – Liverpool, United Kingdom**

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The International Conference on Organic Electronics (ICOE) for 2009 was held in Liverpool (UK) on June 15th- 17th, at the **University of Liverpool**.

The 2009 conference was attended by approximately 100 delegates. This is a very informal meeting with the emphasis on fundamentals of organic electronics rather than on commercial and business aspects of the field. It therefore attracts a wide range of participants including postgraduate students as well as faculty and postdoctoral workers and researchers from both Institutes and Universities.

In recent years the conference has begun with one or more specialist workshops. This policy was continued in ICOE09 with two excellent presentations: one from **Steve Yeates** a world authority, from **Manchester University**, on formulation of polymeric and small molecule organic semiconductors for devices very ably assisted by researcher **Marie-Beatrice Dufourg-Madec**. A workshop was organised jointly with **Joanneum Research** from Weiz, Austria under the auspices of Polynet the EU funded network. This was exceptionally well attended and focussed on Nanoimprinting Lithography. The plenary speaker was **Stephen Chou**, from **Princeton University** who gave an impressive and lively talk on the basic principles. This was followed by the presentation of new and interesting results from the Joanneum team. There ensued a lively discussion of future potential, attempting to define a qualitative roadmap, as well as potential road-blocks, on the way to full commercialisation. The technique is unequalled in terms of the minimum feature size that can be obtained, potentially across very large areas. Equally precise alignment of the features is more problematical particularly when horizontal and vertical devices in mixed signal circuits are required. Of course, as with all lively debates, there was no consensus, but seeing a problem from all sides is an essential part of strategic project planning.

Invited conference talks were also given, in order of presentation, by **Jan Genoe** of **IMEC**, **Jiro Kasahara** from **Hokaido University**, and very recently Head of the Domain Laboratory of Sony Laboratories Japan, **Gernot Pasch** of the Leidnitz Institute of **Ilmenau Technical University** in Dresden, **Simon Mathijssen** from **Eindhoven University**, by far the youngest person to undertake an ICOE invited talk and **Richard Friend** from the **University of Cambridge**, who interrupted his very busy schedule to join us at ICOE for the second time.

Jan Genoe described in some detail their world class developments on integrated organic circuits on flexible substrates. He emphasised the need to control device parameter spreads and the importance of good design tools. Clearly they are looking well ahead to the time when we are able to significantly improve both functionality and performance. Jiro Kasahara described in some detail the technical achievements of his former Sony Laboratory. There is in doubt that we, in Europe, still have much to learn about effective management of research for real products. He was also subjected to intensive interrogation after the dinner and frequently during the meeting. Professor Gernot Paasch described in fine detail the approach to modelling undoped disordered organic materials. This is a topic of importance to both fundamentally and to the circuit designer in order for physically sound models provide the basis of compact models and circuits. It is good to see that real device physics is still alive and well. Simon Mathijssen demonstrated his work on CMOS via SAM. His Nature publication was one of those chosen by the experts in the EOOE activity of Polynet (EOOE, Organic Electronics 3, 3, EOOE04-09-1) and it was clear that this selection was justified. Last and certainly not least the audience for the last half day of the conference reached record levels with the prospect of a presentation by Professor Sir Richard Friend. Such a capacity to deal in great depth on a mind-stretching subject in such a clear, yet precise way is very unusual and is the true sign of a master of his art.