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Speakers and audience had lively discussions at the fifth CoSi conference

# In-depth exchange of ideas

The fifth Coatings Science International Conference in Noordwijk, the Netherlands

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A balanced mixture of academic and industrial presentations, lively discussions and an intensive exchange of ideas - the Coatings Science International Conference (CoSi) has again demonstrated its quality. Some 90 international coatings experts from both industry and academia gathered at the fifth CoSi conference in Noordwijk at the Dutch North Sea coast. Slightly fewer participants than in 2008 - due to the global economic crisis, as the organisers explained.

Nevertheless the number of presentations remained stable with 30 high-level lectures focusing on the scientific backgrounds of the newest technological developments dealing with coatings. 13 talks were given by university representatives, while 17

lectures came from industrial institutions. In addition, an equal number of poster presentations demonstrated the delegates' fields of expertise.

As chairman Prof. *Rolf van Benthem*, Eindhoven University of Technology, emphasised in his introduction, "CoSi intends to focus on the scientific backgrounds of the newest technological developments relevant to coatings." A high-quality platform for free exchange of scientific knowledge between both academic and industrial scientists that will strengthen the innovation power of the global coatings community has been the goal of this conference from the very first.

This time the academic participants outnumbered the industrial ones with a ratio of 50:40. A majority of European delegates (68) was complemented by coatings experts from Asia, the Americas, Australia and South Africa. The local organisation was handled by Prof. *Rolf van Benthem* and Prof. *Bert de With* and their team of Eindhoven University of Technology.



Find more information on: [www.coatings-science.com](http://www.coatings-science.com)



The conference programme was divided into the following sessions: functional coatings, eco-friendly systems, characterisation and THE, morphology, interfaces and organic/inorganic hybrid materials, rheology & film formation, UV curing systems, new chemistry, corrosion and weathering. While the main focus of CoSi is still on organic coatings, increasingly also papers of topics related to inorganic coatings have been submitted with a stress on hybrid technology. Thus an own session was dedicated to this field of research. In the following some presentations of the conference will be highlighted.

### First talk on anti-fouling coatings

The very first talk of the conference was dedicated to current trends and challenges in the field of anti-fouling coatings for naval applications. *Erik Risberg*, R&D Marine and Protective Coatings at Jotun, Norway, attracted a lot of attention for his statements on efficient fouling protection which – in his own words – “is not only important in economical terms, but also to reduce the environmental impact”. His presentation included an overview of different technologies, environmental aspects, the challenge of freshwater exposure and effective fouling protection in cold water.

The session dedicated to eco-friendly systems was highly interesting, too. *Claudia Philipp*, Fraunhofer-Institute for Wood Research, Germany, gave a summary of her research on biobased polyurethane dispersions (PUD) for furniture coatings. Increased environmental awareness and government restrictions lead to the substitution of solventborne coatings by waterborne products and the usage of renewable raw materials. As the speaker explained, vegetable oils offer a great potential by using the oil itself, fatty acids, glycerol, or chemical modifications thereof. Additionally, polymer building blocks have been biotechnologically converted from renewable resources. In her study *Philipp* investigated the utilisation of 1,3-propanediol and modified fatty acids for polyester polyol synthesis. These polyols have been converted to polyurethane dispersions with excellent properties regarding chemical, scratch and abrasion resistance, she concluded.

As part of the morphology session, a special presentation was given by *Ad Overbeek* of DSM NeoResins, the Netherlands. He talked about “Polymer Heterogeneity in Waterborne Coatings”, a speech he had also given as the focal point of the CoatingsTech Conference in Indianapolis/USA this April in the framework of the “Joseph L. Mattiello Lecture 2009”. *Overbeek* presented an overview of the progress in understanding of polymer heterogeneity over the last 20 years. It was shown how heterogeneity in the polymer can contribute to the solution of persistent problems of the coatings industry, including high gloss, open time for brushable paints and adhesion to untreated polypropylene.

In the session on interfaces and organic/inorganic hybrid materials, *Bérangère Toury*, Laboratoire des Multimatériaux et Interfaces, France, presented a paper on non-oxide ceramic coatings using the PCDs (polymer derived ceramics) approach. The successful preparation of boron nitride (BN) and aluminium nitride (AlN) coatings by the PCD route using a new kind of polymeric precursors was demonstrated. As *Toury* emphasised, convincing analyses have been shown in the preparation of crystallised BN and AlN ceramics. However, the coating aspect should be improved to lead to very smooth defect free film. According to the speaker, new experiments carried out with other precursors are in progress to conjugate high ceramic yield and good processibility.

### Networking opportunities

But the participants did not only come to the conference in order to hear the presentations – they also appreciated the frequent networking opportunities. So the lectures were always followed by questions and (sometimes critical) comments that often led to lively discussions in the coffee breaks and at the dinner table and will perhaps result in future cooperations.

At the end of the conference the CoSi awards for Science, Innovation and Creativity were announced. Their names and the titles of their papers will soon be published on [www.european-coatings.com](http://www.european-coatings.com), as they had not been known at the time of the editorial deadline for this issue. ◀



*CoSi: A high-quality platform for free exchange of scientific knowledge between both academic and industrial scientists*