

International Isotope Society Central European Division



14th Workshop of the International Isotope Society – Central European Division in Bad Soden 2007

On June 20 – 22, 2007 the 14th Workshop of the International Isotope Society – Central European Division (IIS-CED) was held in Bad Soden (near Frankfurt), Germany. This event was for the third time organised by *Jens Atzrodt* and *Volker Derdau* (Sanofi Aventis Deutschland GmbH).

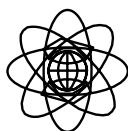
100 participants from 60 companies, universities and research centres representing 15 nations convened to discuss the latest developments and trends regarding the synthesis and application of isotopically labelled compounds.

The main topic of the five sessions was the synthesis and application of stable and radioactive labelled compounds. This included new concepts and technologies for isotopic labelling; new synthetic methodologies for the synthesis of labelled compounds and building blocks; syntheses and applications of short-lived isotopes like ^{11}C and ^{18}F as well as related topics like safety and regulatory affairs.

The meeting once more proved to be increasingly attractive for the scientific community and it was attended by over 100 scientists – among other factors certainly a result of the ambitious scientific level of the preceding conferences which was definitely maintained in this 14th event. The organisers had been able to convince prominent speakers to follow their invitation. Prof. Andreas Pfaltz started the scientific section and gave a highly interesting opening lecture on hydrogenation reactions with asymmetric iridium-catalysts specially tuned by phosphin ligands. Prof. Magnus Rüping showed that imines could be conveniently hydrogenated with high enantioselectivities using optimized chiral brønsted acid catalysts. The first part of Prof. Waldvogel's presentation focused on ^{14}C -extraction studies directed to determine the selectivity and binding affinity of a new oxopurine based caffeine receptor. Additionally he presented his methodical progress in anodic biaryl couplings. The broadened versatility of carboxylic acid transformations was demonstrated by Prof. Lukas Gooßen in several reactions like cross-coupling and arylation reactions, etc.



Organiser and invited lecturers of the 14. Workshops of the IIS-CED (from left): Prof. Magnus Rüping (University Frankfurt), Dr. Jens Atzrodt (Sanofi Aventis Deutschland GmbH), Prof. Carsten Bolm (University Aachen), Prof. Andreas Pfaltz (University Basel, Switzerland), Prof. Sabine Laschat (University Stuttgart), Prof. Lukas Gooßen (University Kaiserslautern), Dr. Volker Derdau (Sanofi Aventis Deutschland GmbH), Prof. Siegfried Waldvogel (University Bonn).



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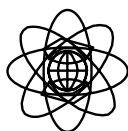
Prof. Sabine Laschat presented in her lecture the first enantioselective total synthesis of cylindramide, a cytotoxic natural product extracted from marine sponge. In the second part of her talk she reported the synthesis of chiral tropenone-based phosphinoxides and their use as catalyst in asymmetric synthesis. Important results on hydrogen/deuterium exchange reactions for the synthesis of mass-spectrometry standards for drug-drug-interaction studies were presented by Dr. Jochen Zimmermann. This topic was further enhanced by the presentation of Prof. William Lockley who reported on the H/D exchange reaction with platinum catalysts. On the occasion of this conference he commemorated the widely respected and honoured Prof. John Jones (editor of Journal of Labelled Compounds and Radiopharmaceuticals) who passed away this year. The lecture program included presentations given by Dr. Cor Janssen and Dr. Lidia Matei focussing on tritium work. Also, Prof. Ulrich Pleiß and Dr. Franz Maier gave interesting reports on the synthesis of labelled pharmaceutical development compounds.

The scientific program was completed by a plenary lecture given by Prof. Carsten Bolm who reported on interesting possibilities for synthesis of sulfoximines – a neglected compound class from the chemical point of view.

All these distinguished contributions were followed by intensive discussions of the respective topics. A poster session and the very well visited industrial exhibition furthermore contributed to the success of the meeting.

All 14 oral presentations are listed here:

- **Prof. Dr. Andreas Pfaltz**, Basel University, Switzerland
“Iridium-Catalyzed Asymmetric Hydrogenation“
- **Dr. Jochen Zimmermann**, Sanofi-Aventis, Germany
“Synthesis of stable isotopically labelled internal standards for drug drug interaction (DDI) studies “
- **Prof. Dr. William Lockley**, Surrey University, UK
“Some studies of the reduction and isotopic exchange of unsaturated systems with isotopic hydrogen over Pt group metals “
- **Prof. Dr. Ulrich Pleiß**, Bayer Healthcare, Germany
“1,4-Dihydropyridines (DHPs) – a class of very potent drugs: Syntheses of isotopically labeled DHP derivatives during the last four decades“
- **Prof. Dr. Magnus Rüping**, Frankfurt University, Germany
“New Developments in Enantioselective Brønsted Acid Catalysis – Chiral Ion Pair Catalysis “
- **Prof. Dr. Siegfried Waldvogel**, University Bonn, Germany
“Binding Studies of ¹⁴C-Caffeine to Artificial Receptors and Novel Strategies for the Anodic Phenol Coupling “
- **Prof. Dr. Lukas Gooßen**, Kaiserslautern University, Germany
“Carboxylic Acids as Substrates in Catalysis“



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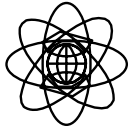
- **Dr. Franz Maier**, Bayer Schering AG, Berlin, Germany
“Custom-made labelled building blocks”
- **Dr. Jon Bloom**, GE-Healthcare, Cardiff, UK
“The Synthesis of Ultra High Specific Activity ¹⁴C Labelled Amino Acids and Their Use in a Radiolabelled Peptide Synthesis”
- **Prof. Dr. Sabine Laschat**, Stuttgart University, Germany
“Tetramic acids and Tropanes: From Natural Product Synthesis to Asymmetric Catalysis with Natural Products”
- **Lena Vogler**, Forschungszentrum Dresden-Rossendorf, Germany
“¹⁸F]FBAM and ¹⁸F]FBOM: Novel thiol-reactive prosthetic groups derived from 4-¹⁸F]fluorobenzaldehyde”
- **Dr. Lidia Matei**, National Institute for Physics and Nuclear Engineering, Magurele, Romania
“Tritium Laboratory with Multiple Purposes at NIPNE Magurele Romania”
- **Dr. Cor Janssen**, Johnson & Johnson, Belgium
“Mono Tritium labelled compounds: calculation of specific activity as a function of time versus renewed determination; practical outcomes“
- **Prof. Dr. Carsten Bolm**, Aachen University, Germany
“Homogeneous asymmetric catalysis - simplified“

Abstracts from the symposium will be published in an upcoming issue of the *Journal of Labelled Compounds and Radiopharmaceuticals*.



At the annual IIS-CED members convention which was held on the second day the IIS-CED president Dr. Juergen Gay gave a short overview on the chapter activities. Subsequently, Siegmars Schnabel presented his report on the financial situation of the IIS-CED. After the decision of Dr. Jens Atzrodt and Dr. Volker Derdau to resign as conference organisers a new team was elected. Dr. Cor Janssen, Dr. Peter Wiegerinck, Dr. Thomas Hartung and Dr. Dietrich Seidel will take over the responsibility to organize the next Bad Soden meetings.

The organizing committee would like to thank the group of sponsors for their generous financial and organizational support which was instrumental in continuing successfully what is in the meantime established as one of the most important isotope conferences.



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Special thanks go to:



GE Healthcare



Impressions from the Poster session/vendor exhibition and wine tasting excursion to the Eberbach monastery.

