



## Final Program

### **Sustainability in Chemistry**

Biannual meeting of the Division  
"Sustainable Chemistry"

**September 28-30, 2014** Friedrich-  
Alexander-Universität  
Erlangen-Nürnberg (FAU):  
Organic Chemistry  
Henkestr. 42, Erlangen

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## Topics

- **Sustainable Synthesis Including Catalysis & Biotechnology**
- **Renewable Feedstocks**
- **Sustainable Macromolecular Chemistry**
- **Assessment and Politics**
- **Green Chemistry Education**

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## Invited Speaker

**Shu Kobayashi**, University of Tokyo, J

**Ulf Hanefeld**, TU Delft, NL

**Konrad Hungerbühler**, ETH Zürich, CH

**Cor Koning**, TU Eindhoven, NL

**Bert Sels**, University of Leuven, BE

**Matthias Beller**, University of Rostock, D

**Michael Dreja**, Henkel, Düsseldorf, D

**Harald Gröger**, University of Bielefeld, D

**Burkhard König**, University of Regensburg, D

**Andreas Künkel**, Biopolymers, BASF, D

**Uwe Lahl**, University of Darmstadt, D

**Alexander Vyhnal**, STAEDTLER, Nürnberg, D

### **Poster prize - “Green Chemistry” (RSC)**

The conference program is accompanied by a poster session, best poster contributions are awarded with a poster prize donated by “Green Chemistry” (RSC).

### **PhD Award "Sustainability in Chemistry"**

The GDCh-division "Sustainable Chemistry" - with generous support by Evonik Industries AG - awards 2014 a prize for the best PhD thesis in the area of sustainable chemistry.

## *Final Program - Oral sessions*

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**Sunday, September 28, 2014**

**16.00 - 16.20**    **Opening**

**16.20 - 16.50**    **Dream Catalysts for Green Sustainable Chemistry**  
*Shu Kobayashi, Tokyo - J*

**16.50 - 17.20**    **From sp<sup>2</sup> to sp<sup>3</sup> utilising enzymes**  
*Ulf Hanefeld, Delft - NL*

**17.20 - 17.50**    **Symbiosis of Chemistry and Biology:**  
**BASF's Biodegradable and Renewable Polymers**  
*Andreas Künkel, Biopolymers, BASF, D*

**17.50 - 18.20**    **PhD Award "Sustainability in Chemistry"**

**short orals:**

**18.20 - 18.25**    **Holistic Assessment of Alternative Catalytic**  
**Synthesis Pathways for an Anti-Cancer Drug Production**  
*Denise Ott, Jena - D*

**18.25 - 18.30**    **Methyl Formate as Carbonylating Agent for Aniline**  
**to Carbamate: a Carbon Recycling into Chemicals**  
*Mohammad Yalfani, Aachen - D*

**18.30**            **Round table "Sustainability in education"**  
**Kick-off presentation and moderation:**  
*Burkhard König, Regensburg*

**afterwards**      **Poster session**

**full abstracts are available with separate CD**

## *Final Program - Oral sessions*

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### **Monday, September 29, 2014**

- 09.00 - 09.30** Chemical photocatalysis using visible light  
*Burkhard König, Regensburg - D*
- 09.30 - 09.50** Combined Metal and Photoredox Catalysis  
*David Fabry, Aachen - D*
- 09.50 - 10.10** Sustainable Organic Synthesis – A Continuous-Flow Approach to Hydrogenation, CO<sub>2</sub> -Capture and Photosynthesis  
*Toma Glasnow, Graz - AT*
- 10.10 - 10.30** Solvent-free organic reactions in planetary ball mills: Process design and assessment  
*Katharina Jacob, Jena - D*
- 10.30 - 11.00* *Coffee break*
- 11.00 - 11.30** A lignocellulosic biorefinery concept in Leuven: a chemist's view  
*Bert Sels, Leuven - BE*
- 11.30 - 11.50** On Irony Reactions & Sunny Places: Two Sustainable Case Studies of Catalytic C-C Bond Formations  
*Axel Jacobi von Wangelin, Regensburg - D*
- 11.50 - 12.10** Valorization of renewables by isomerizing olefin metathesis  
*Lukas Goöben, Kaiserslautern - D*
- 12.10 - 12.30** Synthesis of fatty ethers: Catalytic reduction of fatty acid esters  
*Ursula Biermann, Oldenburg - D*
- 12.30-13.30* *Lunch break*
- 13.30 - 14.00** New developments in sustainable and renewable coating materials  
*Cor Koning, Eindhoven - NL*

## *Final Program - Oral sessions*

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### **Monday, September 29, 2014**

- 14.00 - 14.20** Regioselective Enzymatic Halogenation of Substituted Tryptophan Derivatives using the FAD-Dependent Halogenase RebH  
*Marcel Frese, Bielefeld - D*
- 14.20 - 14.40** Isomerization of glucose to fructose catalyzed by hydrotalcites  
*Irina Delidovich, Aachen - D*
- 14.40 - 15.00** Introducing new reactions and technologies in industrial synthesis: Challenges, hurdles and opportunities for sustainable chemistry. An SME's Case Study Report about navigating from mgs to multi-kgs  
*Irene Erdelmeier, Romainville - FR*
- 15.00 - 15.20** Organocatalyzed synthesis of cyclic carbonates utilizing CO<sub>2</sub> as a C1 building block  
*Hendrik Büttner, Rostock - D*
- 15.20 - 15.50* *Coffee break*
- 15.50 - 16.20** Sustainability indicators in Chemistry  
*Konrad Hungerbühler, Zürich - CH*
- 16.20 - 16.40** Mass Balances for important Organic Synthesis Reaction  
*Marco Eissen, München - D*
- 16.40 - 17.00** Nanocellulose Gained by Bacteria – A Nano-Structured High Performance Biopolymer with Great Prospect  
*Dana Kralisch, Jena - D*
- 17.00 - 17.20** Sustainable Chemistry – Transform a Holistic Strategic Approach into Applied Best Practice Action  
*Christopher Blum, Umweltbundesamt, Dessau - D*
- 17.20 - 17.40** Evaluation of sustainability in early stages of product development  
*Peter Saling, BASF/Ludwigshafen - D*

## ***Final Program - Oral sessions***

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### **Tuesday, September 30, 2014**

- 09.00-09.30** Sustainable detergents - where are we on our way towards 2030?  
*Michael Dreja, HENKEL/Düsseldorf - D*
- 09.30 - 09.50** WOPEX – A sustainable materials innovation by STAEDTLER  
*Alexander Vyhnal, STAEDTLER/Nürnberg - D*
- 09.50 - 10.10** Developing the ‘Benign by Design’ Approach for a Rational Design of Green Derivatives of  $\beta$ -Blockers: Propranolol as an Example  
*Tushar Rastogi, Lüneburg - D*
- 10.10-10.30** Reduced Methane Emission in Dairy Production: Eco Footprint of a Feed Additive  
*Ulla Létinois, Basel - CH*
- 10.30 - 11.00* *Coffee break*
- 11.00 - 11.30** Combination of the two "worlds" chemo- and biocatalysis towards one-pot processes in water  
*Harald Gröger, Bielefeld - D*
- 11.30 - 11.50** Renewable Polyamides and Polyesters by straight forward modification of Acid Methyl Ester Derivatives Fatty-  
*Matthias Winkler, Karlsruhe - D*
- 11.50 - 12.10** Amino Acid-derived Imidazolium Zwitterions as Precursors for renewable Ionic Liquids  
*Sarah Kirchhecker, Golm - D*
- 12.10 - 12.30** Sustainable and user friendly olefin metathesis  
*Andrzej Tracz, Wroclaw - PL*
- 12.30 - 13.30* *Lunch break*

## ***Final Program - Oral sessions***

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### **Tuesday, September 30, 2014**

- 13.30 - 13.50**    **Efficient catalyst systems for alcohol re-functionalization reactions**  
*Rhett Kempe, Bayreuth - D*
- 13.50 - 14.10**    **Selective bond activation in lignin model substrates**  
*Tim den Hartog, Aachen - D*
- 14.10 - 14.40**    **Chemistry goes Green:  
Technologies for the Development of a Sustainable Society**  
*Matthias Beller, Rostock - D*
- 14.40 - 15.10**    **Indirect Land Use Change (iLUC)**  
*Uwe Lahl, Stuttgart - D*
- 15.10**            **Closing remarks**