

# 7th Workshop on Fats and Oils as Renewable Feedstock for the Chemical Industry

Karlsruhe, Germany, March 23 – 25, 2014

<http://www.abiosus.org/kit-workshop-2014.html>

## Sunday, March 23, 2014

### Registration

*Registration will be opened from 13:00 - 19:00*

15.45                    **Welcome and Opening**

16.00 – 17.45        *First Session*  
*Dedicated to Frank Gunstone on the occasion of his 90<sup>th</sup> birthday*

16.00 – 16.45        **Frank Gunstone – Teacher, Researcher, and Writer – A Celebration Lecture to Mark his 90th Birthday (O)**

L1                      Marcel S.F. Lie Ken Jie, University of Hongkong, Hongkong, Peoples Republic of China

16.45 – 17.15        **Chemicals from Waste Bio-oils (M)**

L2                      David Cole-Hamilton,<sup>1</sup> Ruben Duque Garcia,<sup>1</sup> Ronan le Goff,<sup>1</sup> Marc Furst,<sup>1</sup> Juma Mmongoyo,<sup>2</sup> James Mgaya,<sup>2</sup> Jennifer Julis,<sup>1</sup> Stuart Bartlett,<sup>1</sup> Sabrina Baader,<sup>3</sup> Quintino Mgani<sup>2</sup>  
<sup>1</sup>University of St. Andrews, St. Andrews, Scotland, UK; <sup>2</sup>University of Dar es Salaam, Dar es Salaam, Tanzania; <sup>3</sup>TU Kaiserslautern, Kaiserslautern, Germany

17.15 – 17.45        **Oleochemicals: Essential for Renewable Surfactants (M)**

L3                      Dirk Leinweber, Clariant, Frankfurt, Germany

18.00 – 20.30        **Poster Session and Opening Mixer**

Posters will be displayed until the end of the workshop

- (O)    Opening Lecture 45 min
- (M)    Main Lecture 30 min including discussion
- (D)    Discussion Lecture 20 min including discussion

## Monday, March 24, 2014

9.00 – 10.30 *First morning session*

9.00 – 9.30 **Specialty Chemical Production from Natural Oils via Olefin Metathesis (M)**  
L4 Stephen A. Cohen, Elevance Renewable Science, Woodridge, IL, USA

9.30 – 9.50 **Isomerizing Metathesis of Olefinic Substrates (D)**  
L5 Sabrina Baader, Lukas J. Gooßen, Technische Universität Kaiserslautern, Kaiserslautern, Germany

9.50 – 10.10 **Renewable Polyamides and Polyesters by Straightforward Modification of Fatty Acid Methyl Esters and Efficient (Catalytic) Processes (D)**  
L6 Matthias Winkler, M. A. R. Meier, KIT, Karlsruhe, Germany

10.10 – 10.30 **Branched Polyethylene Mimicry by Metathesis Copolymerization of Fatty Acid (D)**  
L7 Etienne Grau, Bordeaux University – CNRS, France

10.30 – 11.00 **Coffee break**

11.00 – 12.50 *Second morning session*

11.00 – 11.30 **New General Purpose Plasticizers Made of Fatty Acid Derivatives (M)**  
L8 Benjamin Woldt,<sup>1</sup> Andreas Gevers,<sup>1</sup> Michael Graß,<sup>1</sup> Stefan Buchholz,<sup>1</sup> Lucas Monteiro de Espinosa,<sup>2</sup> Michael Meier<sup>2</sup>  
<sup>1</sup>Evonik Industries AG, Marl, Germany;<sup>2</sup> Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

11.30 – 11.50 **Chemicals from Cashew Nut Shell Oil (M)**  
L9 Stuart A. Bartlett, Jenny Julis, Juma Mmongoyo, David Cole-Hamilton, University of St. Andrews, St. Andrews, UK

11.50 – 12.10 **New Epoxy Materials from Cashew Nut Shell Liquid (CNSL) (D)**  
L10 Emilie Darroman, Fanny Jaillet, Amédée Ratsimihety, Nelly Durand, Rémi Auvergne, Sylvain Caillol, Bernard Boutevin, Laboratory IAM ENSCM, Montpellier, France

- 12.10 – 12.30 **Synthesis and Characterization of Novel Vinylester Resins from Cardanol** (D)  
L11 Fanny Jaillet, Sylvain Caillol, H  l  ne Nouailhas, R  mi Auvergne, Bernard Boutevin, Laboratory IAM ENSCM, Montpellier, France
- 12.30 – 12.50 **Biobased Aqueous Polyurethane Dispersions: A Case Study.** (D)  
L12 Suresh Kattimuttathu Ittara, CSIR-Indian Institute of Chemical Technology, Hyderabad, India
- 13.00 – 14.00 **Lunch break**
- 14.00 – 15.30 *First afternoon session*
- 14.00 – 14.30 **Vegetable Oil Chemical Valorization: Alkylation and Arylation of Glycerol** (M)  
L13 Marc Lemaire, Universit   Claude Bernard Lyon 1, Lyon, France
- 14.30 – 14.50 **Nucleophilic Substitutions and Additions at Unsaturated FAMES** (D)  
L14 H. J. Sch  fer, M. Zobel, R. Maletz, L. Hinkamp, M. Plate, G. Feldmann, Westf  lische Wilhelms-Universit  t, Organisch-Chemisches Institut, M  nster, Germany
- 14.50 – 15.10 **Skeletal Isomerisation of Oleic Acid over Ferrierite** (D)  
L15 Sophie C.C. Wiedemann,<sup>1</sup> Joseph A. Stewart,<sup>1</sup> Fouad Souliman,<sup>1</sup> Tanja van Bergen-Brenkman,<sup>2</sup> Stephan Langelaar,<sup>2</sup> Bas Wels,<sup>2</sup> Peter de Peinder,<sup>1</sup> Pieter C. A. Bruijninx,<sup>1</sup> Bert M Weckhuysen,<sup>1</sup> <sup>1</sup> Utrecht University, Utrecht, Netherlands; <sup>2</sup> Croda Nederland BV, Netherlands
- 15.10 – 15.30 **Organic Carbonates and Renewable Resources: A Promising Alliance for the Sustainable Synthesis of Monomers and Polymers** (D)  
L16 Oliver Kreye, Michael A. R. Meier, KIT, Karlsruhe, Germany
- 15.30 – 16.00 **Coffee break**

- 16.00 – 17.20      *Second afternoon session*
- 16.00 – 16.30      **Vegetable Oils for Wood Protection - Chemical Interactions with Wood Materials (M)**  
L17                    Mats K. G. Johansson, KHT, Stockholm, Sweden
- 16.30 – 17.00      **Hydrocarbon-Rich Biomass-Derived Thermoplastics, Thermoplastic Elastomers and Biomaterials (M)**  
L18                    Chuanbing Tang, University of South Carolina, Columbia, USA
- 17.00 – 17.20      **Structure-Property Relationships of Anhydride-cured Epoxidized Sucrose Soyate Thermosets: The Effect of Composition Variables (D)**  
L19                    Adlina Paramarta, Dean C. Webster, Department of Coatings and Polymeric Materials, North Dakota State University, Fargo ND, USA
- 19.30                    *Conference Dinner*

**Renaissance Karlsruhe Hotel**

**Tuesday, March 25, 2014**

- 9.00 – 10.40      *First morning session*
- 9.00 – 9.30            **Biobased Polyamide Structures from Thiolacton Building Blocks (M)**  
L20                    Filip du Prez, University of Gent, Gent, Belgium
- 9.30 – 9.50            **MacroRAFT Agents from Renewable Resources and their Use as Polymeric Scaffolds in a Grafting from Approach (D)**  
L21                    Sanne De Smet, Sophie Lingier, Filip du Prez, University of Gent, Gent, Belgium
- 9.50 – 10.10        **From Fatty Acid Derived Polymers toward Polyethylene – Thermal Behavior of Polyesters, Polycarbonates and Polyacetals (D)**  
L22                    Patrick Ortmann, Stefan Mecking, Department of Chemistry, University of Konstanz, Konstanz, Germany

- 10.10 – 10.30 **Novel Biobased Nonisocyanate Polyurethanes from Dimer Diamines Obtained from Solvent and Catalyst-free Synthesis: Study of the Structure-Properties Relationships (D)**  
L23 Camille Carré, Luc Averous, ICPEES-ECPM, University of Strasbourg, France
- 10.30 – 11.00 **Coffee Break**
- 11.00 – 13.00 *Second morning session*
- 11.00 – 11.30 **Microbial Single Cell Oils - State of the Art and Challenges (M)**  
L24 Christoph Syldatk, KIT, Karlsruhe, Germany
- 11.30 – 11.50 **Microbial Oil as a Renewable Feedstock: Improving Single Cell Oil Properties by Metabolic Engineering (D)**  
L25 Rodrigo Ledesma-Amaro, Universidad de Salamanca, Salamanca, Spain
- 11.50 – 12.10 **Synthesis of Aliphatic  $\alpha$ -Branched Aldehydes *via* Combination of a Chemocatalytic Aldol Condensation and an Enzymatic C=C Reduction (D)**  
L26 Marc Biermann,<sup>1</sup> Werner Hummel,<sup>2</sup> Harald Gröger<sup>1</sup>  
<sup>1</sup> University of Bielefeld, Bielefeld, Germany; <sup>2</sup> University of Düsseldorf, Düsseldorf, Germany
- 12.10 – 12.30 **Large-ring Lactones from Fatty Acids (D)**  
L27 Timo Witt, Philipp Roesle, Florian Stempfle, Josefine T. Christl, Hanna Busch, Gerhard Müller, Stefan Mecking, Department of Chemistry, University of Konstanz, Konstanz, Germany
- 12.30 – 12.50 **Esters of Oligo-(Glycerol Carbonate-Glycerol Ether) as Alternative to Fossil Surfactants (D)**  
L28 Romain Valentin, Sébastien Holmière, Zéphirin Mouloungui, Unité de Chimie Agro-Industrielle, UMR1010 INRA/INP-ENSIACET, Toulouse Cedex 4, France
- 13.00 – 14.00 **Lunch break**

14.00 – 16.00	<i>Afternoon session</i>
14.00 – 14.30	<b>Biodiesel Synthesis Using Centrifugal Contactor-separators: an Example of Process Intensification (D)</b>
L29	M.Y. Abduh, <sup>1,2</sup> A.Fernández-Martinez, <sup>1</sup> A. Kloekhorst, <sup>1</sup> <u>H.J. Heeres</u> , <sup>1</sup> <sup>1</sup> University of Groningen, Groningen, The Netherlands; <sup>b</sup> Institut Teknologi Bandung, Bandung, Indonesia
14.30 – 14.50	<b>Oxidation Stability of <i>Jatropha curcas</i> Biodiesel Produced from High Free Fatty Acid Oil (M)</b>
L30	<u>Supriyono Supriyono</u> , Joana Maia Moreira Dias, LEPABE, Department of Metallurgic and Materials Engineering, FEUP, Porto, Portugal
14.50 – 15.10	<b>Alkenolysis as a Path to Alternative Diesel Fuels Based on Methyl Oleate (M)</b>
L31	Marc R. L. Furst, <sup>1</sup> Friedrich Erben, <sup>1</sup> Daniel R. Riemer, <sup>1</sup> Benjamin Stengel, <sup>2</sup> Silvia Berndt, <sup>2</sup> Ulrike Schümann, <sup>2</sup> Evelyn Flügge, <sup>2</sup> Volker Wichmann, <sup>2</sup> Eckhard Paetzold, <sup>1</sup> Udo Kragl <sup>3</sup> <sup>1</sup> Leibniz Institute for Catalysis at the University of Rostock; <sup>2</sup> Institute of Piston Machines and Internal Combustion Engines at the University of Rostock; <sup>3</sup> Institute for Chemistry, Division of Analytical and Technical Chemistry at the University of Rostock, Rostock, Germany
15.10 – 15.30	<b>Ethylene Production from Fats and Oils (D)</b>
L32	<u>David Kubička</u> , Jan Horáček, VUANCH, Litvínov, Czech Republic
15.30	<b>Poster Award and Closing Remarks</b>
	<b>Best Poster Award</b> Award committee
16.00	<b>End of Workshop</b>