



THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA



Technische Universität München

The  
University of Queensland –  
Technische Universität München –

Research Symposium on

# Biotechnology for Food & Chemicals

Munich, June 19<sup>th</sup> and 21<sup>st</sup>, 2017

Asam-Saal  
Technische Universität München  
Weihenstephaner Berg  
D-85354 Freising  
Germany

<b>June, 19th</b>	
13:30	<b>Welcome</b> Dr. Hannemor Keidel, TUM, Senior Vice President International Alliances and Alumni
14:00	<b>Keynote: Molecular Sensory Science</b> Prof. Thomas Hofmann, TUM, Senior Vice President Research and Innovation, School of Life Sciences Weihenstephan
14:45	<b>Keynote Biocatalysis for Detoxification: Pesticide and nerve agent-degrading enzymes as promising agents in remediation and anti-warfare strategies</b> Prof. Gary Schenk, UQ, School of Chemistry and Molecular Biosciences
15:30	Coffee break
	<b>Session: Nature is the best Chemist</b> Session Chair: Wolfgang Liebl
16:00	Natural Toxins - the Jekyll and Hyde of Agricultural Products Prof. Mary Fletcher, UQ, Centre for Animal Science & QUAAFI
16:30	Production of Complex Natural Products by Genome Mining, Pathway Engineering and Biocatalysis Prof. Tobias Gulder, TUM, Department of Chemistry
17:00	Mechanism of Cytochrome P450 Catalysed Reactions Prof. James De Voss, UQ, School of Chemistry and Molecular Biosciences
17:30	Cytochrome P450 enzymes in the metabolic network of indolic defence compounds in plants Prof. Erich Glawischnig, TUM, School of Life Sciences Weihenstephan
18:30	Dinner

<b>June, 20th</b>	
	<b>Session: Food components from Plants and Algae</b> Session Chair: Michael Rychlik
08:30	Tropical fruits - a rich source of novel aroma compounds Dr. Martin Steinhaus, German Research Centre for Food Chemistry, Leibniz Institute
09:00	Functional properties of traditionally healthy foods: Material Science Perspective Dr. Kinnari Shelat, UQ, Centre for Nutrition and Food Sciences & QUAAFI
09:30	Magnetic resonance technologies for high resolution metabolomics and foodomics Prof. Philippe Schmitt-Kopplin, TUM, School of Life Sciences Weihenstephan
10:00	Coffee break
10:30	Biofortification - Queen Garnet plum - a success story Dr. Michael Netzel, UQ, Centre for Nutrition and Food Sciences & QUAAFI
11:00	Vitamins in emerging sources for foods: folates as model micronutrients in exotic foods and algae Prof. Michael Rychlik, TUM, School of Life Sciences Weihenstephan
11:30	High content screening and characterization of Australian microalgae strains for food and feed applications using realistic LED light simulations Prof. Thomas Brueck, TUM, Department of Chemistry
12:00	Model-based design of microalgae production processes and scale-up to open thin-layer cascade reactors Prof. Dirk Weuster-Botz, TUM, Department of Engineering
13:30	Lunch break

	<b>Session: New Enzymes and their applications</b> Session Chair: Gary Schenk
14:00	Biotechnological Production of Glycosylated flavour compounds Prof. Wilfried Schwab , TUM, School of Life Sciences Weihenstephan
14:30	Applications of the branched chain amino acid biosynthesis pathway in biotechnology Prof. Luke Guddat, UQ, School of Chemistry and Molecular Biosciences
15:00	Design of Chemo-Enzymatic Cascades Prof. Volker Sieber, TUM Campus Straubing for Biotechnology and Sustainability
15:30	Bioinorganic chemistry: design of new metal active sites within and without proteins Prof. Corinna Hess, TUM, Department of Chemistry
16:00	Coffee break
16:30	Exploring the past and the future of protein evolution for industrial application Dr. Yosephine Gumulya, UQ, School of Chemistry and Molecular Biosciences
17:00	Protein Modeling Prof. Iris Antes, TUM, School of Life Sciences Weihenstephan
17:30	Next-generation fertilisers for nutrient stewardship and sustainable agriculture Prof. Susanne Schmidt, UQ, School of Agriculture and Food Sciences & QAAFI
18:30	Dinner

<b>June, 21st</b>	
	<b>Session: Carbohydrate production and utilization</b> Session Chair: Volker Sieber
08:30	PRO-SUGAR - a concept for the upgrading of pectin-rich agricultural wastes to high-value platform chemicals by fungal fermentations Prof. J. Philipp Benz, TUM, School of Life Sciences Weihenstephan
09:00	Polysaccharide-Hydrolases Prof. Wolfgang Liebl , TUM, School of Life Sciences Weihenstephan
09:30	Carbohydrate Fingerprinting: Sugar detection in high throughput format Dr. Broder Rühmann, TUM Campus Straubing for Biotechnology and Sustainability
10:00	Enzymatic and fermentative tailoring of fructose polymers using the food-grade acetic acid bacterium <i>Gluconobacter albidus</i> TMW 2.1191 Dr. Frank Jakob, TUM, School of Life Sciences Weihenstephan
10:30	Coffee break
	<b>Session: Bioeconomy &amp; “Grey Biotechnology”</b> Session Chair: Prof. Susanne Schmidt
11:00	Anaerobic digestion (waste-to-energy): what it is and where it struggles Dr. Sergi Astals-Garcia, UQ, Advanced Water Management Centre
11:30	Wastewater as a resource: Towards energy-neutral wastewater treatment plants Dr. Konrad Koch, TUM, Department of Civil, Geo and Environmental Engineering
12:00	Some opportunities and trends in the global bioeconomy; an Australian perspective Prof. Ross Barnard , UQ, School of Chemistry and Molecular Biosciences
<b>Afternoon:</b> Discussion groups about joint proposals	