Program of the 19th Japanese-German Workshop on Enzyme Technology 2017 in Rostock, Germany

Thursday - September 21st, 2017

Aula, University Main Building

Chair: U. Bornscheuer - Session 1

9:00 Opening remarks

9:05 - JP - Keynote Lecture -
Yasuhisa Asano
R-Amine oxidase evolved from D-amino acid oxidase for chiral (S)-amine synthesis and oxidative cyanation reaction

9:35 Charlie van Pée
Flavin-dependent halogenases and their application in vivo and in vitro

9:50 Kenji Sonomoto
Interdomain cooperation of dual functional ABC transporter (ABC transporter maturation and secretion protein) for lantibiotic production

10:05 Emil Byström (Spinchem AB)
Biocatalysis in rotating bed reactor – from screening to production

10:20 Yomi Watanabe
Development of Urushi-like biomass paint

10:35 Coffee Break / Poster session (40 min)

Chair: Jun Ogawa - Session 2

11:15 Takane Katayama
"Molecular insight into symbiosis and co-evolution between infants and bifidobacteria"

11:30 Jörg Pietruszka
Chemoenzymatic production of prodiginines

11:45 Satoru Ishihara (Amano Enzyme)
“Protein engineering of Candida rugosa lipase for improving thermostability and altering substrate specificity”

12:00 Steven Hanlon (F. Hoffmann-La Roche Ltd)
Oxidative Biotransformations in Drug Metabolite Preparation

12:15 Haruyuki Atomi
An enzyme system for the production of myo-inositol from starch

12:30 Vlada Urlacher
Cascade reactions for the synthesis of biologically active lignans

12:45 Kumiko Kato (Morinaga Milk Industry)
Features of human-residential bifidobacteria

13:00 Lunch / Poster session (60 min)

Chair: Yasuhisa Asano - Session 3

14:00 Selin Kara
Engineering strategies towards more efficient biocatalytic cascades

14:15 Michihiko Kobayashi
Enzymes acting on biologically active compounds

14:30 Antje Spieß
Identification of mechanistic kinetic models – tools and benefits
<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
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<tbody>
<tr>
<td>14:45</td>
<td>Tohru Yoshimura</td>
<td>Production of ophthalmic acid with an <em>E. coli</em> mutant lacking the conserved pyridoxal protein YggS</td>
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<td>15:00</td>
<td>Jan von Langermann</td>
<td>Polyurethane-based compartmentalization of biocatalysts</td>
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<td>15:15</td>
<td>Akira Nakagawa</td>
<td>Alkaloid production using an engineered <em>Escherichia coli</em></td>
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<td>15:30</td>
<td>Yoshihiko Hirose</td>
<td>Enzymatic glucosylation of functional compounds for healthcare</td>
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<td>15:45</td>
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<td>Coffee Break / Poster session (40 min)</td>
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<td>Chair: Haruyuki Atomi - Session 4</td>
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<td>16:25</td>
<td>Volker Sieber</td>
<td>Chemoenzymatic synthesis of rare sugars and sugar derivatives by utilizing enzymes with a wide substrate scope</td>
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<td>16:40</td>
<td>Jun Ogawa</td>
<td>Enzymes from gut microorganisms involved in food component metabolism</td>
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<td>16:55</td>
<td>Philipp Süss (Enzymicals AG)</td>
<td>Chemo-Enzymatic applications – from research to industry</td>
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<td>17:10</td>
<td>Makoto Nishiyama</td>
<td>Amino-group carrier protein mediated secondary metabolite biosynthesis</td>
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<td>17:25</td>
<td>Ayako Yoshida</td>
<td>Regulation of isopropylmalate synthase from <em>Thermus thermophilus</em> via protein acylation</td>
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<td>17:40</td>
<td>Johannes Kabisch</td>
<td>Developing rapid DNA assembly techniques for the computer-aided design of synthetic circuits</td>
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<td>17:55</td>
<td>Hiroyuki Nozaki (Ajinomoto)</td>
<td>Enzymatic synthesis of N-ε-acyl-L-lysine by microbial acylase</td>
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<td>19:00</td>
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<td>Banquet</td>
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Friday - September 22nd, 2017
Lecture Hall, Institute of Chemistry

9:00 Announcements

9:05 GER - Keynote Lecture -
Robert Kourist
Expanding and exploring natural sequence space – from protein engineering to chemo-enzymatic cascade reactions

9:35 Kohsuke Honda
Nicotinamidase, a key enzyme of the salvage synthesis of NAD+ in Thermus thermophilus: identification, characterization, and the impact of its gene deletion at high growth temperatures

9:50 Harald Gröger
Organic synthesis of chiral nitriles: a cyanide-free approach based on the use of aldoxime dehydratase

10:05 Michiki Takeuchi
Production of bio-active epoxidized eicosapentaenoic acid with cytochrome P450 BM-3 and its mutants

10:20 Hiroyasu Onaka
RiPPs (ribosomally synthesized and post-translationally modified peptides) biosynthesis coupled by in vitro translation and post-translation modifications

10:35 Coffee Break (40 min)

11:15 Makoto Hibi
Asymmetric synthesis of amino acid derivatives by monooxygenating multiple reactions

11:30 Norbert Seewald
Enzymatic halogenation in organic synthesis

11:45 Ryoma Miyake (API corporation/Mitsubishi Chemical)
Biocatalytic synthesis of unnatural amino acid in API corporation

11:50 Georg A. Sprenger
MenD, a Thiamin-dependent enzyme having 1,2- and 1,4-activity with Michael-acceptors

12:00 Misato Matsui-Makino (Kaneka)
Engineering of thermostable glutathione synthetase

12:30 Lunch

Excursion (optional)

13:30 bus trip to “Molli” (historic narrow-gauge steam-powered railway)

14:35 train trip with “Molli” from Kühlungsborn to Bad Doberan

15:15 tour at „Doberaner Münster“ in Bad Doberan (brick gothic cathedral)

17:15 bus trip back to Rostock