

## Biosynthesis of Natural Products (#106)

Hawaii Convention Center, Honolulu, Hawaii December 15-17, 2010

Organized by: Ikuro Abe, Craig A. Townsend and John C. Vederas

**December 15, 2010**

**Session Host: Craig A Townsend (*Johns Hopkins University*)**

Time	Title	Presenting Author
7:50	Engineering plant polyketide synthases	Ikuro Abe <i>University of Tokyo</i>
8:30	Curcuminoid synthesis by type III polyketide synthases and their application to microbial production of plant polyketides	Nobutaka Funa <i>Univ. Shizuoka</i>
8:50	Indanomycin biosynthesis: developing a picture of indane ring formation	Wendy Kelly <i>Georgia Tech</i>
9:30	Structural enzymology of polyketide synthase	Sheryl Tsai <i>UC Irvine</i>
10:10 10:50	Biosynthesis of fungal secondary metabolites using heterologous hosts	Yi Tang <i>UCLA</i>

**Session Host: Tomohisa Kuzuyama (*University of Tokyo*)**

12:30	Detailed mechanism on the enzymatic polyether Formations	Hideaki Oikawa <i>Hokkaido University</i>
13:10	Analysis of reveromycin A biosynthetic gene cluster	Shunji Takahashi <i>RIKEN</i>
13:30	A physically discrete $\beta$ -lactamase-type thioesterase catalyzes product release in atrochryson synthesis by iterative type I polyketide synthase	Takayoshi Awakawa <i>University of Tokyo</i>
13:50	Novel drug leads from natural products and their derivation from microbial and biosynthetic diversity	David Sherman <i>Univ. Michigan</i>
14:30	Biosynthesis of the 17-membered polyketide antibiotic lankacidin produced by <i>Streptomyces rochei</i> 7434AN4	Kenji Arakawa <i>Hiroshima University</i>
14:50	Biosynthesis of aminocarbonyl-containing natural Products	Taifo Mahmud <i>Oregon State Univ.</i>

15:10	Molecular analysis of glycosyltransferase VinC	Tadashi Eguchi <i>Tokyo Inst Tech</i>
15:50 16:30	Oxidoreductases and glycosyltransferases of the biosyntheses of aureolic acid and gilvocarcin-type anticancer drugs – challenges for combinatorial biosynthesis	Jürgen Rohr <i>Univ. Kentucky</i>

**December 16, 2010**

**Session Host: John C Vederas (*University of Alberta*)**

<b>Time</b>	<b>Title</b>	<b>Presenting Author</b>
7:30	Biosynthesis, engineering and evolution of the salinosporamides	Bradley Moore <i>UC San Diego</i>
8:10	Biosynthetic studies of FR901464 revealing a complex acyltransferase-less polyketide synthase using glycerate as starter units and a Baeyer-Villiger oxidation for chain release	Gong-Li Tang <i>Shanghai Inst Org Chem</i>
8:30	Biosynthesis of the bisintercalator thiocoraline	Sylvie Garneau-Tsodikova <i>Univ. Michigan</i>
8:50	Biosynthesis of marine ascidian natural products	Eric Schmidt <i>Univ. Utah</i>
9:30	Unusual non-ribosomal peptide synthetases producing amino-acid homopolymers	Yoshimitsu Hamano <i>Fukui Pref. Univ.</i>
9:50	Mechanism and structure of nonribosomal peptide synthetase biosynthetic machinery	Steve Bruner <i>Univ. Florida</i>
10:10	Biosynthesis of 16-membered macrolide antibiotic FD-891	Fumitaka Kudo <i>Tokyo Inst Tech</i>
10:30	Reconstituted biosynthesis of meroterpenoid in fungi	Tetsuo Kushiro <i>Meiji University</i>
10:50 11:30	Biosynthesis and antimalarial activity of prodiginines	Kevin Reynolds <i>Portland State Univ.</i>

**Session Host: Kazufumi Yazaki (*Kyoto University*)**

12:30	Lysine/ornithine decarboxylase – An enzyme catalyzing the first step of quinolizidine alkaloids biosynthesis in legume plants	Kazuki Saito <i>RIKEN, Chiba Univ.</i>
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13:10	Translating bacterial metabolic exchange with imaging mass spectrometry	Pieter Dorrestein <i>UC San Diego</i>
13:30	The natural products underground	Brian Bachmann <i>Vanderbilt University</i>
13:50	Salt cress, making phytoalexins to grow safe in the wild	Soledade Padras <i>Univ. Saskatchewan</i>
14:30	Proteomic tools for the study of modular synthases	Michael Burkart <i>UC San Diego</i>
15:10	Directed evolution and characterisation of non-ribosomal peptide synthetase and phosphopantetheinyl transferase enzymes	David Ackerley <i>Victoria University of Wellington</i>
15:50 16:30	Post-genomic elucidation of plant natural product pathways	Toni Kutchan <i>Danforth Plant Sci.</i>

**Session Host: John C Vederas (*University of Alberta*)**

19:00	A posttranslational approach to natural product biosynthesis	Christopher Walsh <i>Harvard Med School</i>
19:40	Biosynthesis and genetic engineering of goadsporin, a ribosomally synthesized oxazole thiazole peptide produced by <i>Streptomyces</i> sp. TP-A0584.	Hiroyasu Onaka <i>Toyama Pref. Univ.</i>
20:00	Studies on the early biosynthetic step of the fufalosine (menaquinone) pathway	Tohru Dairi <i>Hokkaido University</i>
20:20 21:00	Bacterial symbioses and the discovery of new molecules	Jon Clardy <i>Harvard Med School</i>

**December 17, 2010**

**Session Host: Ikuro Abe (*University of Tokyo*)**

<b>Time</b>	<b>Title</b>	<b>Presenting Author</b>
7:30	Thiamin biosynthesis: mechanistic studies on the pyrimidine and thiazole formation	Tadhg Begley <i>Texas A&amp;M</i>
8:10	Prenylation of flavonoids by the heterologous expression of prenyltransferase genes in transgenic plants	Kazufumi Yazaki <i>Kyoto University</i>
8:30	Cytochrome P450 catalysed oxidations	James De Voss <i>Univ. Queensland</i>
8:50	Novel nitroso-forming o-aminophenol oxidase involved in 4-hydroxy-3-nitrosobenzamide biosynthesis	Yasuo Ohnishi <i>University of Tokyo</i>
9:30	Probing abscisic acid receptor complexes with metabolites and structural analogs	Suzanne Abrams <i>NRC Canada</i>
9:50	Got milk blindness? Biosynthesis and cellular actions of cycloterpenals	Coran Watanabe <i>Texas A&amp;M</i>
10:10	A novel acetoacetyl-coenzyme A synthesizing enzyme of the thiolase superfamily involved in the mevalonate pathway	Tomohisa Kuzuyama <i>University of Tokyo</i>
10:50 11:30	Substrate promiscuity, mechanistic elasticity & product diversity in plant specialized metabolism	Joseph Noel <i>Salk Institute</i>