

SPP 1152 „Evolution of metabolic diversity“

5th Colloquium

IPB, Kurt-Mothes lecture hall

Wednesday, June 7th, 2006

13:00 **Opening remarks**

Part I
Chair: JÜRGEN KROYMANN

13:10 JÖRG DEGENHARDT, Sandra Kubisch, Jonathan Gershenzon (Jena)
The evolution of mono- and sesquiterpene diversity in maize

13:30 ERICH GLAWISCHNIG, Thomas Rauhut, Regina Schuhegger, Andreas Grabrucker
(München)
Evolution of the biosynthesis of thiazolyl-indole metabolites in bacteria and plants

13:50 ANDREAS FIEBELMANN, Monika Frey (München)
Evolution of indole biosynthesis in the grasses

14:10 KATRIN SCHULLEHNER, Alfons Gierl (München)
Evolution of benzoxazinone biosynthesis

14:30 FELIX STEHLE, Carsten Milkowski, Milton T. Stubbs, Dieter Strack (Halle)
Structure-function relationships of SCPL acyltransferases

14:50 MICHAEL H. WALTER (Halle)
From mosses to angiosperms: Evolution of divergent genes for 1-deoxy-D-xylulose 5-phosphate synthase (DXS)

15:10 BENYE LIU, Helge Scharnhop, Ludger Beerhues (Braunschweig)
Molecular, structural, and phylogenetic analysis of biphenyl synthase and benzophenone synthase

15:30 **COFFEE BREAK**

Part II
Chair:

JÖRG DEGENHARDT

- 16:00 STEFAN BIASTOFF, Wolfgang Brandt, Milton T. Stubbs, Birgit Dräger (Halle)
Putrescine *N*-methyltransferase: crystallisation experiments and site directed mutagenesis
- 16:20 MARTINA SILBER, Jürgen Ebel (München)
The 4-coumarate:Coenzyme A ligase gene family of *Physcomitrella patens* consists of at least four members
- 16:40 ELISABETH FUSS (Düsseldorf)
The evolution of pinoresinol-lariciresinol reductases
- 17:00 A. WILHELM ALFERMANN (Düsseldorf), Thomas J. Schmidt, Sonja Vöβing (Münster)
Lignan diversity in *Linum* species of section *Linum* on the background of phylogeny
- 17:20 JÖRG ZIEGLER, Silke Pienkny (Halle)
Comparative transcript and alkaloid profiling in *Papaver* species: Identification of a short chain dehydrogenase / reductase involved in morphine biosynthesis
- 17:40 TIM JANOWITZ, Markus Piotrowski (Bochum)
Nitrilase protein families in glucosinolate forming plants
- 18:00 JÜRGEN KROYMANN, Markus Benderoth (Jena)
Positive selection driving diversification in plant secondary metabolism

ABENDVORTRAG

- 18:30 UTE WITTSTOCK (Braunschweig)
Metabolic diversity in an activated plant defense system

19:30 DINNER

Thursday, June 8th, 2006

Part III

Chair: MILTON T. STUBBS

- 08:00 DOROTHEE LANGEL (Braunschweig), Dietrich Ober (Braunschweig, Kiel)
Molecular evolution of the biosynthesis of necic acids from lycopsamine type pyrrolizidine alkaloids
- 08:20 SHU-MING LI (Düsseldorf)
Evolution of aromatic prenyltransferases in the biosynthesis of indole derivatives
- 08:40 DIANA SCHULZE, Ludger Wessjohann, Wolfgang Brandt (Halle)
Analysis and characterisation of diphosphate binding sites in proteins
- 09:00 TANJA GULDER, Gerhard Bringmann (Würzburg)
Biosynthesis of axially chiral biaryl alkaloids from plants
- 09:20 ELKE DITTMANN, Holger Jenke-Kodama (Berlin), Rolf Müller (Saarbrücken)
Evolutionary mechanisms underlying polyketide diversity in bacteria: Implications from cyanobacteria
- 09:40 SEMA EYS, Wolfgang Wohlleben, Eva Heinzelmann (Tübingen)
The herbicide phosphinothricin-tripeptide – a model for the analysis of the evolution of secondary metabolism in bacteria
- 10:00 CHRISTINE SCHIMEK, Johannes Wöstemeyer, Kerstin Voigt (Jena)
The role of beta-carotene derivatives in speciation and communication in zygomycete fungi

10:20 COFFEE BREAK

Part IV

Chair: DIETRICH OBER

- 10:50 AXEL A. BRAKHAGE, Qusai Al-Abdallah, Marcel Thön, Peter Hortschansky, Sebastian Bergmann, Volker Schroeckh, Petra Spröte (Jena)
Evolution and function of *cis-/trans* elements of fungal secondary metabolism with emphasis on the penicillin biosynthesis
- 11:10 CHRISTIAN HERTWECK, Nelly Traitcheva, Benjamin Busch, Martina Ziehl (Jena)
Evolution of non-linear polyketide biosynthesis in the aureothin and neo-aureothin pathways

- 11:30 CHRISTIANE BÖMKE, Bettina Tudzynski (Münster)
Evolution of isoprenoid gene clusters in fungi
- 11:50 NICOLE LORENZ, Thomas Haarmann, Paul Tudzynski (Münster)
Molecular genetics and evolutionary aspects of the alkaloid pathway in *Claviceps purpurea*
- 12:10 THOMAS HOCHMUTH, Siniša Hrvatin, Daniel Butzke, Katrin Zimmermann, Jörn Piel (Bonn), Lars Fieseler, Lubomir Grozdanov, Ute Hentschel (Würzburg), Andreas Schirmer (USA), Gaiping Wen, Matthias Platzer (Jena)
Evolutionary analysis of polyketide synthases in symbionts of marine sponges
- 12:30 AXEL SANDMANN, Rolf Müller (Saarbrücken), Holger Jenke, Elke Dittmann (Berlin)
Biosynthesis of the chinoline alkaloid aurachin in *Stigmatella aurantiaca*: the first characterized type II polyketide synthase from gram negative bacteria
- 12:50 MARCUS MIETHKE, Mohamed A. Marahiel (Marburg), Milton T. Stubbs (Halle)
YuiI-dependent ferri-bacillibactin hydrolysis in *Bacillus subtilis*
- 13:10 **Closing remarks**
- 13:20 **Departure**