

CIPKEBIP Annual Conference 2011 Program

“ Biosynthetic and metabolic engineering in industrial drug and process development”

September 15, 2011

Jožef Stefan Institute, Jamova cesta 39, Ljubljana, Large lecture hall

09:00 – 09:30 Registration

Chairs: Enej Kuščer, Hrvoje Petković

Conference openings

09:30 – 10:00 Welcome greetings

Dušan Turk, scientific director CIPKEBIP

Jadran Lenarčič, director JSI

Urban Kranjc, Ministry of Higher education,
Science and Technology

10:00 – 10:45 Plenary lecture: Oxytetracycline - from discovery
to genome sequence

Iain S. Hunter

10:45 – 11:00 *Coffee break*

11:00 – 13:40 Section 1 »Biosynthetic engineering and drug development«

- 11:00-11:30 Macrolides - more than antibiotics

Vesna Eraković Haber

- 11:30-12:00 Towards novel modular polyketide synthases
– lessons learnt from evolution

John Cullum

12:00-12:10 *Coffee break*

- 12:10-12:40 Biosynthetic Engineering Approaches to
Natural Product Lead Optimization

Steve Kendrew

- 12:40-13:10 Genomic data analysis - "What would Google do?"

Daslav Hranueli

- 13:10-13:40 Exploring modularity - Cooperating fungal iterative
polyketide synthases for resorcylic acid lactone production

Istvan Molnar

13:40 – 14:40 *Lunch break*

14:40 – 15:10 Section 2 »Presentation of centres of excellence CO ENFIST and CO BIK«

- 14:40-14:55 Presentation of achievements of CO ENFIST

Matjaž Polak

- 14:55-15:10 Presentation of achievements of CO BIK

Rebeka Koncilija

15:10 – 18:20 Section 3 »Biology of actinomycetes and industrial process development«

- 15:10-15:40 Manipulation of streptomycete mycelial architecture

Paul Herron

- 15:40-16:10 Improved erythromycin A production and purity by
Modulation of the overexpression of tailoring genes
eryK and eryG in *Saccharopolyspora erythraea* and
their fermentation optimization

Ju Chu

16:10-16:20 *Coffee Break*

- 16:20-16:50 New insights into substrate supply and regulation of
FK506 Biosynthesis and their implications for

Gregor Kosec

- Bioprocess development and drug discovery
- 16:50-17:20 Improvement of Oxytetracycline Production by Using *Meijin Guo*
Different Genetic Engineering Strategies
 - 17:20-17:50 Streptomyces are a source of hydrolytic enzymes *Duška Vujaklija*
with potential in lipid biotransformation

Closure of the first day: Enej Kuščer, Hrvoje Petković

September 16, 2011

Jožef Stefan Institute, Jamova cesta 39, Ljubljana, Large lecture hall

09:00 – 09:30 Registration

Chair: Dušan Turk

09:30 – 14:35 Presentation of CIPKEBIP scientific work in year 2011

09:30 – 10:15 WP1: Mechanisms and pathways of immune response

Maja Rupnik Overview

Tatjana Lejko

10:15 – 11:00 WP2: Intra and Intercellular communication

10:15 – 10:24 Enej Kuščer *Development of novel bioactive compounds by biosynthetic and chemobiosynthetic approaches*

10:24 – 10:33 Marko Fonović *Role of cathepsins in cancerogenesis*

10:33 – 10:42 Marko Kreft *Super-resolution Microscopy and Cell Physiology*

10:42 – 10:51 Marjan Slak Rupnik *Organelle mediated signaling in endocrine tissue models*

10:51 – 11:00 Jože Pungerčar *Secreted Phospholipases A2 and Breast Cancer*

11:00 – 11:15 *Coffee break*

11:15 – 12:35 WP3: Adaptation mechanisms of extremophiles to environment

Nina Gunde Cimerman, Nataša Poklar Ulrih Overview

WP4: Protein Bank: Production and storage of proteins

Dušan Turk Protein Data Bank: Overview

12:35 – 13:20 *Lunch*

13:20 – 14:20 5 minutes presentations of scientific work in 2011

Mateja Zemljič (DS 1) Effect of Clostridium difficile strains with hemolytic activity on the actin cytoskeleton

Mateja Štempelj (DS 2) How does a sales oriented company start its R&D activities?

Saša Trkov (DS 2) Lipid signaling molecules attenuate vesicle mobility in cultured rat astrocytes

Andraž Stožer (DS 2) Calcium Dynamics of Langerhans' Islets in Pancreas Tissue Slices

Ajda Podgoršek (predstavitev dosedanjega raziskovalnega dela) (DS2) Chemistry in alternative reaction media: Effect of physico-chemical parameters and interactions on reactivity and selectivity

Metka Lenassi (DS 3) The mechanism of HAL2 salt tolerance in fungi living in extreme

saline environment

Cene Gostinčar (DS 3) Identifying genes for the improvement of plant stress tolerance

Marko Mihelič (DS 4) Technologies and methodologies behind the WP4 – Protein production and structure determination pipeline

Bernard Ženko (DS 4) Automatic protein function prediction

Toni Petan (DS 2) Ectopic expression of group X secreted phospholipase A₂ induces proliferation of highly invasive and tumorigenic breast cancer cells

Adrijana Leonardi (DS 2) Proteomics of *Vipera a. ammodytes* and *Conus consors* venoms

Aleksandra Usenik (DS 1) Structural biology of *Clostridium difficile* virulence factors

14:20 – 14:35 *Coffee break*

14:35 - 18:00 Presentation of producers and representatives of scientific equipment

14:35 – 14:50 Bia d.o.o., Petra Draškovič, Malan Štrbec

14:50 – 15:05 LKB Vertriebs GmbH, Richard Feike

15:05 – 15:20 Mikro+Polo d.o.o., Tomaž Hočevár

15:20 – 15:35 Mettler Toledo d.o.o., Keith Racman

Closure of the second day: Dušan Turk