

Enzymes, Coenzymes & Metabolic Pathways Conference 2013

Day 1 – Sunday 17th November 2013

16.30 - 18:50	Registration	
18:50 - 19:00	Welcome & Chair Comments	
Session 1 – Chair – Béatrice Golinelli-Pimpaneau		
19:00 - 19:45	Nigel Scrutton	Protein dynamics underpinning catalysis in human cytochrome P450 reductase and related proteins
19:45 - 20:15	Carlos Acevedo-Rocha	Accelerating Directed Evolution via Iterative Saturation Mutagenesis
20:15	Free Time & Dinner	

Day 2 – Monday 18th November 2013

Session 2 – Enzyme Dynamics – Part I Chair - Josh Wand		
08:50 - 09:00	Josh Wand	Session Chair – Enzyme Dynamics
09:00 - 09:45	Elizabeth Komives	Dynamic allostery controls the pro-coagulant to anticoagulant switch in thrombin
09:45 - 10:15	Jianhua Xing	Mathematical Modelling fills the Gap between Molecular Interactions and Epigenetic Dynamics
10:15 - 10:45	Coffee Break	
10:45 - 11:30	Clay Clark	Conformational Ensembles in Caspases and Their Role in Cell Death
11:30 - 12:00	TBC	Speaker chosen from abstracts
12:15 - 16:50	Lunch & Free Time	
Session 3 – Enzyme Dynamics Part II Chair - Elizabeth Komives		
16:50 - 17:00	Elizabeth Komives	Session Chair – Enzyme Dynamics Part II
17:00 - 17:45	Joshua Wand	The Dark Energy of Proteins comes to light with an NMR Relaxation Based Protein Conformational Entropy Meter

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Day 2 – Monday 18th November 2013 continued

17:45 - 18:15	Zach Nagel	Identification of a Long-range Protein Network That Modulates Active Site Dynamics in Extremophilic Alcohol Dehydrogenases
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18:15 - 18:45	David Boehr	Dynamic amino acid networks in enzyme catalysis
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Session 4 - Poster Session.

18:45 - 20:30	Poster Session, Networking & Drinks	
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20:30	Free Time & Dinner	
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Day 3 – Tuesday 19th November 2013

Session 5 - Kinases Chair: Gregory Grant

08:50 - 09:00	Gregory Grant	Session Chair – Kinases
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09:00 - 09:45	Gerald Carlson	Quaternary Constraint Controls Both Catalytic Activities of the Hexadecameric Phosphorylase Kinase Complex
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09:45 - 10:15	Sylvie Nessler	Molecular mechanism of atypical bacterial tyrosine kinases involved in capsule biosynthesis
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10:15 - 10:45	Group Photo	
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10:45 - 11:15	Coffee Break	
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11:15 - 11:45	Cesar Ramirez	Expanded monomeric intermediate upon cold and heat unfolding of phosphofructokinase-2 from Escherichia coli
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11:45 - 12:15	Jeffrey Keillor	Conformational changes of transglutaminase
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12:15 - 16:50	Lunch & Free Time	
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Session 6 - Regulation of Metabolic Pathways Chair: Gerald Carlson

16:50 - 17:00	Gerald Carlson	Session Chair – Regulation of Metabolic Pathways
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17:00 - 17:45	Gregory Grant	The Ins and Outs of Serine Metabolism: New Insights into the Regulation of Old Enzymes
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Day 3 – Tuesday 19th November 2013 continued

17:45 - 18:15	Emily J Parker	Turning Enzymes On and Off: Dynamic Protein Allostery
18:15 - 18:45	Siddhartha Sarma	The Solution Structure of ilvN and the Effect of the Allosteric Regulator Valine on its Conformational Properties.
18:45 - 19:15	Coran MH Watanabe	Got Milk Blindness? Biosynthesis of “Cycloterpenals”
19:15 - 19:45	Y. George Zheng	Enzymatic Mechanisms and Chemical Probes of the Histone Acetyltransferases
19:45 - 20:15	TBC	Speaker chosen from abstracts
20:15	Dinner & Free Time	

Day 4 – Wednesday 20th November 2013

Session 7 – Nucleic Acid Enzymes		Chair: Gerald Carlson
08:50 - 09:00	Gerald Carlson	Session Chair – Nucleic Acid Enzymes
09:00 - 09:45	Penny Beuning	Specificity of potentially mutagenic DNA polymerases for different types of DNA damage
09:45 - 10:15	Dong Wang	Molecular basis of RNA polymerase II transcriptional fidelity
10:15 - 10:45	Dirk Iwata-Reuyl	Biosynthesis of the Universal tRNA Nucleoside Threonylcarbamoyl Adenosine (t ⁶ A) by a Multi-Protein Complex
10:45 - 11:15	Coffee Break	
11:15 - 12:00	Eileen Jaffe	The morpheein model of protein allostery - an anomaly or an overlooked generalization?
12:00 - 12:30	Béatrice Golinelli-Pimpaneau	Regulation of Glucosamine-6P synthase
12:30 - 16:50	Lunch & Free Time	
Session 8 - Enzyme mechanisms		Chair: Eileen Jaffe
16:50 - 17:00	Eileen Jaffe	Session Chair – Enzyme mechanisms

Day 4 – Wednesday 20th November 2013 continued

17:00 - 17:30	Tadhg Begley	Radical SAM enzymes in cofactor biosynthesis
17:30 - 18:00	Kirsten R. Wolthers	Initiating and Controlling Radical Chemistry in Coenzyme B12-dependent Mutases
18:00 - 18:30	Pablo Sobrado	Mechanism of Hydroxylation by SidA, a flavin-dependent monooxygenase
18:30 - 19:00	Coffee Break	
19:00 - 19:30	Eugene Mueller	Kinetic Isotope Effects to Probe the Pseudouridine Synthase Mechanism
19:30 - 20:00	Saulius Klimasauskas	Catalytic versatility of Cytosine-5-methyltransferases
20:30	Gala Dinner	

Day 5 – Thursday 21th November 2013

Session 9 - Enzymes in medicine Chair: Dirk Iwata-Reuyl		
08:50 - 09:00	Dirk Iwata-Reuyl	Session Chair Comments – Enzymes in medicine
09:00 - 09:30	Manfred Konrad	Therapeutic enzymes for the treatment of leukemia: Glycine-induced autoproteolytic activation of human asparaginase, and microencapsulation to extend protein stability
09:30 - 10:00	William Bachovchin	Using Fibroblast Activation Protein to Selectively Deliver Cytotoxic Agents to Tumors and to the Tumor Microenvironment.
10:00 - 10:30	Sylvie Garneau-Tsodikova	Towards understanding and combating resistance in tuberculosis
10:30 - 10:40	Conference Chairs	Conclusions & Thanks
12:00	Lunch & Departures	