

CABO XXII Program
World Molecular Engineering Network Twenty-Second Annual Meeting on Structural Biology

May 6-10, 2012, San Jose del Cabo, Baja, Mexico

Sunday Evening, May 6

17:00 – 17:15	Introduction and Welcome Ian Wilson and Dan Santi		
17:15-17:45	Keynote Lecture William Rutter	Synergenics	What am I doing?
17:45- 18:00	Self-Introductions Wenwu Zhai Jack Kirsch Seth Harris Eric Schneider Neil Kumar	Rinat/Pfizer UCB Genentech UCSF Third Rock Ventures	
18:00 -20:00	Short Presentations (5+1 min.) by TSRI, UCSF Stanford Graduate Students, Postdocs <i>et al.</i> (Chair: Dennis Wolan)		
	Dmitry Lyumkis	TSRI	Single-particle electron microscopy reveals extensive conformational variability of the Ltn1 E3 ligase
	Peter Lee	TSRI	Head-hunting: targeting the hemagglutinin receptor-binding site
	Ashley Pratt	TSRI	Mechanistic insights into framework destabilization of Cu, Zn-superoxide dismutase ASL mutants
	John Chen	TSRI	Heterodimer formation of two forms of Charco-Marie Tooth associated mutant forms of glycyl-tRNA synthetases that restores aminoacylation
	Eugene Chun	TSRI	New fusion partners for G protein-coupled receptor crystallization
	Robert Kirchdoerfer	TSRI	Organization of influenza replication machinery
	Denis Malyshev	TSRI	Replication without H-bonds: the structure of a DNA polymerase replicating an expanded genetic alphabet
	Katherine Petrie	TSRI	Modeling fitness landscapes <i>in vitro</i> : mutagenesis and genetic drift
	Kimberly Hartfield	TSRI	New strategies toward crystallization of complex forms of cytochrome P450 240A1
	Josephine Leung	TSRI	Towards crystallization of <i>Thermus thermophilus</i> transhydrogenase
		Break	
	Avner Schlessinger	UCSF	Structure, function, and evolution of solute carrier (SLC) transporters
	David Shaya	UCSF	Voltage-gated sodium channel protein dissection creates a set of functional ‘pore-only’ proteins
	Louis Metzger	UCSF	Structures of a hinging membrane enzyme access membrane resident lipid to produce lipid X in the synthetic path to lipid A
	Sabine Mocklinghoff	UCSF	Protein crosstalk in transcriptional control - strategies to identify novel regulatory complexes
	Jason Porter	UCSF	Two halves are better than the whole: development of an inducible PTEN phosphatase
	Justin Farlow	UCSF	Imaging single Notch receptors at the cell surface with self-assembling monovalent quantum dots
	Greg Lee	UCSF	Determining binding modes of cruzain inhibitors via NMR spectroscopy
	Martin Verdoes	Stanford	Non-peptidic cathepsin S activity-based probe for noninvasive optical imaging of tumor associated macrophages
20:15– 21:30	Reception		Poolside

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Monday Morning, May 7

Advances in Structural Biology (Chair: James Fraser)

09:00	Bridget Carragher	TSRI	EM automation: the next decade
09:20	Roger Durst	Bruker	Developments in source and detector technology
09:40	John Tainer	TSRI	Advanced SAXS and a dawn for a mechanistic structural systems biology
10:00	Jane Dyson	TSRI	NMR studies of large and difficult proteins
10:20	Peter Wright	TSRI	Exploring protein energy landscapes by NMR relaxation
10:40	Break		
11:00	Graham Johnson	UCSF	autoFill: applications of mesoscale modeling and visualization software
11:20	Tom Ferrin	UCSF	Advances in chimera for modeling and animation
11:40	Robert Fletterick	UCSF	Structures in stem cell biology
12:00	Ray Stevens	TSRI	Structural genomics of the human GPCR superfamily

Monday Afternoon

Immunology and Biomedicine (Chair: Ian Wilson)

16:30	James Paulson	TSRI	Siglecs as sensors of self
16:50	Charles Craik	UCSF	Antibody-assisted structure determination
17:10	Andrew Ward	TSRI	Broad neutralization of influenza virus
17:30	Sherry LaPorte	CytomX	Probodyes: Protease-activated antibodies for disease-specific targeting

17:50 **Break**

Chemical Biology (Chair: Zev Gartner)

18:10	Dennis Wolan	TSRI	Proteomic interrogation of the human distal gut microbiome
18:30	Matthew Bogoy	Stanford	Imaging proteolysis during inflammation using small molecule probes
18:50	Dan Santi	UCSF/ProLynx	A chemical approach to half-life extensions of therapeutics
19:10	Jim Wells	UCSF	The NEDDylator: a catalytic tagger for cell biology

Tuesday Morning, May 8

SPONSORS I (Chair: Dan Santi)

09:00	Peter Hirth	Plexxicon	Developing a new therapy for metastatic melanoma harboring the v600 B-Raf mutation
09:20	Jennifer Riggers	Nektar	The design of novel and improved therapeutics utilizing Nektar's advanced polymer conjugation technology
09:40	Javier Chaparro-Riggers	Rinat/Pfizer	A pH-sensitive anti-PCSK9-antibody: improving PK and cholesterol lowering by increasing antibody-antigen binding cycles and reducing target-mediated clearance
10:00	Manoj Desai	Gilead	Cobicistat: a potent and selective pharmacoenhancer
10:20	Break		
10:40	Dana Ault-Riche	Reflexion	Mirror image proteins as novel anti-angiogenic agents
11:00	Albert Stewart	Pfizer La Jolla	Examples of strategies for targeting protein-protein interfaces: Hif-1A/ARNT PasB heterodimer
11:20	Steven Bartz	Merck	Accessing external innovation
11:40	Craig Muir	Third Rock Ventures	Third Rock Ventures: Investment models on the west coast

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Tuesday Afternoon			Nucleic Acids and Lipid Binding Proteins (Chair: Robert Fletterick)
16:30	David Millar	TSRI	A new fidelity checkpoint in DNA polymerase I
16:50	Floyd Romesberg	TSRI	Successful expansion of the genetic alphabet
17:10	Jamie Williamson	TSRI	Structural genomics of RNA binding proteins in T-cell activation
17:30	Dirk Bussiere	Novartis	Designing compounds against lipid kinases: NVP-BKM120 - a pan-class I PI3K inhibitor
17:50	Break		
			Membrane Proteins (Chair: Andrew Ward)
18:10	David Stout	TSRI	Transhydrogenase
18:20	Dan Minor	UCSF	Structure and mechanism of a voltage-dependent enzyme
18:50	Robert Stroud	UCSF	Surviving the heavy metal onslaught
19:10	Zev Gartner	UCSF	Building relationships between structure and function in epithelial tissues
Wednesday Morning, May 9			Assemblies, Computation, Design and Drug Discovery (Chair: Sherry LaPorte)
08:30	Philip Dawson	TSRI	Assembly of peptide functionalized nanoparticles for biological imaging
08:50	Bill Degrado	UCSF	Analysis and design of proteins
09:10	James Fraser	UCSF	The evolution and function of protein conformational dynamics
09:30	Jacob Corn	Genentech	Rationally engineering conformational dynamics to modulate ubiquitin-deubiquitinase interactions
09:50	Break		
10:10	Dinesh Patel	Protagonist	Peptide therapeutics: from 'identity crisis' to 'exceptional opportunities'
10:30	Peter Kuhn	TRSI	Fluid biopsy in solid tumors, how HD-CTCs can provide real-time drug response and stratification
10:50	Joshua Salafsky	Biodesy	Second-harmonic generation (SHG) for allosteric drug discovery: conformational change in real time
11:10	Alan Cheng	Amgen	Leveraging thermodynamics for data mining and drug discovery
11:30	Ian Wilson and Dan Santi		Closing Remarks

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