Cabo XXIV Program
World Molecular Engineering Network Twenty-Fourth Annual Meeting on Structural Biology

4-7 May 2014, San Jose del Cabo, Baja, Mexico

Sunday Evening, May 4

16:45	Ian Wilson and Andrej Sali	**Introduction and Welcome**
17:00	**Herb Boyer**	**Keynote Lecture-** **Personal recollections of early biotech and what's next**

17:45-17:50 ***Self-Introductions***

Joseph Guglielmo UCSF

17:50-20:30 **Short Presentations (5+1 min.) by TSRI, UCSF and Stanford Graduate Students, Postdocs and Researchers (Chair: Dennis Wolan)**

Devin Sok	TSRI	A heterologous native-like recombinant HIV envelope trimer selects diverse antibodies specific for the trimer apex glycan-dependent epitope
Peter Lee	TSRI	Recognition of functionally conserved neutralizing epitopes on influenza virus hemagglutinin
Melody Campbell	TSRI	Structural studies of nitric oxide synthase
Rebecca Miller	TSRI	The forgotten opioid receptor: structural characterization of the nociception receptor
David Marciano	TSRI	Structure-guided design of PPARAG inverse agonist: Less fat & more bone
Jessica Bruhn	TSRI	Building a virus: Structural studies of Ebola matrix protein at the membrane
Sandip Chatterjee	TSRI	An informatics method for metaproteomics
Daniel Murin	TSRI	Bivalent binding to a viral glycoprotein by an Ebola monoclonal antibody
JH Lee	TSRI	Describing the novel gp120-gp41 interface epitope of the HIV-1

	John Chen	TSRI	ATF6 activation increases ER quality control and reduces secretion of destabilized variants of an amyloidogenic protein
	Chris Lee	TSRI	smFRET study of AAA+ ATPasep97
	Peter Thuy Boun	TSRI	A survey of sialic acid processing proteins associated with the human gut microbiota
	Matthias Pauthner	TSRI	Molecular characterization of the HIV-1 N332 supersite of vulnerability
	Ana Wang	TSRI	Chemical-based metaproteomics of the human distal gut microbiota
	Break		
	Jessica Thomaston	UCSF	High-resolution crystal structures of the influenza A M2 proton channel: insights into water networks
	Patrick Weinkam	IO Data Center	Allostery and data science
	Samantha Liang	UCSF	DNA-guided assembly of Epidermal Growth Factor Receptor complexes on cells
	Sue Mok	UCSF	Cracking the chaperone code for inhibition of tau aggregation
	Christopher Kimberlin	UCSF	SARAF luminal domain, illuminated
	Daniel Keedy	UCSF	Discovering coupled conformational heterogeneity in proteins by multi-temperature crystallography and computation
	Matthew Child	Stanford	TgDJ-1 integrates multiple signals to regulate vesicle exocytosis
	Nicolas Strauli	UCSF	Coevolution between HIV and the antibody repertoire
	Shujun Yuan	UCSF	Identifying membrane protein interactors
20:30–22:00	**Reception**		**Poolside**

Monday Morning, May 5

Structural and Computational Biology (Chair: Robert Stroud)

09:00	Andrej Sali	UCSF	Expanding the druggable proteome by characterization and prediction of cryptic binding sites
09:20	John Tainer	TSRI	Flexible complexes defined by combined X-ray methods
09:40	James Fraser	UCSF	Mining the dark matter of X-ray

			crystallography
10:00	**Break**		
10:20	Ian Wilson	TSRI	HIV envelope trimer
10:40	Andrew Ward	TSRI	Structural studies of viral envelope glycoproteins
11:00	Jack Johnson	TSRI	CryoEM analysis of a 75mD virus at 4Å resolution
11:20	Erica Ollmann Saphire	TSRI	The molecular toolkit of a viral hemorrhagic fever

Monday Afternoon, May 5

Virology and Vaccinology (Chair: Erica Ollmann Saphire)

16:30	Jiang Zhu	TSRI	Technical advances in rational vaccine design
16:50	Jim Paulson	TSRI	Influenza virus receptor specificity

Membrane Proteins (Chair: Andrew Ward)

17:10	Robert Stroud	UCSF	Redefining transmembrane transport-the textbooks are all wrong-(today)!
17:30	**Break**		
17:50	Dan Minor	UCSF	Bacterial sodium channels: from Mono Lake to your heart
18:10	Bill Degrado	UCSF	Analysis and design of proton transporters
18:30	David Millar	TSRI	Conformational dynamics of the beta-2 adrenergic receptor

Tuesday Morning , May 6

SPONSORS (Chair: Dan Santi)

09:00	Brief Informal Introductions:		
	David Meininger	Merck	
	Gopalan (Raghu) Raguhunathan	Merck	
	Kurt Deshayes	Genentech	
09:20	Kathleen Aertgeerts	Dart NeuroScience	Introduction to Dart NeuroScience
9:35	Dan Santi	UCSF/Prolynx	A chemical approach to half-life extension
9:55	Hans Purkey	Genentech	Structure-based design and optimization of in vivo inhibitors of human Lactate Dehydrogenase A (LDHA) for the treatment of cancer
10:15	Deborah	Nektar	Expanding the possibilities in cancer

	Charych		immunotherapy: Engineering cytokine receptor selectivity through polymer modification
10:40	**Break**		
11:00	Dana Ault-Riche	Reflexion	D-Protein therapeutics
11:20	Jody Berry	BD	V cells: a novel cell lineage of the immune system
11:40	Badry Bursulaya	GNF	Protein-protein interfaces: hot-spots and their utility

Tuesday Afternoon, May 6

Nucleic Acids and Nucleic Acid Binding Proteins and Evolution (Chair: David Millar)

16:30	Ryan Hernandez	UCSF	Evolutionary forces shaping patterns of human genetic variation
16:50	Jamie Williamson	TSRI	Ribonucleoprotein complexes in T-cell activation
17:10	Floyd Romesberg	TSRI	Expansion of the genetic alphabet
17:30	**Break**		

Chemical Biology (Chair : Jason Gestwicki)

17:50	Dennis Wolan	TSRI	Specific caspase probes with unnatural amino acids
18:10	Matt Bogyo	Stanford	A unique cysteine protease domain of a primary virulence factor as a therapeutic target for *Clostridium difficile* infections
18:20	Jack Kirsch	UCB	Why do nudix hydrolases shred the cellular energy currency?
18:30	Zev Gartner	UCSF	The physical rules guiding the self-organization of the human mammary gland

Wednesday Morning, May 7

Assemblies, Drug Discovery and Neurobiology (Chair: James Fraser)

08:50	Jason Gestwicki	UCSF	Chemical inhibitors of multi-chaperone complexes
9:10	Larry Gerace	TSRI	Endoplasmic reticulum proteins that regulate cellular lipid homeostasis
9:30	Joel Gottesfeld	TSRI	Therapeutics for neurogenerative disease
09:50	**Break**		
10:20	Gabe Lander	TSRI	Structural studies of neuronal cargo transport
10:40	Phil Dawson	TSRI	Structure-guided optimization of peptide-based ephrin receptor

			antagonists for neuroprotection
11:00	Michelle Arkin	UCSF	Small-molecule modulators of protein homeostasis in cancer and neurodegeneration
11:30	Ian Wilson and Andrej Sali		**Closing Remarks**

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