

World Molecular Engineering Network (WMEN) CABO XXVIII, May 5 - 8, 2018

San Francisco / San Ignacio Rooms

Saturday Evening, May 5, 2018

17:00 – 17:15	Introduction and Welcome	Ian Wilson and Andrej Sali
17:15 – 18:15	Keynote Lecture	Peter Schultz TSRI Playing with the molecules of life
18:30 – 18:35	Self-Introductions	Emine Kaya Global Blood Therapeutics Jack Kirsch UC Berkeley
18:35 – 20:30	Short Presentations (5 + 1 min.) by TSRI , UCSF, UCB and LBNL Graduate Students and Postdocs (Chair: Gabriel Lander)	
Cristina Puchades	TSRI	Making mitochondria great again: Protein quality control in the inner membrane
Christopher Cottrell	TSRI	Structure-based vaccine design
Ke Yang	TSRI	Structure, cooperativity and dynamics of a hematopoietic transcription factor:coactivator complex
Angelo Solania	TSRI	Caspase 3 selective inhibitors for biological studies
Qinheng Zheng	TSRI	Sulfur fluoride exchange: chemistry and applications
Colby Sandate	TSRI	Substrate engagement by the microtubule severing enzyme spastin
Short Break		
Venera Weinhardt	LBNL	Probing phase separation by soft x-ray tomography
Vasudha Srivastava	UCSF	Oncogene-induced changes in mammary tissue structure and mechanics
Jonathan Leano	UCSF	Inroads to packaging neurotransmitters
Seth Axen	UCSF	Determining the information content of second harmonic generation spectroscopy for modeling conformational changes of macromolecules
Mohamed Elshenawy	UC Berkeley	Cargo adaptors regulate the stepping and force generation of human dynein/dynactin complex
Adolfo Cuesta	UCSF	Developing lysine-targeted covalent probes of the Hsp90 family
Christian Bache Billesboelle	UCSF	Molecular mechanisms of the hepcidin-ferroportin axis
20:30 – 22:00	Reception with Buffet	Poolside

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Sunday Morning, May 6, 2018			Structure and Biology of Cellular Processes (Chair: Carolyn Larabell)
09:00	Gabriel Lander	TSRI CA	Size and resolution limits using conventional EM methods
09:20	Jeffrey Lengyel	FEI	Cryo-tomography: merging of structural and cellular biology
09:40	Danielle Grotjahn	TSRI CA	It takes two to cargo: mechanisms of cytoplasmic dynein regulation revealed by cryo-electron tomography
10:00	Ahmet Yildiz	UC Berkeley	The mechanism of dynein's directionality
10:20	Break		
10:40	Carolyn Larabell	UCSF	Cellular CT scans: New views, new insights
11:00	Zev Gartner	UCSF	Building tissues to understand how tissues build themselves
11:20	Seemay Chou	UCSF	Weapons to probes: using toxins to study bacterial cell wall structure
11:40	Andrej Sali	UCSF	Integrative structure and functional anatomy of a nuclear pore complex
Sunday Afternoon, May 6, 2018			Chemical Biology (Chair: Dennis Wolan)
16:00	Phil Dawson	TSRI CA	Making new connections in protein chemistry
16:20	Jack Taunton	UCSF	Small-molecule interrogation of proteostasis
16:40	Dennis Wolan	TSRI CA	A dipeptidyl aminopeptidase from a commensal bacterium degrades human antimicrobial peptides
17:00	Matthew Francis	UC Berkeley	Chemically modified viral capsids for in vivo delivery applications
17:20	Break		
Membrane Proteins (Chair: Robert Fletterick)			
18:00	Mark Yeager	University of Virginia	"Ball-and-Chain" mechanism for pH-gating of gap junction channels revealed by CryoEM, crosslinking and HDX mass spectrometry
18:20	Robert Stroud	UCSF	How a voltage sensor works to activate an ion channel
18:40	Jian Payandeh	Genentech	Structural basis for dual-mode inhibition of an ABC transporter
19:00	Aashish Manglik	UCSF	Structural dynamics of opioid action
20:00 – 22:30	<i>Sponsor Dinner, by invitation only – The Rib</i>		
Monday Morning, May 7, 2018			Sponsors (Chair: Andrej Sali)
09:00	Andrea Cochran	Genentech	Unraveling the biology of bromodomain reader modules
09:20	Kyle Landgraf and Paul Marinec	Reflexion	Beyond antibodies: targeting VEGF and PD-1 with synthetic D-proteins
09:40	David L. Sloane	Nektar	NKTR-255: A new player in immune-oncology
10:00	Break		

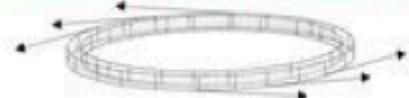
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Monday Morning, May 7, 2018 (continued)			Sponsors (Chair: Andrej Sali)
10:20	Glen Spraggon	GNF	Kinetoplastid growth inhibitors from molecules to cells
10:40	Eswar Narayan	DuPont Pioneer	Trait discovery & applications in Ag Biotech
11:00	Tom Evans	New England Biolabs	Cappable-seq: using next-generation sequencing as a lens into RNA dynamics
11:20	Debanu Das	Accelero Biostructures	New paradigms for high-throughput protein X-ray crystallography in small molecule and biologics drug discovery
11:40	Jill Chrencik	Merck	Protein engineering strategies for drug discovery of difficult targets
Monday Afternoon, May 7, 2018			Nucleic Acids, Nucleic Acid Binding Proteins & Complexes (Chair: Katrin Karbstein)
16:00	Robert Fletterick	UCSF	Nurr1 nuclear receptor
16:20	Kendall Nettles	TSRI FL	Structural rules for allostery in the steroid receptors
16:40	Doug Kojetin	TSRI FL	A structural mechanism for directing inverse agonism of PPAR γ
17:00	David Millar	TSRI CA	Functional coordination in DNA polymerases
17:20	Break		
17:40	Katrin Karbstein	TSRI FL	Quality control in 40S ribosome assembly
			Immunology and Microbial Pathogens (Chair: Jim Paulson)
18:00	Jim Paulson	TSRI CA	Putting the brakes on mast cells
18:20	Ian Wilson	TSRI CA	Neutralizing antibodies and vaccine design for malaria
Tuesday Morning, May 8, 2018			Computation, Proteomics, Systems Biology and Design (Chair: Robert Stroud)
08:50	Martin Kampmann	UCSF	Molecular and cellular determinants of protein aggregation in neurodegenerative diseases
09:10	Hao Li	UCSF	Systems biology of cellular aging
09:30	John Yates	TSRI CA	"Molecular Painting" using mass spectrometry
09:50	Break		
10:10	Elizabeth Getzoff	TSRI CA	The clock is ticking
10:30	Michel Sanner	TSRI CA	Advances in peptide docking
10:50	Art Olson	TSRI CA	Modeling and visualizing cellular environments
11:10	Ian Wilson and Andrej Sali		Closing Remarks

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