

SCHEDULE

2023 West Coast Structural Biology Workshop March 19th – 22th Asilomar, California

SUNDAY

Check in & Registration	4:00 – 6:00 PM	Room check-in in the Asilomar Social Hall Pick up your name badge and program in the lobby of Asilomar Main Lodge
Dinner	6:00 – 7:00 PM	Crocker Dining Hall

[All talks to be held in Chapel Hall]

Welcome	7:10 – 7:15 PM	Welcome and introductions by Prof. Todd O. Yeates
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SESSION 1	7:15 – 8:30 PM	KEYNOTE presentation by Robert Stroud "Caught in the act! Building the wall, ... - again!"
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Sponsor Talks	8:30 – 9:20 PM	Short talks by Sponsors <i>Chair: Roger Castells Graells, UCLA</i>
1. Joyce Frank, <i>MiTeGen</i>		Developments in Sample Preparation and Handling Technology for CryoEM and Crystallography
2. Tim Booth, <i>SPT Labtech</i>		Enhanced Tools for the Routine Optimization of cryoEM samples with <i>Chameleon</i>
3. Joseph Pesavento, <i>ThermoFisher</i>		Advancing cryoEM technologies to enable scientific breakthroughs
4. Robert Monteverde, <i>Direct Electron</i>		A Novel Event-Based Direct Detector for cryoEM

Reception	9:30 – 11:00 PM	Drinks and Snacks, Fred Farr Forum
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MONDAY

Breakfast	7:30 – 9:00 AM	Crocker Dining Hall
SESSION 2	9:00 – 10:15 AM	Membrane structure and function – Understanding transport, signaling, and membrane remodeling <i>Chair: Yuntao Liu, UCLA</i>
1. Alan Blakely 2. Yi Xiao Jiang 3. Laurie Wang 4. Steven C. Wilson		Dynamic conformations of the insulin receptor as activated by a venom-derived insulin. Amyloid fibrils in frontotemporal lobar degeneration with TDP-43 inclusions (FTLD-TDP) are composed of TMEM106B, rather than TDP-43 Visualizing small molecule inhibition of the Sec61 translocon by cryo-EM Organizing Structural Principles of the IL-17 Ligand–Receptor Axis
Break	10:15 – 10:45 AM	Break and Sponsor Expos
SESSION 3	10:45 – NOON	Serial X-ray diffraction & other approaches to investigate structural ensembles and kinetic processes <i>Chair: Yuntao Liu, UCLA</i>
1. Asmit Bhowmick 2. Jonathan Philpott 3. Oanh T.N. Tran 4. David Moses		Investigating structural changes in Photosystem II using time-resolved X-ray free-electron laser (XFEL) crystallography PERIOD phosphorylation leads to feedback inhibition of CK1 activity to control circadian period Metal-substituted P450cam investigates substrate interaction in the P450cam active site. Structural biases in disordered proteins are prevalent in the cell
Lunch	12:00 – 1:00 PM	Crocker Dining Hall
Flash Talks 1	1:30 – 2:00 PM	Poster-related 2-minute talks in Chapel Hall <i>Chair: Maria Flores, UCLA</i> Amber Vogel, Ambarneil Saha, Ashraya Ravikumar, Becky Jenkins, Billy Poon, Joshua Dolinsky, Aldo Munoz, Justin Miller, Jeff Qu
Workshop I	2:00 – 4:00 PM	Pythia: “A Deep Learning Primer For Applications in Structural Biology” by Mohamed El Hibouri
Poster Session 1	4:00 – 6:00 PM	Fred Farr Forum
Dinner	6:00 – 7:00 PM	Crocker Dining Hall
SESSION 4	7:15 – 8:30 PM	KEYNOTE presentation by Juli Feigon "Structural Biology of Regulatory RNPs: telomerase and 7SK"
	8:30 – 9:00 PM	Short talk session <i>Chair: Maria Flores, UCLA</i>
1. Onellah Weerakoon 2. Jiahui Lu 3. Matthias Malago 4. Yuanyuan Chen		Structural Characterization of AAV-AAVR Interactions by cryo-EM Cryo-EM structures of the D290V variant of the hnRNPA2 low complexity domain suggest the mechanism of its pathogenicity Designing Protein Binders Using Next Generation Artificial Intelligence Structural basis of mitochondrial protein import by the TIM23 complex
Reception	9:00 – 11:00 PM	Drinks and Snacks at Fred Farr Forum

TUESDAY

Breakfast **7:30 – 9:00 AM** **Crocker Dining Hall**

SESSION 5 **9:00 – 10:15 AM** **Nucleic acids – Mechanisms of information processing and novel cellular roles for RNA**

Chair, Dorothee Liebschner, LBNL

- 1. Baocheng Liu** Structure of active human telomerase with telomere shelterin protein TPP1
- 2. Tilini Wijeratne** Structural modes of B-Myb DNA binding domain bound to nucleosomes
- 3. Tamara Christiani** Characterization of bacteriophage P4 portal protein structure using cryo-EM and protein prediction software
- 4. Yao He** Structure of telomerase-bound CST with Polymerase α -Primase

Break **10:15 – 10:45 AM** **Break and Sponsor Expos**

SESSION 6 **10:45 – NOON** **New EM methods, instruments and cool structures – breaking barriers in resolution, size, and speed**

Chair, Dorothee Liebschner, LBNL

- 1. Rebecca Warmack** Structural consequences of turnover-induced homocitrate loss in nitrogenase
- 2. Roger Castells Graells** A Designed Imaging Scaffold Breaks the Barrier to High-Resolution Structure Determination of Small Proteins by Cryo-EM
- 3. Yuntao Liu** Isotropic reconstruction for electron tomography with deep learning
- 4. Jacob Summers** Time-resolved Cryo-Electron Tomography of Surface Layer Lattice and Membrane Dynamics of Gram-Negative Bacteria upon pH Jump

Lunch **12:00 – 1:00 PM** **Crocker Dining Hall**

Flash Talks 2 **1:30 – 2:00 PM** **Poster-related 2-minute talks in Chapel Hall**

Chair, Rebecca Warmack, Caltech

Karina Guadalupe, Lily Taylor, Mengfan Lyu, Michael Sawaya, Xiaoying Cai, Natalie Schibrowsky, Niko Vlahakis, Jon Philpott,

Workshop II **2:00 – 3:30 PM** **Thermo Fisher Scientific: "Automated Cryo-EM data collection workshop: *SmartEPU* and Embedded *CryoSPARC Live*"**

by Francis Reyes

Flash Talks 3 **3:30 – 4:00 PM** **Poster-related 2-minute talks in Chapel Hall**

Chair, Rebecca Warmack, Caltech

Peter Ngoi, Robyn Stanfield, Nina Harpell, Scott D. Pegan, Silvia Russi, Sivasankar Putta, Stephanie Wankowicz, Vitor Hugo Balasco Serrão, Shivansh Mahajan

Poster Session 2 **4:00 – 6:00 PM** **Fred Farr Forum**

Dinner **6:00 – 7:00 PM** **Crocker Dining Hall**

SESSION 7 **7:15 – 9:00 PM** **Electron diffraction & other new cryo-EM methodologies and challenges for determining novel structures**

Chair, Rebecca Warmack, Caltech

- 1. Logan Richards** Structural characterization of human LECT2 amyloids, drivers of kidney amyloidosis
- 2. Dorothee Liebschner** Using predicted protein models in Phenix
- 3. Muyuan Chen** Improving resolution and resolvability of single particle CryoEM using Gaussian representation
- 4. Oleg Sobolev** A global Ramachandran score identifies protein structures with unlikely stereochemistry

Reception **9:00 – 11:00 PM** **Drinks and Snacks at Fred Farr Forum**
