

## 8<sup>th</sup> Ringberg Workshop on Structural Biology (with XFELs)

<u>Wednesday, February 5<sup>th</sup>, 2025</u>		
> 15:00	Coffee, cake, Garden room	
Chair: TJ Lane		
16:20	Ilme Schlichting	Welcome
16:30	Kirill Kovalev	4D crystallography of light-driven sodium pump ErNaR
17:00	Miquel Huix-Rotllant	On the fluorescence enhancement of arch neuronal optogenetic reporters
17:30	Tatiana Domratcheva	On photolyase
18:00	Nanna Holmgaard List	To twist or not to twist: Photoisomerization bottlenecks in negative photoswitchable fluorescent proteins
18:30	Dinner	
<u>Thursday, February 6<sup>th</sup>, 2025</u>		
	Chair: Leland Gee	
9:00	Martin Appleby	Investigating the excited state dynamics of proteins and molecular mimics using X-ray and optical spectroscopy
9:30	Bonnie Murphy	3D reconstruction to enable low-dose elemental mapping in cryopreserved complexes
10:00	Sonya Hanson	The Inaugural Flatiron Institute Cryo-EM Conformational Heterogeneity Challenge
10:30	Coffee break	
	Chair: Philip Anfinrud	
11:00	James Holton	Bridging the Gap between Prediction and Reality in Structural Biology
11:30	Ville Kaila	Molecular Mechanisms Underlying the Biological Currents of Life
12:00	Steven Boxer	Role of Electric Fields in Enzyme Catalysis and Photoisomerization
12:30	Group photo (depending on weather)	

12:40	<i>Lunch</i>	
<b>Chair: Briony Yorke</b>		
14:00	Stephen Ragsdale	Use of Anaerobic crystallography and Tandem Spectroscopy to Reveal and Validate the Structure and State of Oxygen-sensitive Metalloproteins: Ni(I)-Methyl-SCoM Reductase
14:30	Stephen Marshall	Oxygen activation in iron dependent oxygenases
15:00	Maxie Roessler	Mechanistic insights into redox proteins from EPR spectroscopy
15:30	<i>Coffee break</i>	
<b>Chair: Johan Bielecki</b>		
16:00	Filipe Maia	Ultrafast X-ray biological imaging without crystals
16:30	Patrik Vagovic	High speed pulse resolved X-ray imaging of stochastic phenomena in fluidics
17:00	Ana Diaz	X-ray ptychography for imaging biological tissues: challenges and opportunities
17:30	Andreas Schaefer	X-ray connectomics – looking at brain structure with synchrotrons (and XFELs??)
18:00	<i>Tour of the castle</i>	
18:45	<i>Dinner</i>	
	<b>Chair: Radoslav Enchev</b>	
20:00	Wah Chiu	Understanding biochemical and biological processes with CryoEM and CryoET
<b><u>Friday, February 7<sup>th</sup>, 2025</u></b>		
<b>Chair: Jeney Wierman</b>		
9:00	Adil Ansari	Femtosecond imaging of biomolecules in solution
9:30	Seong Ok Kim	Serial X-ray Liquidography: Exploring Biomolecular Structural Dynamics with Microgram Samples and Perspectives for Future Research
10:00	Mark Wilson	Using Laue mix-and-inject serial synchrotron crystallography to study controversial enzyme mechanisms
10:30	<i>Coffee break</i>	

Chair: Dominik Oberthuer		
11:00	Alisia Fadini	AlphaFold as a Prior: Guiding Protein Predictions with Experimental Data for Structure Refinement
11:30	Steve Meisburger	Exploring applications of diffuse scattering in structural biology
12:00	Alke Meents	Ultrafast electron diffraction with femtosecond time resolution at REGAE
12:30	Lunch	
14:00	Discussion rounds / Hiking	
18:30	Conference Dinner	
	Chair: Gebhard Schertler	
20:30	Thomas Schneider	Quo vadis X-ray based structural biology
Saturday, February 8 <sup>th</sup> , 2025		
Chair: Mark Hunter		
9:00	Volha Chukhutsina	Using advanced crystallographic approaches to resolve how lazy photoreceptors work
9:30	Stanislaw Nizinski	Light-activation of orange carotenoid protein
10:00	Ronald Rios-Santacruz	Time resolved X-ray crystallography of the vitamin B12-dependent CarH photoreceptor
10:30	Thomas Barends	Photoactivated fatty acid decarboxylase: part II
11:00	End of meeting, lunch packages if desired	