

32nd Keck Annual Research Conference

Structural Biology: Past, Present, and Future

Chairs:

[Irina Serysheva, PhD](#), Professor and Director, Structural Biology Imaging Center, UTHealth
and

[Xiaodong Cheng, PhD](#), Professor, Epigenetics and Molecular Carcinogenesis, MD Anderson Cancer Center

Co-Chairs:

[Mariah Baker, PhD](#), Assistant Professor, Biochemistry and Molecular Biology, UTHealth
and

[Gundeep Kaur, PhD](#), Postdoctoral Fellow, Epigenetics and Molecular Carcinogenesis, MD Anderson Cancer Center

Friday, October 21, 2022- AGENDA

8:15 Welcome: Keck Center Overview and Conference Day Overview
Irina Serysheva and Xiaodong Cheng

SESSION 1 Chairs: Irina Serysheva, PhD & Mariah Baker, PhD

- 8:25-9:25 **Keynote Speaker:** (50 Min + 10 Min Q&A)
[Edward Egelman, PhD](#), Professor, Biochemistry and Molecular Genetics, University of Virginia
CryoEM of Polymers: From Proteins to Peptides
- 9:25-10:05 **Guest Speaker:** (30 min + 10 Min Q&A)
[Youxing Jiang, PhD](#), Professor, Physiology and Biophysics, UT-Southwestern
Assembly, Permeation, Gating and Pharmacology of Rod CNG Channel
- 10:05-10:15 Keck Center Trainee Speaker 1 (10 min)
Mauricio Menegatti Rigo, PhD, Computer Science, Rice University; Computational Cancer Biology Training Program
Developing Structural Tools for Immunotherapy Improvement
- 10:15-10:25 Keck Center Trainee Speaker 2 (10 min)
Jordan Johnson, Biology and Biochemistry, University of Houston; Houston-Area Molecular Biophysics Program
Single-Molecule Studies of EF-Tu Accommodation and Proofreading Mechanism
- 10:25-11:20 Poster Session and Coffee Break
- 11:20-11:30 Keck Center Trainee Speaker 3 (10 min)
Astrid Manuel, School of Biomedical Informatics, The University of Texas Health Science Center at Houston; NLM Training Program in Biomedical Informatics and Data Science
Innovating Drug Repositioning Strategies for Multiple Sclerosis via Translational Bioinformatics Approaches
- 11:30-11:40 Keck Center Trainee Speaker 4 (10 min)
William Shropshire, PhD, Infectious Diseases and Infection Control, The University of Texas MD Anderson Cancer Center; Training Program in Antimicrobial Resistance
Elucidation of Molecular Mechanisms Underlying Successful Adaptation to Carbapenem Antimicrobials in High Risk Carbapenem Resistant Escherichia coli Lineages

11:40-12:20 **Guest Speaker:** (30 min + 10 min. Q&A)
[Naoko Mizuno](#), PhD, Structural Cell Biology Lab, National Heart, Lung, Blood Institute,
Top-down and Bottom-up of Cell Shape Formation Visualized by Cryo-electron Microscopy

12:20-12:50 Lunch Break

SESSION 2 Chairs: Xiaodong Cheng, PhD and Gundeep Kaur, PhD

12:50-1:50 **Keynote Speaker:** (50 min + 10 Min Q&A)
[Scott Stagg](#), PhD, Professor, Chemistry and Biochemistry, Institute of Molecular Biophysics,
Florida State University
Determining the Structures of Challenging Membrane Remodeling Complexes

1:50-2:30 **Guest Speaker** (30 min + 10 min. Q&A);
[Gabrielle Rudenko](#), PhD, Professor, Toxicology and Pharmacology, Sealy Center for Structural
Biology and Molecular Biophysics, UT Medical Branch at Galveston
Drugging the Redox Switch in the Transcription Factor Δ FosB - a Potential Therapeutic Target
for Neuropsychiatric and Neurological Disorders

2:30-2:40 Keck Center Trainee Speaker 5 (10 min)
Miranda Lewis, Molecular Virology and Microbiology, Baylor College of Medicine; Training
Interdisciplinary Pharmacology Scientists
Evaluation of Nitazoxanide as an Antiviral for Human Norovirus Using Human Intestinal Organoids

2:40-2:50 Keck Center Trainee Speaker 6 (10 min)
Hannah Wilson, Microbiology and Infectious Disease, The University of Texas Health Science Center at
Houston; Molecular Basis of Infectious Diseases
Characterizing C. albicans Morphogenesis Regulation in the Context of Host Macrophages

2:50-3:45 Poster Session and Coffee Break

3:45-3:55 Keck Center Trainee Speaker 7 (10 min)
Rachel Keuls, Development, Disease Models and Therapeutics Graduate Program, Baylor College of
Medicine; Training in Precision Environmental Health Sciences
Yolk Sac-Derived Cells Are Required for Brain Development

3:55-4:05 Keck Center Trainee Speaker 8 (10 min)
Kehinde Idowu, PhD, Center for Biomedical and Minority Health Research, Texas Southern University;
Cancer Therapeutics Training Program
*The Design and Development of GMC1 Analogues: Targeting the Regulation of FKBP52 and Hormonal
Receptors in Prostate Cancer Cells*

4:05-4:45 **Guest Speaker:** (30 min + 10 min. Q&A):
[Tom Terwilliger](#), PhD, Laboratory Fellow, Los Alamos National Lab
AlphaFold Changes Everything

4:45-5:00 Awards and Closing / Reception Following