

# Biophysics, Structural and Computational Biology

2016 Retreat  
October 25, 2016  
**Poster Presentations**

- 1) **HIV-1 Frameshift RNA-Targeted Compounds Incorporating a Triazole Isostere of Disulfide**  
Viktoriya Anokhina, Thomas Hilimire, Ryan Bennett, Jeffrey Chamberlain, Ryan Stewart, Aaron Featherston, Eric Helms, Harold Smith, Stephen Dewhurst and Benjamin Miller
- 2) **Bio-engineered Photocatalytic Systems for Solar Hydrogen Generation**  
Saikat Chakraborty, Banu Kandemir and Kara Bren
- 3) **Thermodynamics and Interactions of the Gamma B Crystallin Protein**  
Katharine Umphred-Wilson, Aaron Fadden, Kaylee Mathews, John Zanet, Jeff Mills, George Thurston and Lea Vacca Michel
- 4) **Inter-RRM Linker of the Essential Pre-mRNA Splicing Factor U2AF65 Accommodates Degenerate Splice Site Signals**  
Eliezra Glasser, Jason Myers, Steven Henderson, Jermaine Jenkins and Clara Kielkopf
- 5) **A “U2AF Homology Motif” of Tat-SF1, a Host Cofactor for HIV-1 RNA Splicing, Recognizes the Human SF3b1 Spliceosome Subunit and the HIV-1 Rev Protein**  
Sarah Loerch, Steven Horner and Clara Kielkopf
- 6) **The Effect of mRNA End-to-End Distance on Translation**  
Christine Lai, Elie Farah, Enea Salsi and Dmitri Ermolenko
- 7) **Modified Cytochromes as Catalysts for Hydrogen Evolution**  
Jennifer Le and Kara Bren
- 8) **Targeting Melanoma-Associated miRNAs with Designed Synthetic Compounds**  
John McAnany, Oliver Swart and Benjamin Miller
- 9) **Understanding the Effect of Polyunsaturated Fatty Acids on Rhodopsin Using All-Atom Molecular Dynamics Simulations**  
Letty Salas-Estrada, Nicholas Leioatts, Tod Romo and Alan Grossfield
- 10) **Examining the Unusual Conformation of the GAGU Internal Loop Using Molecular Dynamics**  
Aleksandar Spasic, Laura Needham and David Mathews

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- 11) **An Evolving RNA War between a Small RNA-based Immune System and Endogenous Retroviruses during Chicken Domestication**  
Yu Sun, Li Xie, Xiaoyu Zhuo, Qiang Chen, Dalia Ghoneim, Bin Zhang, Jarra Jagne and Xin Zhiguo Li
- 12) **Deriving a set of RNA Folding Free Energy Nearest Neighbor Parameters**  
Hongying Sun, Jeffrey Zuber and David Mathews
- 13) **Insights into the Mechanism of Fengycin, an Antimicrobial Lipopeptide**  
Sreyoshi Sur
- 14) **TurboFold II: RNA Second Structure Prediction and Structural Alignment Informed by Multiple Homologs**  
Zhen Tan, Yinghan Fu, Gaurav Sharma and David Mathews
- 15) **The URM Mass Spectrometry Resource Facility**  
Kevin Welle, Jennifer Hryhorenko and Sina Ghaemmaghami
- 16) **Yeast Cell Surface Display of HIV Envelope Proteins for Vaccine Development**  
Hong Zhu, Sara Connelly, Elizabeth Mathew, Mark Sullivan and Mark Dumont
- 17) **Precision in RNA Secondary Structure Prediction: A Sensitivity Analysis of the Folding Nearest Neighbor Parameters**  
Jeffrey Zuber, Hongying Sun, Xiaoju Zhang, Iain McFadyen and David Mathews
- 18) **F-GRN: A Fuzzy C-Means Clustering based Package for Inferring Gene Regulatory Networks**  
Atif Khan, Dejan Katanic and Juilee Thakar
- 19) **Acetylation Mimics Within a Single Nucleosome Alter Local DNA Accessibility in Compacted Nucleosome Arrays**  
Laxmi Mishra, Sharon Pepenella, Ryan Rogge, Jeffrey Hansen and Jeffrey Hayes