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Biophysical Society Selects Student Research Achievement Award Winners

ROCKVILLE, MD – The 31 winners of the annual Student Research Achievement Awards were recognized at the 66th Biophysical Society Annual Meeting Awards Ceremony on February 21, 2022. These students were selected by judges from the Society's Subgroups for their outstanding presentations during the poster competition. Eighty-six students participated in the competition.

The 2022 SRAA winners are:

Bioenergetics, Metabolism, and Mitochondria Subgroup

Michaela Medina, *Scripps Research Institute, USA – "Cellular Cryo-Electron Tomography Reveals Drastic Mitochondrial Membrane Remodeling in Response to Endoplasmic Reticulum Stress"*

Trung Duc Nguyen, *University of Texas at Austin, USA – "Full-Spectrum Multiphoton Autofluorescence Imaging with Temporal Focusing"*

Bioengineering Subgroup

Yuan I-Chen, *University of Texas at Austin, USA – "Rapid Fluorescence Lifetime Imaging for Live Cells and Retinal Endogenous Fluorophores"*

Biological Fluorescence Subgroup

Anindita Dasgupta, *Leibniz Institute of Photonic Technology, Germany – "Direct Supercritical Angle Localization Microscopy for Nanometer 3D Superresolution"*

William F. Dean, *University of Alabama at Birmingham, USA – "Domain-Specific Cadherin Order in Desmosomes is Conserved Across Isoforms"*

Biopolymers in vivo Subgroup

Karina C. Guadalupe, *University of California Merced, USA – "Changes in Cell Volume are Drivers of Plasticity in Disordered Proteins"*

Rachel Hutchinson, *University of Wisconsin – Madison, USA – "Critical Beginning: Tunings of Solubility and Structural Accuracy of Newly-Synthesized Proteins by the HSP70 Chaperone System"*

Channels, Receptors, and Transporters Subgroup

Noelia Jacobo-Piqueras, *University of Innsbruck, Austria – "Molecular Mechanisms Responsible for the Sexual Dimorphism in Pancreatic β-Cell Insulin Release"*

Marie Lycksell, *Stockholm University, Sweden – "Cryo-EM and Small-Angle Scattering of a Pentameric Ligand-Gated Ion Channel Reveals a Dynamic Regulatory Domain*

Tamara Theiner, *University of Innsbruck, Austria – "CAV1.3 L-TYPE CA2+ Channel Modulates Pancreatic β-Cell Electrical Activity and Survival"*

Cryo-EM Subgroup

Aaron P. Owji, *Columbia University, USA – "Cryo-EM Analysis of Gating Dynamics in Mammalian Bestrophins"*

Intrinsically Disordered Proteins Subgroup

Feng Yu, *University of California Merced, USA – "Linking Disordered Protein Sequence and Ensemble Using Interaction Maps"*

Meaghan S. Jankowski, *Rensselaer Polytechnic Institute, USA – "Locate Reveals Electrostatic "Islands" and "Hotspots" are Important for a Disordered Clock Protein's Interactions to Regulate Clock Robustness"*

Macromolecular Machines and Assemblies Subgroup

Alexandra Teslenko, *Ecole Polytechnique Federale de Lausanne, Switzerland – "Development of a Single-Molecule Approach to Observe Ubiquitination Dynamics in Defined Chromatin States"*

Constanza Torres-Paris, *University of California San Diego, USA – "A Disordered Linker with "Something" on its N-Terminus Drives the Allostery in the Urokinase-Type Plasminogen Activator (UPA)"*

Mechanobiology Subgroup

Manish Ayushman, *Stanford University, USA – "Sliding Hydrogels Enhance MSC Chondrogenesis by Facilitating Early Stage Cytoskeletal/Nuclear Dynamics and Mechanical Loading"*

Rachel L Bender, *Emory University, USA – "Pseudo-Knot-Like DNA Tension Probe Shows that Cell Adhesion Receptors Detect the Molecular Force-Extension Curve of Their Ligands"*

Membrane Fusion, Fission, and Traffic Subgroup

Cisloynny C. Beauchamp-Perez, *University of Colorado at Denver, USA – "C2 Domain Lysine Clusters Are Highly Susceptible to Non-Enzymatic Post-Translational Modifications"*

Tomasz J. Nawara, *University of Alabama at Birmingham, USA – "Imaging the Dynamics of Vesicle Formation Supports the Flexible Model of Clathrin-Mediated Endocytosis"*

Membrane Structure and Function Subgroup

Iulia Carabadjac, *University of Freiburg, Germany – "Exploring Protein-Dependent Changes of the Properties of Bio-Membranes Using Time-Resolved Fluorescence"*

Luis M. Real Hernandez, *University of Virginia, USA – "Comparing Lipid Packing Between Nanodiscs and Native Membranes"*

Membrane Transport Subgroup

Hammad Ali Faizi, *Northwestern University, USA – "A Vesicle Microrheometer for Viscosity Measurements of Lipids and Polymer Bilayers"*

Motility and Cytoskeleton Subgroup

Parijat Banerjee, *Johns Hopkins University, USA – "Modeling Actin Polymerization Wave Patterns on Mechanical Ridges via Dynamical Networks"*

Rachit Shrivastava, *University of Minnesota, USA – "Cargo-Motor Interaction Kinetics Regulate Myosin VI Based Transport"*

Nanoscale Approaches to Biology Subgroup

Ting-Wei Liao, *Johns Hopkins University, USA – "Linking Folding Dynamics and Function of Single SAM/SAH Riboswitch*"

Zhidian Zhang, *Ecole Polytechnique Federale de Lausanne, Switzerland – "The Role of PTM Crosstalks in HTTEX1 Structure, Aggregation and Membrane Interaction"*

Physical Cell Biology Subgroup

Qingchu Jin, *Johns Hopkins University, USA – "Does Prolonged Action Potential Always Indicate Greater Early-Afterdepolarization Risk?"*

Tamas Nagy, *University of California San Francisco, USA – "Puff Up to Decide: The Role of Regulatory Volume Changes in Neutrophil Polarity and Chemotaxis"*

Theory and Computation Subgroup

Sneha M. Dixit, *Max Planck Institute of Colloids and Interfaces, Germany – "Conformational Changes and Force Transmission in PIEZO2"*

Andrew P. Latham, *Massachusetts Institute of Technology, USA – "Unified Protein Force Field for Simulations of Liquid-Liquid Phase Separation"*

Atsushi Matsuda, *University of California Berkeley, USA – "Structural Flexibility pf FG-Nucleoporins Regulates the Molecular Transport Through the Nuclear Pore Complex"*

The Biophysical Society, founded in 1958, is a professional, scientific Society established to lead development and dissemination of knowledge in biophysics. The Society promotes growth in this expanding field through its annual meeting, publications, and committee and outreach activities. Its 7,500 members are located throughout the United States and the world, where

they teach and conduct research in colleges, universities, laboratories, government agencies, and industry.