



Friday May 31<sup>st</sup> – June 1<sup>st</sup>, 2019

## Symposium in Honor of P. Leslie Dutton

### The Structure and Function of Natural Proteins and Maquettes

**Friday, May 31<sup>st</sup> 2019**

**Glen Gaulton Auditorium, BRB II, 421 Curie Blvd., Philadelphia, PA 19104**

8:00 – 9:00 AM Breakfast

#### Session 1A: Designing Protein Function

9:00 – 9:15 am	Vikas Nanda Rutgers University	Modular origins of oxidoreductases
9:15 – 9:35 am	P. Leslie Dutton University of Pennsylvania	Protein reorganization mediated by electron transfer
9:35 – 9:50 am	Ross Anderson University of Bristol, UK	Catalysis in maquettes: Les is more...
9:50 – 10:05 am	Ronald Koder City College of New York	Using dynamics and supercharging to design functional proteins
10:05 – 10:20 am	Julia Shifman Hebrew University, Israel	Protein-protein interactions: from evolution to design
10:20 – 10:35 am	Christopher Moser University of Pennsylvania	No-fuss biological electron transfer
10:35 – 10:50 am	Anne Katherine Jones Arizona State University	Electrocatalysis and Enzymology
10:50 – 11:05 am	Joshua Mancini Rutgers University	Searching for potential metallo-peptide based hydrogenases capable of activity on an archean earth

## Session 1B: Data Science

11:05 – 11:15 am Zhenyu Zhao  
Airbnb/ formerly Microsoft Smart notes composing for customer support agents using neural abstractive summarization

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11:30 am - 1:30 pm **Break**

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## Session 2: Natural and Artificial Photosynthesis

1:30 – 1:45 pm Katsumi Matsuura  
Tokyo Metropolitan University, Japan Electron transfer through hydrogen, sulfur, and nitrogen in thermophilic photosynthetic and chemosynthetic microbial communities

1:45 – 2:00 pm Dan Robertson  
Joule Unlimited Technologies Light utilization by photosynthetic cultures

2:00 – 2:15 pm David Tiede  
Argonne National Lab Tracking Photons-to-Fuels Across Natural and Artificial Photosynthesis

2:15 – 2:30 pm David Officer  
Univ. of Wollongong, Australia Energy Conversion Using Synthetic Protein/Porphyrin Ensembles

2:30 – 2:45 pm Dror Noy  
Galilee Research Inst., Israel Chlorophyll-binding protein maquettes

2:45 – 3:00 pm Nathan Ennist  
University of Washington Designing LH2-like chlorophyll-binding proteins for efficient energy transfer

3:00 – 3:20 pm Neil Hunter  
University of Sheffield, UK Two for the price of one: engineering singlet fission within a maquette framework

3:20 – 3:35 pm Elisabet Romero  
Institute of Chemical Research of Catalonia, Spain Quantum coherent maquettes

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3:35 – 4:30 pm **Coffee break**

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## Session 3: Advancing Medicine and Materials

4:30 – 4:40 pm	Bohdana Discher University of Pennsylvania	Using maquettes to read the mind
4:40 – 4:50 pm	Dirk Auman University of Pennsylvania	Engineered Protein Oxygen Carriers: A Novel Blood Substitute for Emergency Care
4:50 – 5:05 pm	Bruce Lichtenstein Univ. of Bayreuth, Germany	Tracking Photons-to-Fuels Across Natural and Artificial Photosynthesis
5:05 – 5:20 pm	Shixin Ye Sorbonne University, France	Unnatural amino acids highlight specificity of signalling transduction
5:20 – 5:30 pm	Sara Dutton Sackett University of Wisconsin	Probing the Human Pancreas and Islet Matrisome for Matrix-Stem Cell-derived Islet Interactions
5:30 – 5:45 pm	Steve Huang Cleveland Clinic	Targeting Prostate Cancer
5:45 – 6:00 pm	Xiaoxi (Kevin) Chen Medical Surface, Inc.	Engineering the Bio/material Interface for Implantable and Wearable Glucose Sensors
6:00 – 6:15 pm	Lee Solomon Science and Technol. Policy, AAAS	Engineering Function into a Peptide-Based Material
6:15 – 6:30 pm	Joseph Strzalka Argonne National Lab	From Penn to the APS: In Situ Studies of Proteins and Organic Optoelectronic Materials



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**Saturday, June 1<sup>st</sup> 2019**

**Jordan Medical Education Center, 3400 Civic Center Blvd, Philadelphia, PA 19104**

8:00 – 9:00 AM Breakfast

### **Session 4A: Special Interests**

9:00 – 9:10 am Dan O'Keefe  
Dupont Retiree Preservation of the American chestnut tree

### **Session 4B: Natural Protein Function**

9:10 – 9:25 am Marilyn Gunner  
City College of New York Thinking about how proton pumps pump protons

9:25 – 9:45 am Tony Moore  
University of Sussex, UK Structure and function of the alternative oxidises:  
parasite saviour or human life saver?

9:45 – 10:00 am Artur Osyczka  
Jagiellonian Univ., Poland Understanding molecular processes in quinol  
oxidoreductases of respiration and photosynthesis

10:00 – 10:15 am Jose Cerda  
St. Joseph University Molecular Mechanisms in Heme Protein Function: A  
Thermodynamic Perspective from Fluoride Binding  
Studies

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**10:15 – 11:15 am Coffee break**

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11:15 – 11:30 am Brian R. Gibney  
Brooklyn College Using Ferredoxin Maquettes to Probe Zinc Finger  
Protein Folding

11:30 – 11:45 am Kurt Warncke  
Emory University Microcompartment Signature Enzyme

11:45 am – 12:15 pm Sir John Walker, FRS  
University of Cambridge, UK Modular Assembly of ATP Synthase



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