

## Previous Award Recipients

### September 2012 Competition

Aimee Jaramillo-Lambert (LBG)

Sperm Derived Factors are Essential for Embryonic Development in *C. elegans*

Mentor: Andy Golden

Alison Walters (LCMB)

Investigating the Mechanism and Regulation of Nuclear Envelope Expansion in *S. cerevisiae*

Mentor: Orna Cohen-Fix

Chen-Che Huang (LERB)

Thyroid Hormone-mediated Adrenal Remodeling

Mentor: Douglas Forrest

Dalya Lateef (DEOB)

Role of Bombesin Receptor Subtype-3 in Energy Metabolism and Cardiovascular Regulation

Mentor: Marc Reitman

Nikolaos Sgourakis (LCP)

Study of the m4 Immune Evasion Protein and its Interactions with MHC-I using NMR, DEER and Rosetta

Mentor: Ad Bax

Li-Quan Zhou (LCDB)

Role of Histone H3.3 in Reprogramming Gamete Chromatin to Activate Embryonic Genes

Mentor: Jurrien Dean

### March 2012 Competition

Marvin Bayro (LCP)

Understanding Supramolecular Interactions in HIV-1 Gag Assembly

Mentor: Robert Tycko

Lalit Deshmukh (LCP)

Structural Studies of the HIV-I Capsid Dimer in Solution Using NMR, Small/wide Angle X-ray Scattering and Other Biophysical Techniques.

Mentor: Marius Clore

## September 2011 Competition

Nick Anthis (LCP)

Uncovering the Molecular Details of Calmodulin Signaling by Paramagnetic NMR

Mentor: Marius Clore

Matteo Avella (LCDB)

Role of the Zona Pellucida in Human Fertilization

Mentor: Jurrien Dean

Ling Chin Hwang (LMB)

Elucidating the Mechanism of Bacterial Plasmid Partition

Mentor: Kiyoshi Mizuuchi

Simon Messing (LMB)

Elucidation of Repetitive Extragenic Palindromic Sequences Propagation in Bacteria by Tyrosine Transposases

Mentor: Fred Dyda

## March 2011 Competition

Mawadda Al-Naeeli (MMB)

Erythropoietin and Obesity-induced Inflammation and Insulin Resistance

Mentor: Constance Noguchi

Michelle Bond (LCBB)

Elucidating the role of O-GlcNAc in Innate Immunity using *C. elegans* as a model

Mentor: John Hanover

Yanfen Liu (LMB)

Function and Regulation of Deubiquitinases in ER Protein Quality Control

Mentor: Yihong Yi

Ari Meerson (PECRB)

Assessing the Roles of Micro RNAs in Human Obesity and Type 2 Diabetes

Mentor: Leslie Baier

David Murray (LMB)

Structure and Molecular Mechanism of SNX8 Cargo Recognition

Mentor: James Hurley

Kyung Hyun Ryu (LGP)

Linking H3K27 Methylation and the Transcription Factor STAT5 in Mammary development

Mentor: Lothar Hennighausen

## September 2010 Competition

Emily Clough (LCDB)  
Sexual Dimorphism in *Drosophila* from Genotype to Phenotype  
Mentor: Brian Oliver

Christine Jao (LMB)  
Structure of the ESCRT -I and -II Membrane Budding Assembly  
Mentor: James Hurley

Reiner Jumpertz (PECRB)  
Manipulation of the Gut Microbiota: Impact on Energy Balance in Humans  
Mentor: Jonathan Krakoff

Leah Matzat (LCDB)  
RNA-mediated Tissue Specific Regulation of a Chromatin Insulator in *Drosophila*  
Mentor: Elisa Lei

Anthony Vecchiarelli (LMB)  
Mechanistic Studies of ATP-driven Biomolecular Patterning and Positioning  
Mentor: Kiyoshi Mizuuchi

## March 2010 Competition

Katerina Alexaki (GDDB)  
In Vivo Models of Serine Palmitoyltransferase Manipulation and Impact on Diabetes  
Mentor: Richard Proia

Joshua Chappie (LMB)  
Structural and Mechanistic Studies of Dynamin  
Mentor: Frederick Dyda

## September 2009 Competition

Robin Evans Stanley (LMB)  
Structural and Bio-chemical Characterization of the Autophagy PI3KC 3 Complex  
Mentor: James Hurley

Jin-Gu Lee (LMB)  
Biological function of Lysine<sup>29</sup>-linked Polyubiquitin Chain

Mentor: Yhiong Ye

Anil Kumar Kamaraju (DB)  
Identification of Novel Small-Molecule Inhibitors of “SMAD 3” for Therapeutic Purposes  
Mentor: Sushil Rane

Qisheng Li (LDB)  
Discovery of Hepatitis C Virus Host Dependencies through Genome-wide Genetic Studies  
Mentor: Jake Liang

### March 2009 Competition

Edina Rosta (LCP)  
Role of Proton Transfer in the Catalytic Reaction of RNase H  
Mentor: Gerhard Hummer

Marie Thearle (PECRB)  
Effects of Exenatide on Thermogenesis and Weight in Non-diabetic Obese Subjects  
Mentor: Jonathan Krakoff

Yan Wang (MDB)  
Menin Regulates the AKT Signaling Pathway through its Interaction with AKT  
Mentor: Stephen Marx

Thomas Wollert (LMB)  
Reconstitution of ESCRT-mediated Membrane Budding *in Vitro*  
Mentor: James Hurley

### September 2008 Competition

Anna Allen (LBG)  
Investigating Precocious Oocyte Maturation and the Calcium Wave in *C. elegans*  
Mentor: Andy Golden

Anna Burkart (LCDB)  
Role of a Cortical-Granule Metalloprotease in the Post-Fertilization Block to Polyspermy  
Mentor: Jurrien Dean

Robert Brychta (CEB)  
Optimizing Energy Expenditure Detection in Human Metabolic Chambers  
Mentor: Kong Chen

Michelle Mondoux (LMB)  
Analysis of Hexosamine Signaling in *C. elegans*: a Model of Insulin Resistance  
Mentor: Michael Krause

Emmanuel Thomas (LDB)  
A Novel Mechanism of Action of Ribavirin in Hepatitis C Antiviral Therapy  
Mentor: Jake Liang

### March 2008 Competition

Nina Peel (LBG)  
System-wide analysis of tubulin glutamylation in *C. elegans*  
Mentor: Kevin O'Connell

Zachary Schultz (LCP)  
Nanoscale Biomembrane Characterization: from model systems to intact cellular membranes  
Mentor: Ira Levin

Yang Shen (LCP)  
Protein structural patterns obtained from NMR chemical shifts using neural networks  
Mentor: Ad Bax

Hariom Yadav (DB)  
Role of TGF- $\beta$ 1 signaling in insulin resistance and adipogenesis  
Mentor: Sushil Rane

Frances Yap (GBB)  
Mechanism of Translational Regulation Inside the Ribosome Tunnel  
Mentor: Harris Bernstein

### September 2007 Competition

Orsolya Barabas (LMB)  
Directing Asymmetric DNA Transposons to Alternate Sequences  
Mentor: Fred Dyda

Xin-Hua Liao (LCDB)  
Functional Analyses of the TOR Kinase Complex TORC2  
Mentor: Alan Kimmel

Deepak Sharma (LBG)  
Molecular Mechanism Underlying Roles of Ssa Hsp70 Chaperones in Yeast Prion  
Propagation

Mentor: Daniel Masison

Pu Tian (GBB)

Two State Conformational Change of Membrane-embedded Beta Barrels

Mentor: Harris Bernstein

Athanasios Vasilopoulos (GDDB)

Role of BRCA1 in Mammary Cancer Stem Cells and Possible Therapeutic Implications

Mentor: Chuxia Deng

### March 2007 Competition

Michaeleen Callahan-Doucleff (LCP)

Characterizing the Target Search Process of a Multi-Protein Transcription Complex

Mentor: Marius Clore

Kan-Nian Hu (LCP)

Probing Protein Conformations in Unfolded States Using Solid-State NMR Techniques

Mentor: Robert Tycko

Erica Rosemond (LBC)

Elucidation of Novel Protein Partners of G-Protein Coupled Receptors

Mentor: Jurgen Wess

Keren Witkin (LMCB)

Yeast Nuclear Architecture and its Role in Regulating Nuclear Function

Mentor: Orna Cohen-Fix

### September 2006 Competition

Gagandeep Gahlay (LCDB)

Characterization of the Role of ZP2 in Post-Fertilization Block to Sperm Binding

Mentor: Jurrien Dean

Jean-Marc Guettier (CEB)

In Vivo Control of GPCR Signaling Pathways

Mentor: Jurgen Wess

Thomas Leonard (LMB)

Mechanistic Studies of Protein Kinase C

Mentor: James Hurley

Kathryn Stein (LBG)  
Mechanism of spe-11-dependent Oocyte Activation in *C. elegans*  
Mentor: Andy Golden

### March 2006 Competition

Meryem Bektas (GDDB)  
Sphingosine-phosphate Lyase in Signaling  
Mentor: Richard Proia

Rongjin Guan (LMB)  
Molecular Basis of Ligand Recognition by Human Toll-like Receptor 2  
Mentor: David Davies

Ying Huang (LDB)  
Negative Regulation of IFN Pathway by HCV Infection  
Mentor: Jake Liang

Jinfa Ying (LCP)  
Novel NMR Methods Applied to Studying HA Peptide-induced Membrane Fusion  
Mentor: Ad Bax

### September 2005 Competition

Robert Best (LCP)  
Coarse-Grain Models for Simulation of Protein Folding  
Mentor: William Eaton

Rodney Brister (LMCB)  
Characterization of the T4 Origins of DNA Replication  
Mentor: Nancy Nossal

Jordan Chill (LCP)  
Novel NMR Methodologies for Study of Membrane Proteins  
Mentor: Ad Bax

Lei Li (LCDB)  
Discovering New Potential Target Genes of FIG±  
Mentor: Jurrien Dean

Eric Liu (IAB)  
Beta Cell Regeneration and Immunology in Type 1 Diabetes

Mentor: David Harlan

Jason Mears (LCBB)  
The Structural Basis of Mitochondrial Fission  
Mentor: Jenny Hinshaw

Cheryl Woolhead (GBB)  
Ribosome Nascent Chain Communication During Translation  
Mentor: Harris Bernstein

### March 2005 Competition

Keith Giles (LMB)  
The Establishment of Heterochromatin in Vertebrate Cells  
Mentor: Gary Felsenfeld

Bo Li (LBC)  
Analysis of G Protein-Coupled Receptors in Yeast  
Mentor: Jurgen Wess

Kusai Merchant (LCP)  
Watching a Protein Fold by Single Molecule Fluorescence  
Mentor: William Eaton

Anant Paravastu (LCP)  
Structural Studies of Alzheimer's  $\beta$ -Amyloid Fibrils  
Mentor: Robert Tycko