

SURP Summer Undergraduate Research Program

2007 Symposium

**Department of Biological Sciences
Carnegie Mellon University**

**Mellon Institute Conference Room
August 3, 2007**

Mellon Institute
Carnegie Mellon University

Friday, August 3

- 9:00 a. m. Rebecca Martz
The Role of an Adenomatous Polyposis Coli 2 Complex in Actin Organization
Mentor: Dr. Brooke McCartney
- 9:15 Davalyn Powell
Fluorescence Activated Cell Sorting of Neocortical FosGFP Positive Neurons in Transgenic Mice
Mentor: Dr. Alison Barth
- 9:30 Oluwatoyin Orunja
Quantum Dots as Retrograde Tracers
Mentor: Dr. Justin Crowley
- 9:45 Alexandria Melendez
Quantification of Primary Amines in Nanoemulsions to Improve Cellular Uptake
Mentor: Dr. Eric Ahrens
- 10:00 Laurel Farmer
Magnetic Resonance Microscopy to Investigate Phenotypic Variation in Dnmt1o Deficient Mouse Embryos
Mentor: Dr. Eric Ahrens
- 10:15 **Break**
- 10:30 Sarah Romereim
Slingshot Phosphatase Induces Apical Constriction During Ventral Furrow Formation in *Drosophila melanogaster*
Mentor: Dr. Jonathan Minden
- 10:45 Cody Vild
Identifying Mass Changes in the Pros35 Proteasome Subunit During *Drosophila* Embryonic Development by Mass Spectrometry
Mentor: Dr. Jonathan Minden
- 11:00 James M. Henderson
Investigations into Organic Dye Binding Antibody Single Chain Variable Fragments Through Bacterial Expression Systems
Mentor: Dr. Gordon Rule

- 11:15 **Natalie Weir**
Roles of Amino Acid Residues in the Distal Heme Pocket on the Structure-Function Relationship in Human Hemoglobin
Mentor: Dr. Chien Ho
- 11:30 **Rohit Ramnath**
Structure-Function Analysis of Sec13 in the COPII Coat
Mentor: Dr. Tina Lee
- 12:00 p.m. **Break**
- 1:15 **Daniel Lees**
Discovering Transitions Between Pathways for Self-Assembly
Mentor: Dr. Russell Schwartz
- 1:30 **Nancy Anoruo**
The Effects of Activated Diaphanous on Cytoskeletal Organization and Wing Morphology in *Drosophila*
Mentor: Dr. Brooke McCartney
- 1:45 **Lauren Thorpe**
Assessing the Cellular Consequences of Loss of APC Function Throughout Development of *Drosophila* Wings
Mentor: Dr. Brooke McCartney
- 2:00 **Alys Cheatle**
Hormone-Inducible Expression of Alx1 in the *Lytechinus variegatus* Embryo
Mentor: Dr. Charles Etensohn
- 2:15 **Samantha Spath**
Localization of Maternal Components of the Wnt Signaling Pathway in the Sea Urchin Embryo
Mentor: Dr. Charles Etensohn
- 2:30 **Break**

- 2:45 Daniel Medrano
Evaluating Reverse Constant Rates of Phosphate
and its Effects on Kinesin Motility
Mentor: Dr. David Hackney
- 3:00 Sheena Dohar
Creating a Novel Biosensor by Improving the Binding of
TO1-2P Dye Molecules to ScFV1 Antibodies
Mentor: Dr. Elizabeth Jones
- 3:15 Mariela Zeledon
PBNI Alanine Scanning Project in *Saccharomyces cerevisiae*
Mentor: Dr. Elizabeth Jones
- 3:30 Thomas Suter
Generating Single Chain Variable Fragment Antibodies Against
pre-mRNA Splicing: Lariat Product as a Tool for Genome-Scale
Splicing Analysis
Mentor: Dr. Javier López
- 3:45 Stefanie Sydlik
Regioregular Random Copolymers of Thiophene and
3-Alkylthiophenes
Mentor: Dr. Rick McCullough
- 4:00 **Closing Remarks by Dr. David Hackney**

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For more information, visit
<http://www.cmu.edu/bio/undergraduate/research/SURP>