

BIOMOLECULAR INTERACTION TECHNOLOGIES CENTER
UNIVERSITY OF NEW HAMPSHIRE

2011 ADVANCED
ANALYTICAL ULTRACENTRIFUGATION WORKSHOP
Holloway Commons, Main Street, Durham NH 03824
Monday, July 11, 2011

8:00 -9:00 Continental Breakfast and Welcome and Goals of the Workshop

9:00 – 10:30 Participant Presentations

10:30 - 10:45 **Break**

Overview and Basic Theory of Sedimentation

10:45 – 12:15 *Basic theory of sedimentation velocity* - Walter Stafford

Lunch 12:15 - 1:15 (and group photo)

Overview and Basic Theory of Sedimentation

1:15 - 2:45 *Analysis of sedimentation velocity data* - John Philo

2:45 - 3:00 **Break** - beverages and snacks

Experimental design and strategies

3:00 - 3:30 *Experimental design and sample preparation* – Tom Laue & STAFF

3:30 - 4:00 *Cell assembly, filling and other tricks of the trade* – Tom Laue & STAFF

4:00 - 4:30 *Optical systems* – Tom Laue & STAFF

4:30 – 5:00 *Machine set up and alignment issues* – Tom Laue & STAFF

Workshop reception

6:00 Cocktails and Dinner

Evening Lecture:

7:30-8:30 **Jack Correia:** “FDS Hydrodynamic Characterization of an Elastin-Like Drug Delivery Peptide in Plasma”

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Tuesday, July 12, 2011

8:00 - 8:30 Continental breakfast, Introduction and Overview of the Day's Schedule

Sedimentation Velocity Analysis Theory and Methods

8:30 - 9:30 *Sedimentation velocity analysis of mixtures – John Philo*

9:30 - 10:30 *Sedimentation velocity analysis of interacting systems – Walter Stafford*

10:30-10:45 BREAK

Hands on Data Analysis

10:45 – 12:15 Group 1: Sedimentation velocity data analysis – Walter Stafford
Group 2: Sedimentation velocity data analysis – John Philo

Lunch 12:15 - 1:15

1:15 -2:45 Group 1: Sedimentation velocity data analysis (cont'd) – Walter Stafford
Group 2: Sedimentation velocity data analysis (cont'd) – John Philo

2:45 - 3:00 **Break** - beverages and snacks

3:00-4:30 Group 1: Sedimentation velocity data – John Philo
Group 2: Sedimentation velocity data – Walter Stafford

4:30-6:00 Group 1: Sedimentation velocity data analysis (cont'd) – John Philo
Group 2: Sedimentation velocity data analysis (cont'd) – Walter Stafford

Dinner

6:30 Beer and Pizza

Evening Lectures

8:00 – 9:00 **Tom Laue:** “The History of Analytical Ultracentrifugation”

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Wednesday, July 13, 2011

8:00 – 9:00 Continental breakfast, Introduction and Overview of the Day's schedule

Hands on Data Analysis

9:00 – 10:30 Group 1: Sedimentation Equilibrium data, hetero-association – Jim Cole
Group 2: Sedimentation Equilibrium Theory – Tom Laue

10:30 - 11:00 **Break** - beverages and snacks

11:00-12:30 Group 1: Sedimentation Equilibrium data, hetero-association (cont'd) – Jim Cole
Group 2: Sedimentation Equilibrium Theory (continued) – Tom Laue

Lunch

12:30 - 1:30 Lunch

Hands on Data Analysis

1:30 - 3:00 Group 1: Sedimentation Equilibrium Theory – Tom Laue
Group 2: Sedimentation equilibrium, hetero-association – Jim Cole

3:00 - 3:30 **Break** - beverages and snacks

3:30 -5:00 Group 1: Sedimentation Equilibrium (continued) – Tom Laue
Group 2: Sedimentation equilibrium, hetero-association (cont'd) – Jim Cole

Workshop Banquet

6:00 Cocktails and Dinner

Keynote Lecture

7:30 – 9:30 **John Philo:** *“Analytical Ultracentrifugation versus some alternate solution biophysical methods for characterizing association and aggregation”*

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Thursday, July 14, 2010 – Symposium Day

8:00 - 8:30 Continental breakfast, Introduction and overview of the day's schedule.

Symposium Schedule

8:30 - 9:30 John Tsavalas: "*Dynamic Modeling of Protein-Protein Interactions in High-Concentration Biological Systems*"

9:30 - 10:30 Richard Neubig: "*High-throughput multiplexed protein-protein interaction analysis by flow cytometry*"

10:30-10:45 **Break** - beverages and snacks

10:45 - 11:45 Jeffrey Hoch: "*Biomolecular Interactions from the Perspective of Water*"

Lunch

12:00 - 1:00 Lunch

Symposium Schedule

1:00- 2:00 Vincent Moy: "*Investigation of SNARE-Mediated Membrane Fusion Mechanism Using Atomic Force Microscope*"

2:00 - 3:00 Lewis Rothberg: "Sensing of Untagged Analytes in Microarray Format by Reflective Interferometry"

3:00 – 3:15 **Break**

3:15 - 4:15 Qiao Lin: "Micromachined Devices for Differential Scanning Calorimetry of Biomolecules"

4:15 – 5:15 Sergio Aragon: "*Solution structure of proteins from hydrodynamics and molecular dynamics*"

6:00 Dinner will be held at The Three Chimneys Inn, 17 Newmarket Road, Durham NH (www.threechimneysinn.com)