Biomolecular Interaction Technologies Center

A National Science Foundation Industry/University Cooperative Research Center

www.bitc.unh.edu

Advanced Analytical Ultracentrifugation Workshop: Theory and Practice

October 16 – 19, 2016

Boehringer Ingelheim Pharmaceuticals Inc.
IMBD Department
175 Briar Ridge Road
Ridgefield, CT 06877

Symposium Day
Wednesday
Occtober 19th

Register Online: http://www.udel.edu/bitc-auc
If you cannot register online, please contact:
David Hayes: David.Hayes@boehringer-ingelheim.com
Kristi Halberg: khalberg@udel.edu

Instructors:

Walter Stafford, PhD, BBRI
Thomas Laue, PhD, BITC/UNH
James Cole, PhD, Univ. of Connecticut
Jack Correia, PhD, Univ. of Mississippi Medical Ctr.
Michael Brenowitz PhD, Albert Einstein
David Hayes, PhD, Boehringer Ingelheim

Registration Fees:
3 day workshop (limit of 14):
Corporate: $2,500
Academic: $1,250
1 day symposium only (included in 3 day workshop)
Corporate: $500
Academic: $100
Please enquire about Academic scholarships for students and postdocs: David.Hayes@boehringer-ingelheim.com

Purpose:

- Interact with experts in analytical ultracentrifugation
- Learn to characterize macromolecular interactions and complex mixtures
- Receive training in the latest experimental approaches and data analysis methods
- Discuss advanced analytical ultracentrifugation topics and specialized methods
  Bring your own data for on-site analysis and consultation

Description:
Analytical Ultracentrifugation (AUC) is a powerful method for the determination of absolute molar mass, shape and for the analysis of reversible interactions and irreversible aggregation formation involving macromolecules in solution. A combination of modern instrumentation, fast computers and new data analysis algorithms has led to an ever-increasing use of AUC in basic research, process development and biotherapeutic formulations.

Scope:
This is an **advanced** AUC workshop and is appropriate for academic and industrial scientists who are already familiar with basic experimental and data analysis methods..

Program:

Fundamentals:

- Basic theory and overview
- Sedimentation velocity
- Sedimentation equilibrium
- Practical Analytical Ultracentriifugation

Equillibrium:

- Self-association
- Hetero-association
- Thermodynamic nonideality
- Global multisignal analysis

Demonstrations:

- Experimental design and sample preparation
- Use of specialized centrifuge cells
- Operation of the Beckman-Coulter XL-I instrument
- Operation of AVIV AU-FDS detection on Beckman-Coulter XL-I
- Operation of Spin Analytical CFA instrument with absorbance scanning
- Interference optics: adjustment and optimization

Velocity:

- Modeling by Lamm equation solutions Sedimentation velocity
- Time derivative methods
- Continuous distributions systems
- Sedimentation

Data Analysis & Interpretation:

- Sedimentation

Advanced Topics & Specialized Approaches:

- High Concentration Sedimentation
- Statistics of Replicates and Large Number of Related Samples
- Evaluation of participant data: On-site data analysis – bring your own data