

12th Annual Gibbs Conference on Biothermodynamics

SCHEDULE

Saturday, October 3

4:00 – 7:00 pm Registration in the Indian Room

7:00 – 10:00 pm Informal Reception in the Indian Room

POSTER INFORMATION

Posters will be presented in one of two sessions, I and II, to be held on Sunday and Monday evenings, respectively, in Sledgefoot (next to Freeberg, the dining hall). Posters for Session I (first authors Arrington – Herr) may be mounted starting on Sunday morning and posters for Session II (first authors Holt – Zou) may be mounted starting Monday morning.

Sunday, October 4

7:00 am Breakfast, Freeberg Hall

KEYNOTE ADDRESS

8:30-9:30 **David Draper** (Johns Hopkins University)
Folding RNA Tertiary Structure

9:30 Refreshments

SESSION I: NUCLEIC ACIDS

Moderator: Stephen Edgcomb

10:00-10:35 **Luis Marky** (University of Nebraska)
Hydration Effects in the Incorporation of W-C Base Pairs, Bulges and Mismatches in Short DNA Duplexes

10:40-10:55 **Thomas Gluick** (Johns Hopkins University)
Can RNAs be Stressed Out? The Use of Osmolytes to Distinguish Secondary from Tertiary Structure

11:00-11:15 **D. Jeremy Williams** (Washington University)
Unrestrained Stochastic Dynamics Simulations of the UUGG Tetraloop Using an Implicit Solvation Model

11:20-11:55 **James Williamson** (Scripps Research Institute)
Kinetic Intermediates in RNA Folding

12:00 – 1:00 Lunch, Freeberg Hall

SESSION II: BINDING & LINKAGE

Moderator: Olav Jaren

3:00-3:35 **Tomasz Heyduk** (St. Louis University)
 *σ^{70} Subunit of *E. coli* RNA Polymerase: Interactions Involved in Promoter Melting*

3:40-3:55 **Catherine Falcon** (Rice University)
Alteration of Lactose Repressor Function Upon Mutation Within the Hinge Region

4:00 Refreshments

- 4:30-4:45 **Paul Darling** (Washington University)
Energetics of Subunit Dimerization and Right Operator Binding by Bacteriophage λ cro Repressor
- 4:50-5:25 **Michael Gilson** (Center for Advanced Research in Biotechnology)
Theory and modeling of protonation equilibria in proteins
- 6:30 Dinner
- 8:00 – 10:00 **POSTER SESSION I & REFRESHMENTS**
Sledgefoot

Monday, October 5

7:00 Breakfast, Freeberg Hall

SESSION III: NUCLEIC ACID INTERACTIONS

Moderator: Rosemary Marques

- 8:30-9:05 **Kathleen Hall** (Washington University)
Describing RNA: Protein Interactions with Thermodynamics and Dynamics
- 9:10-9:25 **Alexander Kozlov** (Washington University)
The Large Negative Heat Capacity Change for E. coli SSB Tetramer Binding to $dA(pA)_{34}$ is Due to Adenine Base Stacking
- 9:30 Refreshments
- 10:00-10:35 **John Shriver** (Southern Illinois University)
The Role of Surface Residues in Defining the Stability and DNA-Binding of Sac7D
- 10:40-10:55 **Karen Tang** (University of Minnesota)
Cosolvent and Water Concentrations at Protein and DNA Surfaces: What do Preferential Interaction Measurements Tell Us?
- 11:00-11:35 **Robert Clegg** (University of Illinois at Urbana-Champaign)
The Helix-Coil Transition of DNA Duplexes and Hairpins Observed by Multiple Fluorescence Parameters
- 12:00 – 1:00 Lunch, Freeberg Hall

SESSION IV: MOLECULAR RECOGNITION

Moderator: Beth Beadle

- 3:00-3:35 **Gabriel Waksman** (Washington University)
Structure-Function Relationship Studies of SH2 Domains
- 3:40-3:55 **Christian Castro** (Baylor University)
Thermodynamics of Coformycin Binding to Bovine Adenosine Deaminase: Evidence for a Global Conformational Change in the Enzyme Upon Binding the Transition State Analog
- 4:00 Refreshments
- 4:30-5:05 **David Cistola** (Washington University)
Thermodynamics by NMR: Site-Specific Binding in an (Un)Cooperative System

- 5:10-5:25 **Margarida Bastos** (University of Porto, Portugal)
Ligand Binding Equilibria Between Monoalcohols and α -Cyclodextrin in a Glycerol/Water Media
- 5:30-5:55 **Philip Bevilacqua** (Pennsylvania State University)
*Identification of ultrastable RNA tetraloops by *in vitro* selection based on thermodynamic stability (ISBOTS)*
- 6:30 Dinner, Freeberg Hall
- 8:00 – 10:00 **POSTER SESSION II & REFRESHMENTS**
Sledgefoot

Tuesday, October 6

7:00 Breakfast, Freeberg Hall

SESSION V: PROTEINS

Moderator: Katarina Midelfort

8:30-9:05 **Carl Frieden** (Washington University)
The Interaction of GroEL with E. coli Dihydrofolate Reductase

9:10-9:25 **Blaine Mooers** (University of Oregon)
Contributions to the Stability of the Temperature Sensitive Mutant R96H of T4 Lysozyme

9:30 Refreshments

10:00-10:15 **William R. Forsyth** (University of Iowa)
Analysis of Ionization Equilibria in Turkey Ovomuroid Third Domain: An Experimental and Theoretical Approach

10:20-10:55 **Clare Woodward** (University of Minnesota)
What does hydrogen exchange tell us about protein folding?

11:30 – 12:30 Lunch, Freeberg Hall

Please be sure to check-out before 12:30.
Drop keys off at the main office between 8:00 am and 12:30 pm.