



Entropy in Biomolecular Systems

August 10th - 16th, 2008

Deadline for application: July 1st, 2008

The summer school, set at the inspiring new **Mediterranean Institute for Life Sciences** on the shore of the Adriatic sea in Split, Croatia, intends to assemble creative students and researchers from broad scientific backgrounds to learn about and discuss the general topic of entropy in biomolecular systems.

Entropic contributions to protein folding, enzymatic activation or ligand binding are notoriously difficult to treat and conceptualize both experimentally and theoretically. Indeed, the majority of mechanisms in structural biology are still inferred from single static X-ray structures or from computer simulations of single events. The concept of the thermodynamic ensemble for conformations or transition paths is thus often disregarded and enthalpic contributions are overemphasized over the equally important entropic ones. By bringing together experts from computational biophysics, structural biology, statistical mechanics and mathematics, this summer workshop aims at addressing some of the central challenges inherent in experimental and theoretical treatments of entropy in biomolecular systems. Particular focus will be on computational approaches to calculate different entropic contributions peculiar to biomolecular systems such as, for example, the conformational entropy of proteins. Overall, the workshop will attempt to define, probe and critically assess those areas where a synergy of experimental and theoretical/computational approaches might bring about the most significant advances.

Lecturers and moderators

Hagai Meirovitch, University of Pittsburgh, USA

Michael Gilson, University of Maryland, USA

Jürgen Schlitter, Ruhr-Universität Bochum, Germany

Chris Oostenbrink, Vrije Universiteit, The Netherlands

Gordan Žitković, University of Texas at Austin, USA

Michel Cuendet, Swiss Institute of Bioinformatics, Switzerland

Riccardo Baron, University of California at San Diego, USA

Bojan Žagrović, Mediterranean Institute for Life Sciences, Croatia

Prerequisites

Senior researchers, postdocs, graduate students (Masters or PhD) and advanced undergraduate students in biophysics (computational or experimental), structural biology, biophysical chemistry, statistical mechanics and related areas are all encouraged to apply.

Application

Curriculum Vitae and a short motivation letter. For students, a letter of recommendation in addition. Please, send all materials to: entropy@medils.hr

Fee:

300 EUR (before June 21st).

500 EUR (for late registration).

The fee includes 7 days of full-board accommodation with 3 meals (+ coffee/snacks) per day.

Lack of financial support should not prevent you from applying! A limited number of fellowships will be available. Applicants seeking a fellowship should explain the reasons for that in their motivation letter.

Organisers:

Bojan Žagrović, MedILS and Michel Cuendet, Swiss Institute of Bioinformatics.

More information at www.medils.org