



The Abdus Salam
International Centre for Theoretical Physics



COLLEGE ON BIOPHYSICS: FROM MOLECULAR GENETICS TO STRUCTURAL BIOLOGY

Cosponsor(s): Conselho Nacional de Desenvolvimento Científico e Tecnológico of Brazil (CNPq), International School for Advanced Studies (SISSA) and International Centre for Genetic Engineering and Biotechnology (ICGEB)

Local Organizer(s): J. Chela-Flores

ICTP, 01 - 12 October 2001

M (C)

Venue: Main Building Lecture Room C

Final programme

Experimental Techniques Applied to Structural Biol (Room: Main Building Lecture Room C)
Chairperson: Doriano Lamba (CNR and ICGEB, Trieste, Italy)

1 October 2001

08:30 - 10:30	Registration
10:30 - 10:45	--- Coffee break ---
10:45 - 11:00	Professor M.A. Virasoro / <i>Director of the Abdus Salam ICTP</i> Opening Session
11:00 - 12:00	D. Lamba / <i>CNR and ICGEB, Trieste, Italy</i> Experimental Techniques: An Introduction
12:00 - 13:00	S. Hovmoller / <i>Univ. Stockholm, Sweden</i> X-ray Diffraction, Electron Microscopy, Electron Diffraction, I
13:00 - 14:30	--- Lunch break ---
14:30 - 15:30	A. Vindigni / <i>ICGEB, Trieste, Italy</i> Macromolecular Interactions: Theoretical Principles, I

15:30 - 16:00 --- Coffee break ---
16:00 - 17:00 **J. Rappsilber** / *Univ.Southern Denmark, Odense*
Mass spectroscopy, I

18:00 - 19:00 (Room: Main Building Terrace)
GET-TOGETHER

2 October 2001

09:00 - 10:00 **B. A. Wallace** / *Univ.of London,Birkbeck College,U.K.*
Introduction to Circular Dichroism Spectroscopy, I

10:00 - 11:00 **S. Hovmoller** / *Univ. Stockholm,Sweden*
X-ray Diffraction, Electron Microscopy, Electron Diffraction, II

11:00 - 11:30 --- Coffee break ---

11:30 - 12:30 **S. Hovmoller** / *Univ. Stockholm, Sweden*
X-ray Diffraction, Electron Microscopy, Electron Diffraction, III

12:30 - 14:30 --- Lunch break ---

14:30 - 15:30 **B. A. Wallace** / *Univ.of London,Birkbeck College,U.K.*
Application of Circular Dichroism Spectroscopy to Membrane Proteins, II

15:30 - 16:00 --- Coffee break ---

16:00 - 17:00 **J. Rappsilber** / *Univ.Southern Denmark, Odense*
Mass spectroscopy, II

3 October 2001

09:00 - 10:00 **A. Vindigni** / *ICGEB, Trieste, Italy*
Macromolecular interactions: Experimental Approaches, II

10:00 - 11:00 **B. A. Wallace** / *Univ.of London, Birkbeck College,U.K.*
Synchrotron Radiation Circular Dichroism:New Developments and Future Prospects,III

11:00 - 11:30 --- Coffee break ---

11:30 - 12:30 **J. Rappsilber** / *Univ. Southern Denmark, Odense*
Mass spectroscopy, III

12:30 - 15:30 --- Lunch break ---

Molecular Dynamics and Modelling (Room:Main Building Lecture Room C)
Chairperson: Paolo Carloni (SISSA, Trieste, Italy)

3 October 2001

14:30 - 15:30 **P. Carloni** / *SISSA, Trieste, Italy*
Molecular dynamics and modelling: An Introduction,

15:30 - 16:00 --- Coffee break ---

16:00 - 17:00 **M. Cieplak** / *Institute of Physics, Warsaw, Poland*
Folding and Stretching in Model Proteins

4 October 2001

09:00 - 10:00 **A. Tramontano** / *IRBM, Rome, Italy*
Structural Bioinformatics, I

10:00 - 11:00 **K. Schulten** / *Univ. of Illinois, Urbana, USA*
Membrane Proteins: A Tale of Conduction, I

11:00 - 11:30 --- Coffee break ---

11:30 - 12:30 **A. Tramontano** / *IRBM, Rome, Italy*
Structural Bioinformatics, II

12:30 - 14:30 --- Lunch break ---

14:30 - 15:30 **K. Schulten** / *Univ. of Illinois, Urbana, USA*
Membrane Proteins: A Tale of Harvesting, II

15:30 - 16:00 --- Coffee break ---

16:00 - 17:00 **K. Schulten** / *Univ. of Illinois, Urbana, USA*
Membrane Proteins: A Tale of Vision, III

17:00 - 18:00 **M. Cieplak** / *Institute of Physics, Warsaw, Poland*
Scaling of Folding Properties of Proteins

5 October 2001

09:00 - 10:00 **A. Maritan** / *SISSA, Trieste, Italy*
Geometry and Physics of Proteins, II

10:00 - 11:00 **A. Tramontano** / *IRBM, Rome, Italy*
Structural Bioinformatics, III

11:00 - 11:30 --- Coffee break ---

11:30 - 12:30 **M.L. Klein** / *Univ. of Pennsylvania, Philadelphia, USA*
Molecular Dynamics of Ion Channels, I

12:30 - 14:30 --- Lunch break ---

14:30 - 15:30 **M.L. Klein** / *Univ. of Pennsylvania, Philadelphia, USA*
Molecular Dynamics of Ion Channels, II

15:30 - 16:00 --- Coffee break ---

16:00 - 17:00 **M.L. Klein** / *Univ. of Pennsylvania, Philadelphia, USA*
Molecular Dynamics of Ion Channels, III

Protein Structure and Function (Room: Main Building Lecture Room C)
Chairperson: Sandor Pongor (ICGEB, Trieste, Italy)

8 October 2001

- 09:00 - 10:00** **S. Pongor** / *ICGEB, Trieste, Italy*
Protein Structure and Function: An Introduction
- 10:00 - 11:00** **S. Steinbacher** / *MPI für Biochemie, Martinsried, Germany*
Symmetry in Macromolecular Assemblies, I
- 11:00 - 11:30** --- Coffee break ---
- 11:30 - 12:30** **M. Kellermayer** / *Univ. of Pécs, Hungary*
Single-molecule Mechanics: Principles and Techniques, I
- 12:30 - 14:30** --- Lunch break ---
- 14:30 - 15:30** **J.M. Carazo** / *Centro Nac. de Biotecnologia, Madrid, Spain*
Electron Microscopy of Macromolecular Assemblies, I
- 15:30 - 16:00** --- Coffee break ---
- 16:00 - 17:00** **O. Carugo** / *ICGEB, Trieste, Italy*
Prediction and Classification of Protein Folds

9 October 2001

- 09:00 - 10:00** **S. Steinbacher** / *MPI für Biochemie, Martinsried, Germany*
Symmetry in Macromolecular Assemblies, II
- 10:00 - 11:00** **J.M. Carazo** / *Centro Nac. de Biotecnologia, Madrid, Spain*
Electron Microscopy of Macromolecular Assemblies, II
- 11:00 - 11:30** --- Coffee break ---
- 11:30 - 12:30** **J.M. Carazo** / *Centro Nac. de Biotecnologia, Madrid, Spain*
Electron microscopy of Macromolecular Assemblies, III
- 12:30 - 14:30** --- Lunch break ---
- 14:30 - 15:30** **Mechanics of Single DNA molecules. Single Motor Protein Mechanics, II**
- 15:30 - 16:00** --- Coffee break ---
- 16:00 - 17:00** **S. Steinbacher** / *MPI für Biochemie, Martinsried, Germany*
Symmetry in Macromolecular Assemblies, III
- 17:00 - 18:00** **A. Sali** / *The Rockefeller Univ., New York, USA*
Protein Structure Prediction: Energy Versus Evolution, I

10 October 2001

- 09:00 - 10:00** **M. Kellermayer** / *Univ. of Pécs, Hungary*
Mechanics of Single Protein Molecules. Mechanical Unfolding of Single Protein Molecules. Mechanics of Inter- and Intramolecular Interactions, III
- 10:00 - 11:00** **I. Simon** / *Inst. of Enzymology, Budapest, Hungary*
Prediction of Transmembrane Protein Topology
- 11:00 - 11:30** --- Coffee break ---

Comparative genomics and gene expression (Room:Main Building Lecture Room C)

Chairperson: Albert J. Libchaber (The Rockefeller Univ., New Yo

10 October 2001

11:30 - 12:30 **A.J. Libchaber / *The Rockefeller Univ., New York, USA***
Dna dynamics and recognition, I

12:30 - 14:30 --- Lunch break ---

14:30 - 15:30 **A. Sali / *The Rockefeller Univ., New York, USA***
Problems and Promise of the Database-driven Protein Structure Prediction, II

15:30 - 16:00 --- Coffee break ---

16:00 - 17:00 **A. Sali / *The Rockefeller Univ., New York, USA***
Integration of the Data, Simulations and Theory in Gemonics, III

11 October 2001

09:00 - 10:00 **S. Leibler / *Princeton Univ., USA***
Genetic and Biochemical Networks:A Search for Simple Principles, I

10:00 - 11:00 **A.J. Libchaber / *The Rockefeller Univ., New York, USA***
RecA/DNA, Kinetic proofreading, II

11:00 - 11:30 --- Coffee break ---

11:30 - 12:30 **Hao LI / *Univ. of California, San Francisco, USA***
Decoding the Regulatory Regions of aGenome: I Statistical Analysis

12:30 - 14:30 --- Lunch break ---

14:30 - 15:30 **Hao LI / *Univ. of California, San Francisco, USA***
Decoding the Regulatory Regions of a Genome: II Modelling Gene Expression Dataand III
Comparative Genome Study

15:30 - 16:00 --- Coffee break ---

16:00 - 17:00 **A.J. Libchaber / *The Rockefeller Univ., New York, USA***
Molecular Evolution, III

POSTER SESSION

12 October 2001

09:00 - 12:30 **POSTER SESSION**

12:30 - 14:30 --- Lunch break ---

Closing Session (Room:Main Building Lecture Room C)

12 October 2001

14:30 - 15:30

Final Comments by the College Directors and Local Organizer
Distribution of Diplomas for Participants