

**NCBS-NIG Workshop On Single Molecule Biophysics
January 4-15, 2004**

Programme Ver 4-Feb 10/2004

4 th January

9:00 am - 9:55 am Registration and Orientation

9:55 am - 10:05 am **G.V. Shivashankar and N. Shimamoto**

[General thought on this meeting](#) and the acknowledgments to
[Japan Society for the Promotion of Science \(JSPS\)](#) and
[Division of Science and Technology, India \(DST\)](#)

10:05 am - 11:00 am **Nobuo Shimamoto**, National Institute of Genetics, Japan

Protein sliding along DNA: Its existence, biological
significance and physical implications for the relationship
between microscopic and macroscopic sciences.'

11:00 am -11:30 am Tea/Coffee

11:30 am - 12:30 pm **Steve Quake**, California Institute of technology, USA **added in Ver4**

DNA sequence and topology: single molecule studies

12:30 pm -1:30 pm **Oscar Nassif de Mesquita**, Universidade Federal de Minas Gerais,
Brazil

Single molecule and single cell biophysics studied
with optical tweezers and defocusing microscopy ([Q and A on 12th](#))

1:30 pm - 2:30 pm Lunch

2:30 pm - 3:30 pm **Masaki Sano**, University of Tokyo, Japan

Single Molecule Observation of the Reentrant Collapsing Transition of DNA

3:30 pm - 4:30 pm **Giovanni Zocchi**, University of California, USA

DNA and single molecule devices

4:30 pm - 5:00 pm Tea/Coffee

5:00 pm - 6:00 pm **Erez Braun**, Technion-Israel Institute of Technology, Israel

Self-assembly of a DNA-templated field effect transistor

by Sequence-specific molecular lithography

6:00 pm - 7:00 pm **Michel Calame**, University of Basel, Switzerland

Single Molecule manipulation and electrical characterization

using nanoscale devices

7:00 pm - 8:30 pm Dinner

5th January

9:00 am - 10:00 am **Akihiro Kusumi**, Nagoya University, Japan

Hop diffusion of membrane molecules in the cell membrane is
universally found in various cell types: Single-molecule observations

10:00 am - 11:00 am **Ken Ritchie**, Nagoya University, Japan **added in Ver2**

Analysis and Interpretation of Single Molecule Video Microscopy

11:00 am - 11:30 am Tea/Coffee

11:30 am - 12:30 pm **Takahiro Fujiwara**, Nagoya University, Japan **added in Ver2**

Regulation mechanism for the assembly of adaptor protein AP2 molecules
in clathrin-coated pits as studied by single fluorophore video microscopy

12:30 pm - 1:30 pm **Satyajit Mayor**, National Centre for Biological sciences, India

More than single molecules: Understanding the size and composition of
GPI-anchored protein containing membrane rafts

1:30pm - 2:30 pm Lunch

2:30 pm - 3:30 pm **G.V. Shivashankar**, National Centre for Biological Sciences, India

Dynamic force spectroscopy of membrane tubulation

3:30 pm - 4:30 pm **Benoit Dubertret**, Ecole Supérieure de Physique et Chimie

Industrielles,

France

Quantum dot: a fluorescent probe for single molecule detection

4:30 pm - 5:00 pm Tea/Coffee

Symposium

7:30pm - 9:00 pm Dinner

9 th January

1:15 pm - 2:15 pm Lunch

2:30 pm - 3:30 pm **Manju Bansal**, Institute of Bioinformatics and Applied
Biotechnology, India

3:30 pm - 4:30 pm **Joel Stavans**, The Weizmann Institute of Science, Israel
Pulling a nanostring with a nanomotor: The RuvAB-DNA interaction

4:30 pm - 5:00 pm Tea/Coffee

5:00 pm - 6:00 pm **Dipankar Chatterji**, Indian Institute of Science, India

End grafting of a single molecule of DNA and its immobilization, digestion

6:00 pm - 7:00 pm **Oleg Krichevsky**, Ben-Gurion University, Israel

The dynamics of DNA fluctuations

7:00 pm - 8:30 pm Dinner

10th January

9:00 am -10:00 am [David Bensimon](#), Ecole Normale Superieure, France

DNA/protein interactions at the single molecule level

10:00 am-11:00 am [Mario Feingold](#), Ben-Gurion University, Israel

Single molecule studies of DNA relaxation using optical tweezers

11:00 am - 11:30 am Tea/Coffee

11:30 am-12:30 pm [Yitzak Rabin](#), Bar-Ilan University, Israel

Modeling of biofilaments: elasticity and fluctuations combined

12:30 pm - 1:30 pm [Madan Rao](#), Raman Research Institute, India Title Awaited

Single and collective dynamics of active membranes subject to fission-fusion

1:30 pm - 2:30 pm Lunch

2:30 pm - 3:30 pm [Suriram Ramaswamy](#), Indian Institute of science, India

The mechanics of living matter: Order, fluctuations and flow in active-particle systems

3:30 pm - 4:30 pm [Gautam I. Menon](#), The Institute of Mathematical Sciences, India

added in Ver3

Self-organized Pattern Formation in Motor-Microtubule Mixtures

4:30 pm - 5:00 pm Tea/Coffee

5:00 pm - 6:00 pm [Sudipta Maiti](#), Tata Institute of Fundamental Research, India **added in**

Ver3

6:00 pm - 7:00 pm **Biman Bagchi**, Indian Institute of Science, India

7:00 pm - 8:30 pm Dinner

11th January (Free Day)

Excursion to Belur (Channekeshava Temple, ref [1,2,3,4,5,6](#)), Halebid

(Hoysaleshwara Temple ref [3,4,5,6](#)) and Shravanbelgola (ref [7,8](#))

12th January

Session of questions/ansers

9:00 am - 11:00 am D. Bensimon, Ecole Normale Superieure, France

11:00 am-11:30 am Tea/Coffee

11:30 am-12:30 am O. Krichevsky, Ben-Gurion University, Israel

12:30 pm - 2:30 pm Lunch

2:30 pm - 4:30 pm [O. Mesquita](#), Universidade Federal de Minas Gerais, Brazil

4:30 pm - 5:00 pm Tea/Coffee

5:00 pm - 6:00 pm. M. Feingold, Ben-Gurion University, Israel

7:00 pm - 8:30 pm Dinner

13 th January

Session of questions/ansers

11:00 am - 11:30 am Tea/Coffee

12:30 pm - 2:30 pm Lunch

7:00 pm - 8:30 pm Dinner

14 th January

NCBS research and facilities

9:00 am - 11:00 am

11:00 am - 11:30 am Tea/Coffee

NCBS Research Activities

11:30 am - 12:30 pm **K. VijayRaghavan**, National Centre for Biological Sciences, India

12:30 pm - 2:30 pm Lunch

2:30 pm - 6:30 pm **Visit to Labs**

7:00 pm - 8:30 pm Dinner

15 th January

Session of questions/ansers

9:00 am - 11:00 am [T. Roopa](#), [Gautam V. Soni](#),

11:00 am - 11:30 am Tea/Coffee

Session specially arranged on request

11:30 am-12:30 pm [Doo-Soo Chung](#), Seoul National University, Korea

Optical tweezers for molecules: Optical force chromatography

12:30 pm - 2:30 pm Lunch

4:30 pm - 5:00 pm Tea/Coffee

5:00pm - 6:00 pm Concluding Session

7:00 pm - 8:30 pm Dinner