

Mid Term Review Meeting of the BIOMACH project



“From Molecular Switches to Molecular Motors”

19 .- 23. September 2005

Centro Stefano Franscini, Monte Verita, Ascona, Switzerland

Program

MID TERM REVIEW MEETING OF THE BIOMACH PROJECT

Sunday, 18 september

19³⁰ – 21⁰⁰: Dinner
21⁰⁰ – 23⁰⁰: Steering committee meeting

Monday, 19 september

7³⁰ – 8³⁰: Breakfast
9⁰⁰ – 9³⁰: Mario Ruben
Welcome & General Presentation
9³⁰ – 9⁵⁰: EU representative
Introduction
9⁵⁰ - 10³⁰: Coffee break
10³⁰ – 11⁰⁰: Klaus Kern, MPI-FKF
WP 1 – Nano-Handling
11⁰⁰ – 11³⁰: Johannes Barth, IPN-EPFL
WP 2 – Self-Assembly
11³⁰ – 12⁰⁰: Jean-Pierre Sauvage, ULP
WP 3 – Electro-Engines
12⁰⁰ – 14⁰⁰: Lunch

- 14⁰⁰ – 14³⁰ : Alberto Credi, CIAM
WP 4 – Photochemical Devices
- 14³⁰ – 15⁰⁰ : Sander Tans, AMOLF
WP 5 – Nanopore Machines
- 15⁰⁰ – 15³⁰ : Giovanni Capello, ICG-GC
WP 6 – Biomolecular Motors on Nanostructures
- 15³⁰ – 16⁰⁰: Coffee break
- 16⁰⁰ – 17³⁰: **General Discussion**
- 17³⁰ – 18⁰⁰: **Concluding Remarks** (Mario Ruben / EU representative)
- 19³⁰ – 21⁰⁰: Dinner
- 20⁰⁰ – 23⁰⁰ : **Welcome Apero for Conference Attendees and BioMach Poster Session**

CONFERENCE

“FROM MOLECULAR SWITCHES TO MOLECULAR MOTORS”

Tuesday, 20 september

- 7³⁰ – 8³⁰: Breakfast
- 12³⁰ – 14⁰⁰: Lunch
- Afternoon Session, chaired by S. Tans
- 14⁴⁵ – 15⁰⁰: C. Lafranchi / J.V. Barth
Welcome / Introductory Remarks
- 15⁰⁰ – 15⁵⁰: M. Schliwa, *LMU München*
Molecular Mechanics of the Molecular Motor Kinesin
- 15⁵⁰ – 16⁴⁰: K. Kinoshita, *Okazaki Institute of Integrative Biosciences*
Mechanism of Chemo-Mechanical Coupling in Biological Molecular Motors
- 16⁴⁰ – 17¹⁰: Coffee break
- 17¹⁰ – 18⁰⁰: J.-F. Allemand, *CNRS-ENS Paris*
Magnetic Tweezer Study of a Fast DNA Translocase : FtsK

- 18⁰⁰ – 18³⁰: G. Cappello, *ICG-GC Paris*
How the Cell Converts Energy - Fast Conformational Change of the Neurospora Kinesin Observed by Traveling Wave Microscopy?
- 18³⁰ – 19⁰⁰: M. Couthino, *EPF Lausanne*
How does SecA Translate ATP Binding Energy into Work? New Insights from Molecular Dynamics Simulations
- 19³⁰ – 21⁰⁰: Dinner
- 21⁰⁰ – 23⁰⁰: ***Poster Session***

Wednesday, 21 september

7³⁰ – 8³⁰: Breakfast

Morning Session, chaired by J. Rabe

- 8⁴⁰ – 9³⁰: H. Hörber, *Wayne State Univ. Medical School, Detroit*
Molecular Mechanics and Molecular Motors
- 9³⁰ – 10²⁰: C. Dekker, *TU Delft*
Nanostructures for Biology, from Molecules to Motors
- 10²⁰ – 10⁵⁰: Coffee break
- 10⁵⁰ – 11⁴⁰: E. Meyer, *Univ. Basel*
Force Microscopy Experiments with Single Molecules
- 11⁴⁰ – 12³⁰: H. Li, *UBC Vancouver*
Protein Folding and Unfolding at the Single Molecule Level
- 12³⁰ – 14⁰⁰: Lunch
- 14⁰⁰ – 16⁰⁰: Guided visit of Monte Verità (Signora Rogantini)

Afternoon Session, chaired by B. Feringa

- 17⁰⁰ – 17⁵⁰: D. Gust, *Arizona State Univ.*
Molecular Switches and Logic Gates Based on Photosynthesis
- 17⁵⁰ – 18²⁰: L. González, *FU Berlin*
Laser-Driven Quantum Molecular Rotors

- 18²⁰ – 18⁵⁰: I. Thanopoulos, *UBC Vancouver*
Optical Molecular Switch: Automatic Repair of Mutations in Di-Nucleotides
- 18⁵⁰ – 19²⁰: M. Boggio-Pasqua, *Imperial College London*
The Role of the Intersection Seam in Photoswitchable Molecules
- 19³⁰ – 21⁰⁰: Dinner

Thursday, 22 september

7³⁰ – 8³⁰: Breakfast

Morning Session, chaired by A. Credi

- 8⁴⁰ – 9³⁰ : B. L. Feringa, *Univ. Groningen*
Light-Driven Molecular Motors
- 9³⁰ – 10⁰⁰ : Jaroslav Vacek, *Acad. of Science, Prague*
Design of a Fast Artificial Light-Absorption Driven Molecular Rotor
- 10⁰⁰ – 10³⁰ : Coffee break
- 10³⁰ – 11²⁰: J.F. Stoddart, *UCLA Los Angeles*
Nano Meccano
- 11²⁰ – 12¹⁰: D. Leigh, *Univ. Edinburgh*
Tooling up for Nanoworld: The Magic of Molecular Machines
- 12³⁰ – 14⁰⁰: Lunch
- 14⁰⁰ – 17⁰⁰: Free Discussion & Contemplation

Afternoon Session, chaired by H. Li

- 17⁰⁰ – 17⁵⁰: J. Rabe, *Humboldt Univ. Berlin*
A Workbench for Single Macromolecules
- 17⁵⁰ – 18²⁰: N. Lin, *MPI-FKF Stuttgart*
Manipulating Single Molecules at Nanocavities
- 18²⁰ – 18⁵⁰: A. P. Seitsonen, *Université Pierre et Marie Curie, Paris*

- Modeling Supramolecular Self-Assembly on Noble Metal Surfaces by Density Functional Theory Calculations***
18⁵⁰ – 19²⁰: Th. Greber, *U Zürich*
Conformation Related Changes of Molecular Ionicity: C₆₀ on h-BN/Ni(111)
- 19³⁰ – 21⁰⁰: Dinner
- 21⁰⁰ – 23⁰⁰: ***Poster Session***

Friday, 23 september

7³⁰ – 8³⁰: Breakfast

Morning Session, chaired by H. Hörber

- 8⁴⁰ – 9³⁰: F.C. Simmel, *LMU München*
DNA-based Molecular Devices
- 9³⁰ – 10⁰⁰: Ch. Wälti, *U Leeds*
AC Electrokinetic Manipulation of Surface Tethered DNA
- 10⁰⁰ – 10³⁰: Coffee break
- 10³⁰ – 11⁰⁰: P. Jonkheijm, *TU Eindhoven*
New Insights into the Self-Assembly Process of Chiral Conjugated Objects
- 11⁰⁰ – 11³⁰: F. Biscarini, *CNR Bologna*
Supramolecular Self-Organisation of Rotaxane Thin Films upon an External Stimulus
- 11³⁰ – 12²⁰: J.-P. Sauvage, *ULP Strasbourg*
Catenanes and Rotaxanes as Prototypes of Molecular Machines and Motors
- 12²⁰ – 12³⁰: M. Ruben & J.V. Barth
Concluding Remarks
- 12³⁰ – 14⁰⁰: Lunch and Departure