
Scientific Program

SATURDAY, AUGUST 27TH 2005

15.30-16.30 Opening Ceremony

Room : Berlioz

16.30-17.20 OPENING LECTURE

Kurt Wüthrich, ETH, Zürich, Switzerland

NMR in structural biology and structural genomics

Room : Berlioz

Chairman : D. Moras

17.40-18.10 EBSA Prize

György Panyi, Debrecen, Hungary

Regulation of Kv1.3 activity in human T lymphocytes: peptide blockers and molecular interactions

Room : Berlioz

Chairman : B. Soria

18.10-19.10 News & Notable

Room : Berlioz

19.30 Welcome Party

SUNDAY, AUGUST 28TH 2005**9.00-9.40 PLENARY LECTURE****Jim Barber, Imperial College London, U.K.**

The water splitting enzyme of photosynthesis: structure and implications

*Room : Berlioz**Chairman : G. Colombetti***1. PROTON PUMPING SYSTEMS***Room : Einstein**Chairs : P. Brzezinski and L. Dutton***10.00-10.30 Peter Brzezinski, Stockholm, Sweden**

The mechanism of proton pumping by cytochrome c oxidase

10.30-11.00 Carola Hunte, Frankfurt, GermanyStructure-function relationship in the cytochrome bc_1 complex**11.00-11.30 P. Leslie Dutton, Philadelphia, U.S.A.**Engineering electron-proton short-circuit prevention in cytochrome bc_1 **11.40-12.00 Audrius Jasaitis, Palaiseau, France**

The temperature dependence of the ultrafast electron transfer in cytochrome c oxidase

12.00-12.20 Noriyo Mitome, Yokohama, Japan

Essential Arg of a subunit in FoF1-ATP synthase plays a key role in c-ring rotation

12.20-12.40 Laurent Counillon, Nice, FranceAllosteric regulation of the Na^+/H^+ exchanger NHE-1 by cell membrane shape and composition**12.40-13.10 Daniel Picot, Paris, France**The cytochrome b_6f complex and a perplexing haem**2. FUNCTIONAL CELL IMAGING***Room : Pasteur**Chairs : D. Choquet and L. Mátjus***10.00-10.30 Stefan W. Hell, Goettingen, Germany**

Fluorescence nanoscopy

10.30-11.00 Thomas Schmidt, Leiden, Netherlands

Membrane inhomogeneities in cellular signaling

11.00-11.30 Daniel Choquet, Bordeaux, France

Single molecule imaging of glutamate receptor trafficking in and out synapses in neurons

11.40-12.00 Sophie Cribier, Paris, France

Secretory vesicle motions studied by total internal reflection fluorescence microscopy

- 12.00-12.20 Ralf Steinmeyer**, Würzburg, Germany
Combined FRET and anisotropy measurements synchronized with patch clamping
- 12.20-12.40 Valeria R. Caiolfa**, Milano, Italy
Ligand-induced monomer/dimer dynamics of the urokinase receptor in live cells by 2P-FLIM/FCS
- 12.40-13.00 Makio Tokunaga**, Shizuoka, Japan
Single molecule imaging of nuclear transport in living cells and quantification of interactions
- 13.00-13.20 György Vereb**, Debrecen, Hungary
Fluorescence cross-correlation microscopy shows cytoskeleton-independent co-mobility of MHC I and II

3. MODELLING COMPLEX SYSTEMS

Room : Berlioz

Chairs : J. Garnier and I. Pecht

- 10.00-10.30 Tamas Vicsek**, Budapest, Hungary
Modelling collective behaviour
- 10.30-11.00 Stanislas Leibler**, New York, U.S.A.
Fluctuations, noise and survival: an outsider's view on bacterial life
- 11.00-11.30 Robert B. Russell**, Heidelberg, Germany
Identifying structural details for protein-protein interactions
- 11.40-12.00 Imre Derenyi**, Budapest, Hungary
Uncovering the overlapping community structure of complex networks in nature and society
- 12.00-12.20 Mitsumasa Yoda**, Nagoya, Japan
Stochastic dynamics of coupled repressilators
- 12.20-12.50 Peter Fromherz**, Martinsried-Munich, Germany
Semiconductor chips with ion channels, nerve cells and brain tissue
- 12.50-13.20 Denis Noble**, Oxford, U.K.
Biophysical modelling of the heart

4. PROTEIN REACTIVITY AND DYNAMICS

Room : Berlioz

Chairs : D. Lavalette and F. Parak

- 15.00-15.30 Masayoshi Nakasako**, Yokohama, Japan
Hydration structure changes around proteins at work
- 15.30-16.00 Catherine Tetreau**, Orsay, France
Dominant features of protein internal dynamics

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- 16.00-16.30 Gerd U. Nienhaus**, Ulm, Germany
Structural dynamics controls ligand binding in neuroglobin
- 16.40-17.00 Sasun G. Gevorkian**, Yerevan, Armenia
How elastic are biopolymers? Mechanical properties of proteins
- 17.00-17.20 Guruswamy Krishnamoorthy**, Mumbai, India
Fluorescence dynamics map reveals the pathway of protein amyloid fibril formation and structure
- 17.20-17.40 Elena Papaleo**, Milan, Italy
Molecular dynamics simulations to study enzyme cold-adaptation: a family-centred point of view
- 17.40-18.10 David Leys**, Leicester, U.K.
Narrowing the gap, a role for protein dynamics in biological quantum tunnelling

5. FROM DNA TO CHROMATIN

Room : Einstein

Chairs : T. Garestier and W. Olson

- 15.00-15.30 Peter Galajda**, Princeton, U.S.A.
Single molecule DNA studies in microfluidic devices
- 15.30-16.00 Georgy A. Nevinsky**, Novosibirsk, Russian Federation
Structural, thermodynamic, and kinetic basis of DNA- and RNA-dependent enzymes functioning
- 16.00-16.30 Johnathan Widom**, Evanston, U.S.A.
Chromosome structure and gene regulation
- 16.40-17.00 Katalin Tóth**, Heidelberg, Germany, Germany
Chromatin compaction at the mono- and trinucleosomal level
- 17.00-17.20 Gaudeline Wagner**, Paris, France
Chromatin dynamics and structure studied at the single molecule level
- 17.20-17.40 Damien Baigl**, Paris, France
Compaction of single-chain DNA by histone-inspired nanoparticles
- 17.40-18.10 Nadrian C. Seeman**, New York, U.S.A.
DNA: not merely the secret of life

6. CHANNELS AND RECEPTORS

Room : Pasteur

Chairs : A. Marty and J. Bockaert

- 15.00-15.30 Joel Bockaert**, Montpellier, France
G-protein coupled receptors and their associated proteins
- 15.30-16.00 Enrico Stefani**, Los Angeles, U.S.A.
Kv channel remodeling in heart during late pregnancy

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- 16.00-16.30 Declan A. Doyle**, Oxford, U.K.
Gating mechanism of KirBac3.1 based on the crystal structure of two gating intermediate forms
- 16.40-17.00 Rikard Blunck**, Los Angeles, U.S.A.
Fluorescence lifetime spectroscopy of KcsA reveals the existence of two gates in the permeation pore
- 17.00-17.20 Cristiane del Corso**, Bronx, U.S.A.
Modulation of G_j of Connexin36 (Cx36) Channels expressed in N2A cells: the role of CaM Kinase II.
- 17.20-17.40 Andrew Hung**, Oxford, U.K.
An atomistic simulation study of the nicotinic acetylcholine receptor transmembrane domain
- 17.40-18.00 Andrew P. Braun**, Calgary, Canada
Ca-activated potassium channels drive agonist-stimulated NO synthesis in human endothelial cells
- 18.00-18.20 Nataly V. Fedirko**, Lviv, Ukraine
Store-operated Ca²⁺ entry is regulated by mitochondria in acinar cells of rat submandibular salivary

18.20 POSTER SESSION

18.20 IUPAB GENERAL ASSEMBLY
Room : Einstein

MONDAY, AUGUST 29TH 2005**9.00-9.40 PLENARY LECTURE****Petra Schwillé, TU Dresden, Germany**

Single molecule spectroscopy in situ: towards understanding the cell on a molecular level

*Room : Berlioz**Chairman : C. Royer***7. REDOX ENZYME MECHANISMS***Room : Pasteur**Chairs : F. Armstrong and J. Fontecilla***10.00-10.30 Fraser Armstrong, Oxford, U.K.**How hydrogenases respond to inhibitors, including CO, O₂, NO, and other small ligands**10.30-11.00 Mårten Wikström, Helsinki, Finland**Gating of proton and water transfer in cytochrome *c* oxidase**11.00-11.30 Juan Fontecilla-Camps, Grenoble, France**

Structural differences between the ready and unready oxidized states of [NiFe]-hydrogenases

11.40-12.00 Marcel G. Friedrich, Mainz, Germany

Investigation into the kinetics of the direct electron transfer to a multi-centered membrane protein

12.00-12.20 Fraser MacMillan, Frankfurt am Main, GermanyRadicals in the *paracoccus denitrificans* cytochrome *c* oxidase**12.20-12.40 Christophe Léger, Marseille, France**

Fragile design of the electron transfer chain in NiFe hydrogenase

12.40-13.00 K. Kristoffer Andersson, Oslo, Norway

A novel cluster and spectroscopic studies of the radical-iron site in mouse ribonucleotide reductase

13.00-13.20 Bruno J. Guigliarelli, Marseille, France

Mechanism of periplasmic nitrate reductase as viewed by EPR, electrochemistry and mutagenesis

8. SINGLE MOLECULE BIOPHYSICS*Room : Berlioz**Chairs : A. Diaspro and P. Bayley***10.00-10.30 Shimon Weiss, Los Angeles, U.S.A.**

In-vitro and in-vivo single molecule molecular rulers

10.30-11.00 Xiaowei Zhuang, Cambridge, U.S.A.

Single-molecule and single-particle imaging in solution and in live cells

- 11.00-11.30 Vincent Croquette**, Paris, France
Title not communicated
- 11.40-12.00 Maarten C. Noom**, Amsterdam, Netherlands
A dual DNA molecule experiment reveals details of H-NS mediated bridging of DNA
- 12.00-12.20 Philip Tinnefeld**, Bielefeld, Germany
Single molecule multistep FRET: revealing complex molecular interactions
- 12.20-12.40 Pal Ormos**, Szeged, Hungary
Light generated and light driven micromachines for single particle manipulation
- 12.40-13.00 Cedric I. Bouzigues**, Paris, France
Dynamics of single GABAAR in nerve growth cone : from molecular interactions to axonal guidance
- 13.00-13.20 Yuji C. Sasaki**, Sayou-gun, Hyougo-ken, Japan
Dynamical high-accuracy observations of individual membrane protein molecules using X-rays

9. SENSING WITH ION CHANNELS

Room : Einstein

Chairs : M. Ladzunski and B. Nilius

- 10.00-10.30 Bernd Nilius**, Leuven, Belgium
TRP channels as unique cellular sensors
- 10.30-11.00 Boris Martinac**, Brisbane, Australia
Molecular mechanism of mechanosensory transduction in bacteria
- 11.00-11.30 Eric Honoré**, Valbonne, France
Sensing pressure with K_{2P} channels
- 11.40-12.00 Ingo Koeper**, Mainz, Germany
Functional tethered membranes: a sensing platform for ion channels
- 12.00-12.20 Hua Zhang**, Shanghai, China
A novel μ -conotoxin potently blocks TTX-R sodium channels in rat dorsal root ganglion neurons
- 12.20-12.40 Peter J. Judge**, Oxford, U.K.
Modulation of the channel activity of Vpu from HIV-1
- 12.40-13.10 Frederick Sachs**, Buffalo, U.S.A.
Mechanopharmacology of ion channels: biophysics and disease

10. MUSCLE BIOPHYSICS

Room : Einstein

Chairs : M. Ferenczi and F. Travers

- 15.00-15.30** **Andrey K. Tsaturyan**, Moscow, Russian Federation
The 'roll and lock' mechanism of force generation in muscle and its blocking by Pi analogues
- 15.30-16.00** **Rasmus R. Schroeder**, Frankfurt am Main, Germany
The possible role of myosin's transducer domain in force production and as strain sensor
- 16.00-16.30** **Miklos Nyitrai**, Pecs, Hungary
The rate-limiting step for skeletal muscle contraction is temperature dependent
- 16.40-17.00** **Tim R. Dafforn**, Birmingham, U.K.
Linear dichroism, applied to structural analysis of protein fibres, membrane proteins and DNA
- 17.00-17.20** **Eva Forgacs**, Norfolk, Virginia, U.S.A.
Mechanism of myosin-V processivity.
- 17.20-17.40** **Enrique P. Jaimovich**, Santiago, Chile
Depolarization-induced slow calcium transients stimulate transcription of genes in skeletal muscle cells.
- 17.40-18.10** **Vincenzo Lombardi**, Sesto Fiorentino, Firenze, Italy
The distribution and conformation of myosin heads in shortening muscle studied with x-ray interference.

11. MEMBRANE MICRODOMAINS

Room : Berlioz

Chairs : E. Dufourc and N.-M. Zhao

- 15.00-15.30** **Gerrit van Meer**, Utrecht, Netherlands
Dynamic organization and function of cell lipids
- 15.30-16.00** **Ole G. Mouritsen**, Odense, Denmark
Physical characterization of membrane microdomains
- 16.00-16.30** **Barbara A. Baird**, Ithaca, U.S.A.
Lipid segregation and plasma membrane interactions related to IgE-receptor signaling
- 16.40-17.00** **Marie-Pierre Rols**, Toulouse, France
Can lipid domains control membrane permeabilization and DNA uptake in cells submitted to electric field?
- 17.00-17.20** **Sven O. Hagge**, Borstel, Germany
Do domains form in asymmetric membranes? A fluorescence and atomic force microscopic study
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- 17.20-17.50 Satyajit Mayor**, Bangalore, India
Nanoscale clusters of GPI-anchored proteins in living cell membranes: implications for the existence of rafts
- 17.50-18.20 Akihiro Kusumi**, Kyoto, Japan
Digital signal transduction? Investigations by single-molecule observations

12. MORPHOGENESIS: FROM CELL ADHESION TO ORGANS

Room : Pasteur

Chairs : E. Perez and F. Separovic

- 15.00-15.30 Gabor Forgacs**, Columbia, U.S.A.
Morphogenesis in vitro: engineering three-dimensional living biological structures
- 15.30-16.00 Sasa Svetina**, Ljubljana, Slovenia
Morphogenetic processes may have their origin in the shape behavior of vesicular objects
- 16.00-16.30 Dennis E. Discher**, Philadelphia, U.S.A.
Stem cell biophysics
- 16.40-17.00 Paul F. Luckham**, London, U.K.
Measuring the adhesion and mechanical properties of individual cells using atomic force microscopy
- 17.00-17.20 Philippe Girard**, Heidelberg, Germany
Mimicking cadherin-mediated cell-cell adhesion
- 17.20-17.40 Benoit Ladoux**, Paris, France
Force mapping in epithelial cell migration
- 17.40-18.00 Kheya Sengupta**, Jülich, Germany
Neutrophil spreading: from touchdown to first steps
- 18.00-18.20 Angelines Martínez-Vargas**, Bristol, U.K.
The use of impedance spectroscopy to monitor barrier integrity and cellular differentiation

18.20 POSTER SESSION

18.20 EBSA GENERAL ASSEMBLY
Room : Einstein

18.20 EXHIBITORS SYMPOSIUM*Room : Louisville*

- 18.20-18.50 Rachel J. Owen**, JPK Instruments AG, Berlin, Germany
Combining advanced force and optical microscopy techniques for biophysics research
- 18.50-19.20 Daniel Gau**, TF Instruments, Heidelberg, Germany
Characterization of protein hydration: a new approach to crystallization and folding problems

TUESDAY, AUGUST 30TH 2005**9.00-9.40 PLENARY LECTURE****Pierre Gilles de Gennes, Institut Curie, Paris, France**

On the nature of memory objects in the brain: a tentative view

*Room : Berlioz**Chairman : J.-M. Lhoste*

13. FUNCTIONAL COMPLEXES

*Room : Einstein**Chairs : T. North and T. Wilkinson***10.00-10.30 Jose L. Carrascosa, Madrid, Spain**

The DNA packaging machinery of complex ds DNA viruses

10.30-11.00 Dmitri I. Svergun, Hamburg, Germany

Structural studies of functional complexes in solution by X-ray and neutron small-angle scattering

11.00-11.30 Carlos Fontes, Lisboa, Portugal

Dual mode of binding in type I cohesin-dockerin complexes

11.40-12.00 Guido Capitani, Zürich, Switzerland

The nDsbD-SS-CcmG complex from E.coli: structural basis for DsbD-dependent cytochrome c maturation

12.00-12.20 Raik Grünberg, Paris, France

Protein flexibility and entropy on the edge of binding

12.20-12.40 Chun-Jung Chen, Hsinchu, Taiwan

Citrate-dependent and heparan sulfate-mediated cell surface retention of cobra cardiotoxin A3

12.40-13.00 Marisela Vélez, Madrid, SpainVisualization of single *Escherichia coli* FtsZ filament dynamics with atomic force microscopy**13.00-13.30 Patrick Schultz, Illkirch, France**

Structure of the transcription apparatus by electron microscopy

14. MODELLING MOLECULES

*Room : Pasteur**Chairs : M. Nilges and R. Russel***10.00-10.30 Eric Westhof, Strasbourg, France**

The reverse folding of RNA

10.30-11.00 François Major, Montréal, Canada

Modelling RNA three-dimensional structure by combining short nucleotide interaction cycles

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- 11.00-11.30 Helmut Grubmüller**, Goettingen, Germany
Mechanically induced titin kinase activation studied by force probe molecular dynamics simulations
- 11.40-12.00 Lorenzo Bongini**, Sesto Fiorentino, Firenze, Italy
Large scale dynamics of immunoglobulin G
- 12.00-12.20 Andrey V. Kajava**, Montpellier, France
Parallel superpleated beta-structure as a fold for amyloid fibrils
- 12.20-12.40 Humberto Saint-Martin**, Cuernavaca, Mexico
Understanding ion selectivity through simulations with successively complex molecular models
- 12.40-13.00 Fernanda L. Sirota**, Bruxelles, Belgium
Insights into the GB1 fold domain swapping mechanism by molecular dynamics simulations.
- 13.00-13.20 Andrej Vilfan**, Ljubljana, Slovenia
Elastic lever-arm model for myosin V

15. BIOPHYSICS AND DISEASE

Room : Berlioz

Chairs : J.-E. Ponce-Hormos and B. Soria

- 10.00-10.30 Debora Foguel**, Rio de Janeiro, Brazil
The dark side of protein folding: high pressure studies with amyloidogenic proteins
- 10.30-11.00 Zihe Rao**, Beijing, China
Crystal structures of SARS coronavirus proteins
- 11.00-11.20 Christian Carl**, Heidelberg, Germany
Kir2.1 potassium channel measurements with a 4Pi-microscope: Imaging, Deconvolution, Quantification
- 11.40-12.00 Marc-Antoine Sani**, Umeå, Sweden
Interaction between model membranes and the anti apoptotic domain BH4
- 12.00-12.20 Erika S. Piedras-Renteria**, Maywood, U.S.A.
Ion channels and disease: cellular and biophysical properties of P/Q-type calcium channels in SCA6
- 12.20-12.40 Sílvia C. D. N. Lopes**, Lisboa, Portugal
Lipidic membranes are potential "catalysts" in ligand activity of the pentapeptide neokytorphin
- 12.40-13.00 Françoise S. Marga**, Columbia, U.S.A.
Interplay of molecular and biophysical mechanisms in tumor invasion
- 13.00-13.20 Tej P. Singh**, New Delhi, India
Clinical proteomics : characterization and structural studies of new proteins from human body fluids and tissues

16. J.-M. LHOSTE'S SYMPOSIUM

Room : Einstein

- 15.00-15.10** Introduction
- 15.10-15.30** **Christian Roumestand**, Montpellier, France
Combining NMR and SAXS data for the resolution of the 3D structure of the complex Akt : TCL1
- 15.30-15.50** **Anthony Watts**, Oxford, U.K.
Membrane drug receptors: resolving bound ligand structures at high resolution
- 15.50-16.10** **Mihaela Lupu**, Orsay, France
Quadropolar ions spin-spin relaxation used for the cellular apoptosis survey
- 16.20-16.40** **Ian Smith**, Winnipeg, Canada
Use of ^1H NMR of bile to distinguish benign from malignant biliary strictures
- 16.40-17.00** **Patrick J. Cozzone**, Marseille, France
Magnetic resonance spectroscopy and spectroscopic imaging of the human brain: clinical applications to tumors and stroke
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WEDNESDAY, AUGUST 31ST 2005**9.00-9.40 PLENARY LECTURE****Felix A. Rey, Institut Pasteur, Paris, France**

Structural insights on the molecular mechanism of membrane fusion catalysed by viral envelope glycoproteins

*Room : Berlioz**Chairman : L. Letellier***17. MOLECULAR CROWDING***Room : Einstein**Chairs : G. Rivas and A. Tardieu*

- 10.00-10.30 Allen P. Minton, Bethesda, U.S.A.**
Effects of macromolecular crowding on protein associations and stability: predictions and observations
- 10.30-11.00 Tetsuya Yomo, Osaka, Japan**
Protein folding by the effects of macromolecular crowding
- 11.00-11.30 Thomas Heimburg, Copenhagen, Denmark**
Molecular crowding on membrane surfaces: Adsorption and insertion of proteins.
- 11.40-12.00 Adriana A. Isvoran, Timisoara, Romania**
Monte Carlo simulation of enzymatic reactions in 2D and 3D crowded media
- 12.00-12.20 Jennifer A. Durant, Durham, U.S.A.**
MCE and CE results for chemical modifications vs mutational in determining valence
- 12.20-12.40 Marion F. Jasnin, Grenoble, France**
Neutron scattering study of nucleic acids dynamics in cellula
- 12.40-13.10 German Rivas, Madrid, Spain**
Effect of macromolecular crowding on the associations and assembly of the bacterial cell division FtsZ protein

18. PROTEIN FOLDING*Room : Berlioz**Chairs : B. Robert and C. Royer*

- 10.00-10.30 Gilad Haran, Rehovot, Israel**
Single-molecule protein folding
- 10.30-11.00 Doug Barrick, Baltimore, U.S.A.**
The use of repeat-proteins to experimentally determine protein folding energy landscapes
- 11.00-11.30 Vinod Bhakuni, Lucknow, India**
Streptococcus pyogenes bacteriophage hyaluronate lyase: its unusual structural characteristics

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- 11.40-12.00 Patricia L. Clark**, Notre Dame, U.S.A.
Folding of parallel beta-sheet proteins associated with bacterial pathogenesis
- 12.00-12.20 Simona Golic Grdadolnik**, Ljubljana, Slovenia
Unraveling the physical origin of the structure of fully denatured ubiquitin
- 12.20-12.40 Hannes Neuweiler**, Bielefeld, Germany
Direct observation of mini-protein folding using fluorescence correlation spectroscopy
- 12.40-13.00 Jihua Wang**, Dezhou, China
Study on multiple unfolding trajectories of GB1 by molecular dynamics simulations under the physical property space
- 13.00-13.30 Angel E. Garcia**, Troy, U.S.A.
Theoretical studies of pressure effects on folding/unfolding of proteins

19. REGULATION OF MEMBRANE TRANSPORT

Room : Pasteur

Chairs : P. Devaux and E. Pebey-Peroula

- 10.00-10.30 So Iwata**, London, U.K.
Structure and mechanism of the lactose permease of *Escherichia coli*
- 10.30-11.00 Amitabha Chattopadhyay**, Hyderabad, India
Role of tryptophan residues in the functional conformation of an ion channel
- 11.00-11.30 Eva Pebay-Peyroula**, Grenoble, France
ADP/ATP transport in mitochondria: crystal structure of the bovine mitochondrial carrier
- 11.40-12.00 Jelena Jetic**, Rennes, France
EPR studies of the flip-flop phenomenon in unsymmetrical bolaamphiphile medium-sized vesicles
- 12.00-12.20 Jean-Marie Ruyschaert**, Bruxelles, Belgium
Orientational and conformational changes in transmembrane domains of membrane proteins
- 12.20-12.40 Martin Picard**, Gif-sur-Yvette, France
Interaction of various types of amphipols with the Ca²⁺-ATPase from sarcoplasmic reticulum
- 12.40-13.00 Anthony D. Ivetac**, Oxford, U.K.
Molecular dynamics studies of a bacterial ATP-binding cassette transporter
- 13.00-13.20 Elena E. Pohl**, Berlin, Germany
Electrophysiological characterization of mitochondrial uncoupling protein 2
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20. LIGHT DRIVEN SYSTEMS

*Room : Berlioz**Chairs : M. Lutz and W. Rutherford*

- 15.00-15.30** **Francesco Lenzi**, Pisa, Italy
Photoreceptors and photosignalling processes in microorganisms
- 15.30-16.00** **Wenrui Chang**, Beijing, China
Crystal structures of major light-harvesting complex (LHC-II) from Spinach and Cucumber
- 16.00-16.30** **Klaus Brettel**, Gif-sur-Yvette, France
Electron transfer and proton dynamics in DNA photolyase: hopping along the FAD-Trp-Trp-Trp chain
- 16.40-17.00** **Marius Schmidt**, Garching, Germany
Structures of intermediates, functional relaxations and kinetics from time-resolved X-ray data
- 17.00-17.20** **Géza I. Groma**, Szeged, Hungary
Sudden polarisation and coherent vibration in bacteriorhodopsin
- 17.20-17.40** **Dominique Bourgeois**, Grenoble, France
Protochlorophyllide oxidoreductase takes an abnormal reaction pathway below the glass transition

21. IMAGING ORGANISMS

*Room : Pasteur**Chairs : P. Cozzone and I. Smith*

- 15.00-15.30** **Christoph M. Segebarth**, Grenoble, France
fMRI illustrated - The delineation of low order visual areas in the healthy subject
- 15.30-16.00** **Charles Lin**, Boston, U.S.A.
Immunofluorescence microscopy and flow cytometry in live animals
- 16.00-16.20** **Janosch Lichtenberger**, Martinried, Germany
Cell-silicon synapse: vesicle exocytosis monitored by field-effect transistors
- 16.40-17.00** **Kuniaki Nagayama**, Okazaki, Japan
In vivo subcellular structures recognized with phase contrast transmission electron microscopy
- 17.00-17.20** **Herve Rigneault**, Marseille, France
Refractive effects in Coherent Anti-stokes Raman Scattering (CARS) microscopy
- 17.20-17.40** **N. R. Jagannathan**, New Delhi, India
Evaluation of tumor response of breast cancer patients by diffusion weighted MRI

22. TEACHING BIOPHYSICS

Room : Einstein

Chairs : G. Govil and H. Ritterjans

- 15.00-15.30** **Richard D. Ludescher**, New Brunswick, U.S.A.
The case for case studies in biophysics education
- 15.30-16.00** **Raul Grigera**, La Plata, Argentina
The challenges of biophysics education
- 16.00-16.30** **Alain Bienvenue**, Montpellier, France
e-learning biophysics to biochemists
- 16.40-17.10** **Kasuyuki Akasaka**, Wakayama, Japan
Education and capacity building in biophysics for developing countries
- 17.10-17.40** Round Table

17.40 POSTER SESSION

17.40 SFB PRIZE & GENERAL ASSEMBLY

Room : Pasteur

Aurélien Bancaud, Institut Curie, Paris, France

Torsional manipulation of single chromatin fibers reveals a highly flexible structure

17.40 PRESIDENTS OF BIOPHYSICAL SOCIETIES MEETING

Room : Einstein

19.30 Bus departure to Congress Dinner

THURSDAY, SEPTEMBER 1ST 2005**23. DRUG DESIGN AND DELIVERY***Room : Berlioz**Chairs : T. Blundell and A. Watts*

- 9.00-9.30 Tom L. Blundell**, Cambridge, U.K.
High-throughput structural biology and drug discovery: opportunities and challenges
- 9.30-10.00 Alain Croisy**, Orsay, France
Cell imaging by secondary ion mass spectrometry(SIMS) : basic principles and biological applications
- 10.00-10.30 Steven R. Laplante**, Laval, Canada
Dynamics- and structure-based drug design targeted at the hepatitis C virus
- 10.40-11.00 Po-Huang Liang**, Taipei, Taiwan
Understanding the maturation process and inhibitor design of SARS-CoV 3CLpro
- 11.00-11.20 Silvia D. V. Alonso**, Buenos Aires, Argentina
Interplay between polymerized liposomes physicochemical properties and composition and cytotoxicity
- 11.20-11.40 Johan R. van der Maarel**, Singapore, Singapore
Encapsulation of clone vector DNA by cationic diblock copolymer vesicles for gene delivery
- 11.40-12.00 Edelmiro Moman**, Dublin, Ireland
Docking-molecular dynamics studies on the peroxidase site of prostaglandin endoperoxide H2 synthase

24. ROTORS AND MOTORS*Room : Einstein**Chairs : V. Croquette and W. Junge*

- 9.00-9.30 Keiichi Namba**, Osaka, Japan
Mechanisms of Self-assembly and switching of the bacterial flagellum
- 9.30-10.00 Toshio Yanagida**, Suita, Osaka, Japan
Dynamic polymorphism of actin subunits in the filament
- 10.00-10.30 Marie-France Carlier**, Gif-sur-Yvette, France
Control of actin assembly in cell motility
- 10.40-11.00 Teuta Pilizota**, Oxford, U.K.
Optical trap with fast programmable feedback loop to study rotary molecular motors
- 11.00-11.20 Cecile A. Leduc**, Paris, France
Cooperative extraction of membrane nanotubes by molecular motors

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- 11.20-11.40 Sander Verbrugge**, Amsterdam, Netherlands
Single kinesin motor proteins walking through the searchlight
- 11.40-12.10 Paul R. Selvin**, Urbana, U.S.A.
Fluorescence Imaging with One Nanometer Accuracy (FIONA): Application to molecular motors
25. THE RNA WORLD
Room : Pasteur
Chairs : S. Harvey and E. Westhof
- 9.00-9.30 Jamie H. D. Cate**, Berkeley, U.S.A.
X-ray Crystal Structures of the E. coli 70S ribosome at 3.5 Å resolution
- 9.30-10.00 Marina V. Rodnina**, Witten, Germany
Substrate selection and catalysis by the ribosome
- 10.00-10.30 Jennifer A. Doudna**, Berkeley, U.S.A.
Hijacking the ribosome: translation initiation by a hepatitis C viral RNA
- 10.40-11.00 Ravindra P. Tiwari**, Pune, India
Modified nucleosides and across the anticodon loop interactions in tRNA
- 11.00-11.20 Wayne K. Dawson**, Chiba, Japan
Modeling the long range entropy of RNA: predicting pseudoknots in long RNA sequences
- 11.20-11.40 Ioulia F. Rouzina**, Minneapolis, U.S.A.
HIV-1 NC-facilitated TAR RNA/DNA annealing is initiated through a loop-loop kissing interaction
- 11.40-12.10 David M. Lilley**, Dundee, U.K.
The catalytic mechanism of the hairpin ribozyme
- 12.20-13.00 PLENARY LECTURE**
Wolfgang Baumeister, Max-Planck-Institute of Biochemistry, Martinsried, Germany
Mapping molecular landscapes inside cells by cryoelectron tomography
Room : Berlioz
Chairman : G. Zaccai
- 13.00-13.30 Poster Prize Awards and Closing Ceremony**
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OTHER EVENTS

- Saturday 9.00** IUPAB Executive Committee Meeting
Room : VIP Einstein
- 11.00** IUPAB Council Meeting
Room : VIP Einstein
- Sunday Lunch time** Travel Fellowships Reception
Room : To be determined on site
- Monday 14.00** EBSA Executive Council Meeting
Room : VIP Einstein
- Thursday 14.00** EBJ Editorial Board Meeting
Room : VIP Einstein
- Wednesday 14.00** EBSA Executive Council Meeting
Room : VIP Einstein
- 17.30** IUPAB Council Meeting
Room : VIP Einstein
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Posters

Poster viewing will be permanent from Sunday to Wednesday.

Poster Sessions : Posters will be arranged according to topic. Authors should be present for poster presentation and discussion according to the following schedule :

Sunday : 18.00 – 20.00 Odd-numbered posters : 18.00 – 19.00
Even-numbered posters : 19.00 – 20.00

Monday : 18.00 – 20.00 Odd-numbered posters : 18.00 – 19.00
Even-numbered posters : 19.00 – 20.00

Wednesday : 17.30 – 19.30 Odd-numbered posters : 17.30 – 18.30
Even-numbered posters : 18.30 – 19.30

Poster Prizes 24 Poster Prizes (50€ each) will be awarded, one for each topic, by the Chairs of the corresponding Symposium. The award ceremony is scheduled on Thursday, Sept. 1st, at 13.00.

Awards Lecture

EBSA Prize

Saturday, 17.40

Room: Berlioz

György Panyi

Department of Biophysics and Cell Biology, Debrecen, Hungary

Regulation of Kv1.3 activity in human T lymphocytes: peptide blockers and molecular interactions

SFB Prize

Wednesday, 17.40

Room: Pasteur

Aurélien Bancaud,

Institut Curie, Paris, France

Torsional manipulation of single chromatin fibers reveals a highly flexible structure

Abstract: P-200