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Scientific Programme

TUESDAY, AUGUST 23rd 2011 ELTE University Congress Center
Pázmány Péter sétány 1/a, H-1117 Budapest
http://www.ucc.hu/

14.00–19.00 **REGISTRATION**

17.00–17.30 **OPENING CEREMONY**—*Globe Hall*

17.30–18.30 **OPENING LECTURE**—*Globe Hall* **Ada Yonath,** *Department of Structural Biology, Weizmann Institute, Rehovot, Israel* **(O-001)**
View into the ribosomal exit tunnel
Chair: Anthony Watts, Oxford, UK

18.30–19.45 **Welcome Reception**

WEDNESDAY, AUGUST 24th 2011 ELTE University Congress Center
Pázmány Péter sétány 1/a, H-1117 Budapest
http://www.ucc.hu/

9.00–10.00 **EBSA PRIZE LECTURE**—*Globe Hall*
Kinneret Keren, *Technion, Israel Institute of Technology, Haifa, Israel* **(O-002)**
The interplay between actin dynamics and membrane tension determines the shape of moving cells
Chair: Michael A. Ferenczi, London, UK

10.00–10.30 ***Coffee break***

PARALLEL SESSIONS

10.30–12.45 **1. BIOMOLECULAR INTERACTIONS**—*Globe Hall*
Chairs: Catherine Royer, Péter Maróti

Invited speakers:

10.30–11.00 **Sarah Cianferani**, *Strasbourg, France* **(O-025)**
Native mass spectrometry to decipher interactions between biomolecules

11.00–11.30 **Jelle Hendrix**, *Leuven, Belgium* **(O-046)**
Visualizing and quantifying HIV-host interactions with fluorescence microscopy

Short talks:

11.30–11.45 **Stephan Grage,** *Kahlsruhe, Germany* **(O-043)**
Crowding of membrane proteins and peptides

11.45–12.00 **Pietro Parisse**, *Trieste, Italy* **(O-073)**
Enzymatic reactions in nanostructured surfaces: unzipping and cutting the double helix

12.00–12.15 **Masahide Terazima,** *Kyoto, Japan* **(O-096)**
Time-resolved detection of protein–protein interaction

12.15–12.30 **Anna Wypijewska**, *Warsaw, Poland* **(O-107)**
Experimental physics resources for studying biological macromolecules; deep insight into DcpS enzymatic hydrolysis of short capped mRNAs

12.30–12.45 **László Smeller,** *Budapest, Hungary* **(O-090)**
Unfolding of the cod parvalbumin Gad m1 allergen by high pressure

10.30–12.45 2. NEURONAL SYSTEMS AND OPTOGENETICS—*Conference Hall*
Chairs: Nir Grossman, Zoltán Nusser

Invited speakers:

10.30–11.00 **Thomas Knöpfel**, *Wako, Japan* **(O-111)**
Optogenetic electrophysiology

11.00–11.30 **Máté Lengyel**, *Cambridge, UK* **(O-118)**
Neuronal biophysics: optimised for information processing?

11.30–12.00 **Zoltán Nusser,** *Budapest, Hungary* **(O-120)**
Subcellular compartment-specific distribution of voltage-gated ion channels

Short talks:

12.00–12.15 **Emily Ferenczi,** *Stanford, USA* **(O-114)**
Opsin stability under varying stimulation conditions

12.15–12.30 **Martin Kopani,** *Bratislava, Slovakia* **(O-117)**
Hematite particles in human brain

12.30–12.45 **Joanna Mattis,** *Stanford, USA* **(O-119)**
An analysis of new and existing opsins for scientific application

10.30–12.45 3. CALCIUM FLUXES, SPARKS & WAVES—*János Bólyai Hall*
Chairs: Ernst Niggli, László Csernoch

Invited speakers:

10.30–11.00 **Niall Macquaide,** *Leuven, Belgium* **(O-126)**
High sensitivity of Ca^{2+} wave propagation to ryanodine receptor inhibition in cardiac myocytes

11.00–11.30 **Francesco Zorzato,** *Ferrara, Italy* **(O-131)**
Calcium influx analysis by TIRF microscopy on myotubes from patients with RYR1 mutations linked to MH and CCD

11.30–12.00 **Ernst Niggli,** *Bern, Switzerland* **(O-127)**
Alterations of ryanodine receptor (RyR) function and arrhythmogenic Ca^{2+} waves in cardiomyocytes

12.00–12.30 **László Csernoch,** *Debrecen, Hungary* **(O-130)**
Caffeine and depolarization alters the morphology of calcium spark in amphibian skeletal muscle

Short talks:

12.30–12.45 **Dirk Gillespie,** *Chicago, USA* **(O-125)**
A simple model to describe single and multichannel calcium regulation of ryanodine receptors

12.45–15.00 POSTER SESSION & EXHIBITS *with Lunch Break*

15.00–16.00 PLENARY LECTURE—*Globe Hall*
Holger Stark, *Max-Planck-Institut für biophysikalische Chemie, Göttingen, Germany* **(O-003)**
Structure determination of dynamic macromolecular complexes by single particle cryo-EM
Chair: Erick J. Dufourc, Bordeaux, France

16.00–16.30 Tea break

PARALLEL SESSIONS

16.30–18.45 4. MEMBRANE LIPIDS, MICRODOMAINS & SIGNALLING—*Globe Hall*
Chairs: Petra Schwille, János Matkó

Invited speakers:

16.30–17.00 **Didier Marguet,** *Marseille, France* **(O-188)**
Spot variable Fluorescence Correlation Spectroscopy reveals fast scouting of K-Ras at the plasma membrane of living cells

17.00–17.30 **Christian Eggeling,** *Göttingen, Germany* **(O-142)**
Imaging membrane heterogeneities and domains by super-resolution STED nanoscopy

17.30–18.00 **Petra Schwille,** *Dresden, Germany* **(O-182)**
Minimal systems for membrane associated cellular processes

Short talks:

18.00–18.15 **Nicolas Destainville,** *Toulouse, France* **(O-139)**
Role of long-range effective protein–protein forces in the formation and stability of membrane protein nano-domains

18.15–18.30 **Erick Dufourc,** *Bordeaux, France* **(O-141)**
Magnetic camemberts and liposomes: New tools for structural biology of membrane molecules

18.30–18.45 **Nicky Ehrlich,** *Copenhagen, Denmark* **(O-143)**
Ca^{2+} controlled all-or-none like recruitment of synaptotagmin-1 C2AB to membranes

16.30–18.45 **5. AGGREGATED PROTEINS**—*Conference Hall*
Chairs: Michele Vendruscolo, Miklós Kellermayer

Invited speakers:

16.30–17.00 **Tuomas Knowles**, *Cambridge, UK* **(O-200)**
Kinetics of protein aggregation

17.00–17.30 **Sara Linse,** *Lund, Sweden* **(O-205)**
Mechanistic insights into Aβ42 aggregation and effects of inhibitors

Short talks:

17.30–17.45 **Martino Calamai,** *Florence, Italy* **(O-192)**
Amyloid-like aggregates alter the membrane mobility of GM1 gangliosides

17.45–18.00 **Sylvie Noinville,** *Paris, France* **(O-208)**
Membrane permeabilization by purified soluble beta-enriched oligomers of prion protein

18.00–18.15 **Anja Stefanovic,** *Twente, The Netherlands* **(O-213)**
Mechanistic insights into oligomeric alpha-synuclein/membrane interactions

18.15–18.30 **Annelies Vandersteen,** *Brussels, Belgium* **(O-218)**
Biophysical consideration of gamma-secretase modulation as potential target for Alzheimer's disease

18.30–18.45 **Bojan Zagrovic,** *Vienna, Austria* **(O-219)**
Microscopic analysis of protein oxidative damage: effect of carbonylation on structure, dynamics and aggregability of villin headpiece

16.30–18.45 **6. NUCLEIC ACID AND CHROMATIN STRUCTURE & FUNCTION**—*János Bólyai Hall*
Chairs: Sanford H. Leuba, Jörg Langowski

Invited speakers:

16.30–17.00 **Antoine van Oijen**, *Groningen, Netherlands* **(O-238)**
Single-molecule studies of DNA replication

17.00–17.30 **Jean-Marc Victor**, *Paris, France* **(O-239)**
In silico single molecule manipulation with rigid body dynamics: an efficient tool for modeling the mechanical properties of DNA–protein complexes

Short talks:

17.30–17.45 **Vera Böhm, *Heidelberg, Germany* (O-225)**
Nucleosome accessibility investigated using single molecule fluorescence

17.45–18.00 **Péter Brazda,** *Debrecen, Hungary* **(O-226)**
Dissecting the role of coregulator exchange and chromatin binding in retinoic acid receptor (RAR) mobility by live cell FCS

18.00–18.15 **Nikolay Korolev,** *Singapore, Republic of Singapore* **(O-230)**
Chromatin condensation: general polyelectrolyte association and histone-tail specific folding

18.15–18.30 **Carlo Manzo,** *Castelldefels (Barcelona), Spain* **(O-232)**
Lambda genetic switch sensitivity depends on complex looping kinetics driven by nonspecific binding

18.30–18.45 **Jeff Stear,** *Berlin, Germany* **(O-236)**
DNA replication machinery clamps down on chromatin mobility

THURSDAY, AUGUST 25th 2011 ELTE University Congress Center
Pázmány Péter sétány 1/a, H-1117 Budapest
http://www.ucc.hu/

9.00–10.00 PLENARY LECTURE—*Globe Hall*
Tamás Balla, *Section on Molecular Signal Transduction, Program for Developmental Neuroscience, NICHD, National Institutes of Health, Bethesda, USA* **(O-004)**
Detection and rapid manipulation of phosphoinositides with engineered molecular tools
Chair: László Mátyus, Debrecen, Hungary

10.00–10.30 Coffee break

PARALLEL SESSIONS

10.30–12.45 7. COMPUTATIONAL BIOPHYSICS AND SIMULATION—*Globe Hall*
Chairs: Helmut Grubmüller, István Simon

Invited speakers:

10.30–11.00 **Andrea Vaiana**, *Göttingen, Germany* **(O-310)**
Molecular dynamics simulations of ribosomal translocation based on Cryo-EM data

11.00–11.30 **Nir Ben-Tal**, *Tel Aviv, Israel* **(O-247)**
Using low-resolution structural data to model structure, function and motion in transmembrane proteins

Short talks:

11.30–11.45 **Lennart Nilsson,** *Stockholm, Sweden* **(O-286)**
Nucleotide modifications and tRNA anticodon- mRNA codon interactions on the ribosome

11.45–12.00 **Stefano Piana-Agostinetti,** *New York, USA* **(O-293)**
The quest for the perfect force field

12.00–12.15 **Tatjana Skrbic,** *Trento, Italy* **(O-302)**
The role of non-native interactions in knotted proteins

12.15–12.30 **András Szilágyi,** *Budapest, Hungary* **(O-308)**
Segment swapping between domains is an evolutionary mechanism that generates new protein folds

12.30–12.45 **Ilpo Vattulainen,** *Tampere, Finland* **(O-313)**
Trafficking of lipids between high density lipoprotein and cholesteryl ester transfer protein

10.30–12.45 **8. IMAGING AND OPTICAL MICROSCOPY**—*Conference Hall*
Chairs: Vinod Subramaniam, János Szöllősi

Invited speakers:

10.30–11.00 **Alberto Diaspro**, *Genoa, Italy* **(O-329)**
Optical nanoscopy and individual molecule localization with focused light under linear and non linear regimes

11.00–11.30 **Werner Kühlbrandt**, *Frankfurt, Germany* **(O-341)**
Cryo-EM of membranes and membrane proteins

Short talks:

11.30–11.45 **Donna J. Arndt-Jovin,** *Göttingen, Germany* **(O-321)**
Programmable Array Microscope imaging of living cells and spin-off to tumor diagnostics

11.45–12.00 **Virginijus Barzda,** *Toronto, Canada* **(O-322)**
Three-dimensional video-rate nonlinear microscopy of contracting myocytes

12.00–12.15 **Benjamien Moeyaert,** *Leuven, Belgium* **(O-343)**
Rational design and applications of photoconvertible and bi-photochromic fluorescent proteins

12.15–12.30 **Vinod Subramaniam,** *Twente, The Netherlands* **(O-349)**
Integrin-dependent activation of the jnk signaling pathway in live cells by mechanical stress

12.30–12.45 **Thomas van Zanten,** *Barcelona, Spain* **(O-350)**
Direct mapping of nanoscale compositional connectivity on intact cell membranes

10.30–12.45 **9. MOLECULAR MOTORS**—*János Bólyai Hall*
Chairs: M. A. Ferenczi, M. Nyitrai

Invited speakers:

10.30–11.00 **Toshio Yanagida**, *Osaka, Japan* **(O-369)**
Switch between large hand-over-hand and small inchworm-like steps in myosin VI

11.00–11.30 **Anne Houdusse**, *Paris, France* **(O-360)**
How myosin traps and how actin triggers the release of phosphate at the beginning of force generation

Short talks:

11.30–11.45 **Marco Capitanio**, *Florence, Italy* **(O-354)**
Myosin on an optical leash: Load dependence of the working stroke in a single myosin head

11.45–12.00 **Ryohei Chiwata,** *Tokyo, Japan* **(O-356)**
Rotation of F1-ATPase with a protrusion-less gamma rotor

12.00–12.15 **Michael Kolbe,** *Göttingen, Germany* **(O-361)**
Assembly and Function of the Type 3 Secretion System Needle from Salmonella typhimurium

12.15–12.30 **Anna Roujeinikova**, *Victoria, Australia* **(O-366)**
Mechanism of the force generation in the bacterial flagellar motor: a structural biology perspective

12.30–12.45 **Andrej Vilfan,** *Ljubljana, Slovenia* **(O-368)**
Longitudinal and rotational motion of microtubules driven by the kinesin-14 motor ncd

12.45–13.45 POSTER SESSION & EXHIBITS *with Lunch Break*

13.45–14.45 PLENARY LECTURE—*Globe Hall*
Ferenc Mezei, *Research Institute for Solid State Physics and Optics, Budapest, Hungary* **(O-005)**
Spectroscopic explorations of the nature of protein dynamics
Chair: J. Antoinette Killian, Utrecht, The Netherlands

PARALLEL SESSIONS

14.45–17.00 10. STRUCTURE OF PROTEINS AND PROTEIN COMPLEXES—*Globe Hall*
Chairs: Jose Carrascosa, Péter Závodszky

Invited speakers:

14.45–15.15 **Malcolm Walkinshaw**, *Edinburgh, UK* **(O-408)**
Structural and biochemical studies show divergent allosteric mechanisms in glycoytic enzymes

15.15–15.45 **Susan Lea**, *Oxford, UK* **(O-393)**
Structural insights into the control of type three secretion

Short talks:

15.45–16.00 **Tuomo Glumoff,** *Oulu, Finland* **(O-382)**
Structure–function relationships in different MFE-2 proteins by various biophysical techniques

16.00–16.15 **Tommi Kajander,** *Helsinki, Finland* **(O-389)**
The structure of factor H in complex with C3d explains regulation of immune complement alternative pathway

16.15–16.30 **Mikel Valle,** *Derio, Spain* **(O-406)**
Three-dimensional structure of ClpB, a chaperone that rescues aggregated proteins

16.30–16.45 **Anthony Wilkinson,** *York, UK* **(O-410)**
Structure of an Intercellular Channel Formed during Sporulation in Bacillus subtilis

16.45–17.00 **Johann Klare,** *Osnabrück, Germany* **(O-392)**
Conformational changes during GTPase activity induced self-assembly of human guanylate binding protein 1 revealed by EPR spectroscopy

14.45–17.00 11. LIVE CELL IMAGING—*Conference Hall*
Chairs: Alberto Diaspro, György Vereb

Invited speakers:

14.45–15.15 **Tom Jovin**, *Göttingen, Germany* **(O-425)**
FRET approaches to signal transduction: from QD biosensors to live-cell EGFR signaling

15.15–15.45 **Ranieri Bizzarri**, *Pisa, Italy* **(O-416)**
Engineering the excited state of fluorophores for high resolution imaging of bio- and soft-matter

Short talks:

15.45–16.00 **Ana Morales Garcia,** *Sheffield, UK* **(O-430)**
SFM study of bacterial cell walls

16.00–16.15 **Marina Kuimova,** *London, UK* **(O-427)**
Measuring intracellular viscosity: from molecular rotors to Photodynamic Therapy of cancer

16.15–16.30 **Andrew Shevchuk,** *London, UK* **(O-434)**
Multifunctional ion conductance microscopy for biophysical studies at nanoscale

16.30–16.45 **Markus Staufenbiel,** *Osnabrück, Germany* **(O-437)**
Triple-colour super-resolution imaging in living cells

16.45–17.00 **Stephen Webb,** *Harwell, UK* **(O-438)**
Simultaneous, multicolour single molecule imaging of the entire ErbB receptor family in live cells

14.45–17.00 12. TRENDS IN NEUTRON SCATTERING FOR BIOLOGY—*János Bólyai Hall*
Chairs: Thomas Hauss, László Rosta

Invited speakers:

14.45–15.15 **Hans Frauenfelder**, *Los Alamos, USA* **(O-444)**
Protein dynamics explored by Mössbauer effect and neutron scattering

15.15–15.45 **Maikel Rheinstädter**, *Hamilton, Canada* **(O-449)**
Nanobiology: Membranes and proteins in motion

Short talks:

15.45–16.00 **Ralf Biehl,** *Jülich, Germany* **(O-440)**
Function of Phosphoglycerate Kinase enabled by large domain movements

16.00–16.15 **Alexandre Chenal,** *Paris, France* **(O-441)**
Deciphering membrane insertion of the diphtheria toxin translocation domain

16.15–16.30 **Christine Ebel,** *Grenoble, France* **(O-442)**
Fluorinated surfactants (FSs) for studying membrane proteins (MPs)

16.30–16.45 **Stéphane Longeville**, *Gif-sur-Yvette Cedex, France* **(O-447)**
Influence of macromolecular crowding on protein stability

16.45–17.00 **Andreas Stadler,** *Jülich, Germany* **(O-451)**
Thermal Fluctuations of Hemoglobin from Different Species

17.00–23.00 SOCIAL DINNER

FRIDAY, AUGUST 26th 2011 ELTE University Congress Center
Pázmány Péter sétány 1/a, H-1117 Budapest
http://www.ucc.hu/

9.00–10.00 PLENARY LECTURE—*Globe Hall*
Ernst Bamberg, *Department of Biophysical Chemistry, Max-Planck-Institute of Biophysics, Frankfurt* **(O-006)**
Microbial Rhodopsins: Light-gated ion channels and pumps as optogenetic tools in neuro- and cell biology
Chair: Alberto Diaspro, Genoa, Italy

10.00–10.30 ***Coffee break***

PARALLEL SESSIONS

10.30–12.45 **13. CYTOSKELETON AND CELL MIGRATION**—*Globe Hall*
Chairs: Jürgen Bereiter-Hahn, Judit Ovádi

Invited speakers:

10.30–11.00 **Christoph Schmidt**, *Göttingen, Germany* **(O-472)**
Control of the fast, slow and reverse gear of the yeast mitotic kinesin-5 Cin8

11.00–11.30 **Josef Alfons Käs**, *Leipzig, Germany* **(O-463)**
Are biomechanical changes necessary for tumor progression?

11.30–12.00 **Paul Janmey**, *Philadelphia, USA* **(O-459)**
Driving cytoskeletal remodeling by extracellular matrix mechanics

Short talks:

12.00–12.15 **Beáta Bugyi,** *Pécs, Hungary* **(O-481)**
Tropomyosin isoform specific regulation of nucleation factors

12.15-12.30 **Siddharth Deshpande,** *Basel, Switzerland* **(O-453)**
Dynamics of Confined Actin Networks in Microchambers

12.30-12.45 **Pierre Recouvreux,** *Amsterdam, The Netherlands* **(O-470)**
Automated image analysis of microtubule dynamics and maintenance of fission yeast cells morphology

10.30–12.45 **14. ION CHANNELS: STRUCTURE AND FUNCTION**—*Conference Hall*
Chairs: Florian Lesage, György Panyi

Invited speakers:

10.30–11.00 **Bernard Attali,** *Tel Aviv, Israel* **(O-483)**
Targeting the promiscuous voltage sensor of voltage-gated cations channels by novel gating-modifiers

11.00–11.30 **Declan Doyle,** *Dublin, Ireland* **(O-486)**
Over-expression of human ion channels and transporters for structural studies

Short talks:

11.30–11.45 **Aura Jimenez**, *Mexico City, Mexico* **(O-491)**
Effect of cholesterol and cytoskeleton on KV10.1 membrane distribution

11.45–12.00 **Péter Lukács,** *Vienna, Austria* **(O-495)**
Differential modulation of inactivated states by hydrophilic and hydrophobic sodium channel blockers

12.00–12.15 **Lubica Lacinova,** *Bratislava, Slovakia* **(O-494)**
Gating currents of low-voltage-activated T-type calcium channels family

12.15–12.30 **Tibor Szántó G.,** *Debrecen, Hungary* **(O-502)**
Molecular rearrangements during slow inactivation of the Shaker-IR potassium channel

12.30–12.45 **Ligia Toro,** *Los Angeles, USA* **(O-506)**
Molecular characterization of BK_{Ca} channel in cardiac mitochondria

10.30–12.45 15. PHOTOSYNTHESIS—*János Bólyai Hall*
Chairs: Alfred R. Holzwarth, Győző Garab

Invited speakers:
10.30–11.00 **Alfred R. Holzwarth**, *Mülheim, Germany* **(O-520)**
Chlorophyll-chlorophyll charge transfer quenching is the main mechanism of non-photochemical quenching in higher plants

11.00–11.30 **Holger Dau**, *Berlin, Germany* **(O-515)**
Photosynthetic water oxidation: From biophysics to solar fuels

11.30–12.00 **Rienk van Grondelle**, *Amsterdam, Netherlands* **(O-534)**
Excitation energy transfer and non-photochemical quenching in photosynthesis

Short talks:
12.00–12.15 **László Kálmán,** *Montreal, Canada* **(O-523)**
Effect of hydrophobic mismatch on the light-induced structural changes in bacterial reaction centers

12.15–12.30 **Péter Maróti,** *Szeged, Hungary* **(O-527)**
Relaxation of bacteriochlorophyll fluorescence in intact cells of photosynthetic bacteria

12.30–12.45 **Gert Schansker,** *Szeged, Hungary* **(O-530)**
Variable chlorophyll fluorescence: in part a yield change due to light-induced conformational change

12.45–14.45 POSTER SESSION & EXHIBITS *with Lunch Break*

13.00–14.15 EXECUTIVE COMMITTEE BURSARY RECEPTION

14.45–16.00 EBSA GENERAL ASSEMBLY

16.00–17.00 PLENARY LECTURE—*Globe Hall*
Philippe Bastiaens, *Max Planck Institute of Molecular Physiology, Department of Systemic Cell Biology, Dortmund, Germany* **(O-007)**
The spatial organization of growth factor signaling systems in cells
Chair: Manuel Prieto, Lisbon, Portugal

17.00–17.30 Tea break

PARALLEL SESSIONS

17.30–19.45 16. ELECTRON AND PROTON TRANSFER, BIOENERGETICS—*Globe Hall*
Chairs: Michael Verkhovsky, László Zimányi

Invited speakers:

17.30–18.00 **Janos K. Lanyi**, *Irvine, USA* **(O-545)**
Proton transfers in a light-driven proton pump

18.00–18.30 **Jochen Blumberger**, *London, UK* **(O-537)**
Computational Bioenergetics: From pure electron transfer in mono- and multi-heme cytochromes to chemistry in catalases

Short talks:

18.30–18.45 **Dimitri Khoshtariya,** *Tbilisi, Georgia* **(O-544)**
Mechanistic insights for redox-active proteins functionalized at Au/SAM junctions

18.45–19.00 **Manuela Pereira,** *Lisbon, Portugal* **(O-548)**
Sodium influence on energy transduction by bacterial complexes I

19.00–19.15 **Andrei Pisliakov,** *Tokyo, Japan* **(O-549)**
Mechanism of proton transfer in nitric oxide reductase: computational study

19.15–19.30 **Ivo Saraiva,** *Oeiras, Portugal* **(O-552)**
Molecular characterization of photosynthetic iron oxidation

19.30–19.45 **László Zimányi,** *Szeged, Hungary* **(O-557)**
Characterization of a vacuolar cytochrome b561 by redox titration and spectrum analysis

17.30–19.45 17. ION CHANNELS AND DISEASE—*János Bólyai Hall*
Chairs: Mustafa Djamgoz, Balázs Sarkadi

Invited speakers:

17.30–18.00 **Kenji Okuse**, *London, UK* **(O-568)**
Clustering of voltage-gated sodium channel Nav1.8 in lipid rafts is essential for action potential propagation in nociceptive unmyelinated axons

18.00–18.30 **David Beech,** *Leeds, UK* **(O-562)**
Calcium channels of vascular remodelling

18.30–19.00 **Annarosa Arcangeli**, *Florence, Italy* **(O-558)**
hERG1 channels: from antitargets to novel therapeutic targets in oncology.

Short talks:

19.00–19.15 **András Balajthy,** *Debrecen, Hungary* **(O-559)**
Analysis of the K^+ current in human T cells in hypercholesterinaemic state

19.15–19.30 **Karlheinz Hilber,** *Vienna, Austria* **(O-565)**
Voltage-gated ion channel dysfunction precedes cardiomyopathy development ion the dystrophic heart

19.30–19.45 **Ildikó Szabó,** *Padua, Italy* **(O-572)**
Membrane-permeant inhibitors of the potassium channel Kv1.3 induce apoptosis in cancer cell lines

17.30–19.45 18. NEW AND NOTABLE—*Conference Hall*
Chairs: Anthony Watts, Gábor Szabó

Invited speakers:
17.30–18.00 **Mark Howarth,** *Oxford, UK* **(O-582)**
Get a grip: engineering ultra-stable interactions to proteins for biophysics and medicine

18.00–18.30 **Florian Lesage,** *Valbonne, France* **(O-580)**
Background K^+ channel gating and cell excitability

18.30–19.00 **Pál Ormos,** *Szeged, Hungary* **(O-590)**
Hydrodynamic synchronisation of light driven microscopic rotors

Short talks:
19.00–19.15 **Gábor Szabó,** *Szeged, Hungary* **(O-589)**
Towards attosecond biophysics: what can ELI-ALPS offer?

SATURDAY, AUGUST 27th 2011 ELTE University Congress Center
Pázmány Péter sétány 1/a, H-1117 Budapest
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9.00–10.00 PLENARY LECTURE—*Globe Hall*
Michael Grätzel, *Laboratory of Photonics and Interfaces, Institute of Chemical Science and Engineering, Station 6, Ecole Polytechnique Fédérale, Lausanne, Switzerland* **(O-008)**
Molecular photovoltaics mimic photosynthesis
Chair: Anthony J. Wilkinson, York, UK

10.00–10.30 Coffee break

PARALLEL SESSIONS

10.30–12.45 19. MEMBRANE STRUCTURE—*Globe Hall*
Chairs: Manuel Prieto, Tibor Páli

Invited speakers:
10.30–11.00 **Derek Marsh**, *Göttingen, Germany* **(O-624)**
Biophysics of membrane lipidomics

11.00–11.30 **Gerhard Schütz**, *Linz, Austria* **(O-591)**
Single molecule biology—Studying meetings within the plasma membrane

11.30–12.00 **Timothy A. Cross**, *Tallahassee, USA* **(O-592)**
The native M2 proton channel structure from Influenza A

Short talks:
12.00–12.15 **Gregor Anderluh,** *Ljubljana, Slovenia* **(O-596)**
Perforin induces invaginations in model membranes

12.15–12.30 **Georg Pabst,** *Graz, Austria* **(O-631)**
Stereo-specific effect of the analgesic drug ketamine on lipid membranes

12.30–12.45 **Horia Petrache,** *Indianapolis, USA* **(O-632)**
Dependence of gramicidin A channel lifetime on membrane structure obtained from x-ray scattering measurements

10.30–12.45 20. CONFORMATIONAL DYNAMICS, FOLDING AND IDP—*Conference Hall*
Chairs: Anthony Watts, Péter Tompa

Invited speakers:
10.30–11.00 **Peter Wright**, *La Jolla, USA* **(O-667)**
Promiscuous liaisons: functional interactions of intrinsically disordered proteins in biological signaling

11.00–11.30 **Mónika Fuxreiter**, *Budapest, Hungary* **(O-651)**
Fuzziness in protein-DNA interactions: beyond what can be seen

Short talks:
11.30–11.45 **Mónika Bokor,** *Budapest, Hungary* **(O-645)**
Wide-line NMR and relaxation characterization of interfacial water in protein solutions

11.45–12.00 **Karin Hauser**, *Konstanz, Germany* **(O-653)**
Folding rates studied by a combination of static and time-resolved infrared spectroscopy

12.00–12.15 **Julien Roche,** *Montpellier, France* **(O-659)**
Probing cavities in SNase structure: a high pressure NMR study

12.15–12.30 **Clemens Sill,** *Jülich, Germany* **(O-662)**
Lactoferrin: Dynamics of a flexible protein in solution revealed by neutron scattering

12.30–12.45 **Carine van Heijenoort,** *Gif-sur-Yvette, France* **(O-665)**
How scarce sequence elements control the function of single ß-thymosin/WH2 domains in actin assembly

10.30–12.45 21. SYSTEMIC AND COLLECTIVE BEHAVIOURAL ASPECTS IN BIOLOGY—*János Bólyai Hall*
Chairs: Carl Philipp Heisenberg, Tamás Vicsek

Invited speakers:
10.30–11.00 **Ewa Paluch**, *Dresden, Germany* **(O-676)**
Polar actin cortex mechanics and cell shape stability during cytokinesis

11.00–11.30 **Fernando Peruani**, *Dresden, Germany* **(O-677)**
Transition to collective motion in bacterial colonies

11.30–12.00 **Roberto Mayor**, *London, UK* **(O-673)**
Collective migration of neural crest cells: a balance between repulsion and attraction

Short talks:
12.00–12.15 **Előd Méhes,** *Budapest, Hungary* **(O-674)**
Pattern formation by collective cell migration-driven segregation

12.15–12.30 **Agnes Miermont,** *Paris, France* **(O-675)**
Signaling cascade dynamics after a hyper-osmotic shock in the yeast Saccharomyces cerevisiae

12.30–12.45 **András Czirók,** *Budapest, Hungary* **(O-668)**
Vasculogenesis and collective movement of endothelial cells

12.45–14.00 POSTER SESSION & EXHIBITS *with Lunch Break*

PARALLEL SESSIONS

14.00–16.15 22. SINGLE MOLECULE BIOPHYSICS—*Globe Hall*
Chairs: Christoph Schmidt, Imre Derényi

Invited speakers:
14.00–14.30 **Ahmet Yildiz**, *Berkeley, USA* **(O-714)**
Cytoplasmic dynein moves through uncoordinated action of the AAA+ ring domains

14.30–15.00 **Nynke Dekker**, *Delft, The Netherlands* **(O-686)**
Single-molecule torque spectroscopy for biophysical investigations

Short talks:
15.00–15.15 **Pasquale Bianco,** *Florence, Italy* **(O-680)**
Millisecond-piconewton force steps reveal the kinetics of DNA overstretching

15.15–15.30 **Nunilo Cremades,** *Cambridge, UK* **(O-685)**
Direct observation of the interconversion of normal and pathogenic forms of alpha-synuclein

15.30–15.45 **Rony Granek,** *Beersheba, Israel* **(O-688)**
Protein dynamics and stability: Universality vs. specificity

15.45–16.00 **Changjiang You,** *Osnabrück, Germany* **(O-715)**
Self-controlled monofunctionalization of quantum dots and their applications in studying protein–protein interaction in live cells

16.00–16.15 **Carolina Carrasco,** *Madrid, Spain* **(O-684)**
Magnetic Tweezers studies of AddAB: a molecular motor for repairing broken DNA

14.00–16.15 23. MICRO AND NANOTECHNOLOGY—*Conference Hall*
Chairs: Klaus Fendler, András Dér

Invited speakers:
14.00–14.30 **Klaus Fendler**, *Frankfurt, Germany* **(O-727)**
SSM-based electrophysiology: Transport mechanism and pH-regulation of the Na^+/H^+ antiporter NhaA from E. coli

14.30–15.00 **Francesco Valle**, *Bologna, Italy* **(O-752)**
Multiscale pattern fabrication for life-science applications

15.00–15.30 **Joachim Heberle**, *Berlin, Germany* **(O-730)**
Surface-Enhanced InfraRed Absorption Spectroscopy (SEIRAS) of membrane protein monolayers

Short talks:

15.30–15.45 **Péter Galajda,** *Szeged, Hungary* **(O-728)**
Swimming motility of bacteria near solid surfaces

15.45–16.00 **Daniel Horak,** *Praha, Czech Republic* **(O-732)**
Multifunctional magnetic nanoparticles for cell imaging

16.00–16.15 **Kate Poole,** *Berlin, Germany* **(O-745)**
Defining the forces required to gate mechanosensitive channels in mammalian sensory neurons

14.00–16.15 24. BIOENGINEERING & BIOTECHNOLOGY—*János Bólyai Hall*
Chairs: Gábor Forgács, Ferenc Vonderviszt

Invited speakers:

14.00–14.30 **Gábor Forgács**, *Columbia, USA* **(O-762)**
Organ printing: the key to eternal life?

14.30–15.00 **Loredana De Bartolo**, *Rende, Italy* **(O-758)**
Membrane biohybrid systems for tissue and organ engineering

Short talks:

15.00–15.15 **Olivia Berthoumieu,** *Oxford, UK* **(O-756)**
Engineered bacteriorhodopsin: a molecular scale conductance photoswitch

15.15–15.30 **Etienne Loiseau,** *Montpellier, France* **(O-769)**
Continuous droplet interface crossing encapsulation for high through-put monodisperse vesicle design

15.30–15.45 **Elisa Migliorini,** *Trieste, Italy* **(O-770)**
Acceleration neuronal precursors differentiation induced by substrate nanotopography

15.45–16.00 **Adél Muskotál,** *Veszprém, Hungary* **(O-771)**
A polymerizable GFP variant

16.00–16.15 **Anna Tugarova,** *Saratov, Russia* **(O-777)**
FTIR spectroscopic study of biopolyester synthesis traits in the bacterium Azospirillum brasilense

16.15–16.45 Tea break

16.45–17.45 CLOSING LECTURE—*Globe Hall*
Akihiro Kusumi, *Institute for Integrated Cell-Material Sciences (iCeMS), Institute for Frontier Medical Sciences, Kyoto University, Kyoto, Japan* **(O-009)**
Organizing principle of the plasma membrane: three-tiered meso-scale domain architecture revealed by single-molecule tracking
Chair: Attila Jenei, Debrecen, Hungary

17.45–18.15 POSTER PRIZE AWARDS AND CLOSING CEREMONY

18.15–19.00 FAREWELL COCKTAIL