LECTURES

Sunday, 27 June, Morning

PL-2 8:30 – 9:30 room [A]

Sir Hans Krebs lecture

Pharmacology of vascular endothelium

R. Gryglewski

introduced by: C. Rodrigues-Pousada,
Chairperson of FEBS

S1.2 10:30 – 12:30 room [D]

Control of gene expression: chromatin and epigenetics

Chair: A. Jerzmanowski and P. Widlak

10:30 – 11:00
Nucleosome higher-order structure
T. J. Richmond, B. Dorigo, T. Schalch

11:00 – 11:30
Chromatin dynamics in the yeast nucleus
M. Gartenberg, A. Taddei, F. Neumann, F. Hediger, T. Laroche, **S. Gasser**

11:30 – 12:00
Telomere Structure
D. Rhodes

12:00 – 12:30
Concerted changes in DNA and histone methylation comprise an epigenetic switch controlling nucleolar dominance
C. Pikaard, R. Lawrence, K. Earley, O. Pontes, M. Silva, N. Neves, W. Viegas

S2.1 10:30 – 13:00 room [F]

mRNA: biogenesis, localisation, translation

Chair: M. Konarska and E. Darzynkiewicz

10:30 – 11:00
Suppression of a broad spectrum of intron mutations by spliceosomal PRP8 alleles suggests functional similarity to ribosomal ambiguity mutants
M. Konarska, C. Query

11:00 – 11:30
Structural dynamics and function of the mammalian spliceosome
R. Lührmann

11:30 – 12:00
Characterization of protein complexes involved in pre-mRNA splicing and mRNA decay
B. Séraphin

12:00 – 12:30
Nonsense-mediated mRNA decay in mammalian cells: splicing, the pioneer round of translation, and mRNP remodeling
F. Lejeune, S-Y. Chiu, A. Ranganathan, Y. K. Kim, M. Kmieciak, Q. Gao, **L. E. Maquat**

12:30 – 13:00
Nuclear RNA turnover
J. LaCava, L. Milligan, C. Torchet, J. Houseley, **D. Tollervey**

S3.1 10:30 – 13:00 room [A]

Protein structure and function at the atomic level

Chair: W. Bode and M. Jaskólski

10:30 – 11:00
Crystal structures of cyanobacterial photosystems I and II
J. Biesiadka, B. Loll, J. Kern, K.-D. Irrgang, P. Jordan, N. Krauss, P. Fromme, H. T. Witt, **W. Saenger,** A. Zouni

11:00 – 11:30
Structural biology of cell invasion by HIV
W. A. Hendrickson

11:30 – 12:00
NMR as a tool to see proteins at work
M. Allan, F. Cordier, D. Haeussinger, P. Jensen, J. Kahmann, S. Krause, S. Meier, H. J. Sass, J. Stetefeld, M. Barfield, J. Engel, T. Kiefhaber, C. Thompson, **S. Grzesiek**

12:00 – 12:30
Virus structure at the atomic level
D. Stuart

12:30 – 13:00
Structural behaviour and atomic interactions in protein mechanisms
G. Dodson

S4.1 10:30 – 13:00 room [B]
Cell physiology and lipid signaling
Chair: S. Angielski, J. T. Brosnan and T. M. Malinski

10:30 – 11:00
Physiology and pathophysiology of L-arginine/NO pathway in the endothelium
T. M. Malinski

11:00 – 11:30
Cardiovascular risk factors and nitric oxide signaling in endothelial cells – possible areas for therapeutic intervention
L. Kalinowski

11:30 – 12:00
Physiology and pathophysiology of vascular signaling controlled by cGMP-dependent protein kinases
U. Walter, S. M. Lohmann

12:00 – 12:30
Transgenic mice with cardiomyocyte-specific overexpression of Gαq protein as a model for studying mechanisms of progression of heart failure
S. Chlopicki, L. Drelicharz, R. Olszanecki, T. Guzik, V. Kozlovski, M. Bushma, A. Wrzosek, D. Maciag, B. Filipek, T. Skorka, A. Jasinski, M. Walski, U. Mende

12:30 – 13:00
Homocysteine: from essential metabolite to toxic molecule to lipid metabolism
J. T. Brosnan, M. E. Brosnan

S4.4 10:30 – 13:00 room [C]
Intracellular ion channels
Cosponsored by SIGMA- ALDRICH
Chair: A. Szewczyk, F. Thevenod and W. Kunz

10:30 – 11:00
Role of intracellular ion channels: insights from human disease and mouse models
T. J. Jentsch

11:00 – 11:30
Multiprotein complex containing succinate dehydrogenase confers mitochondrial ATP-sensitive potassium channel activity
H. Ardehali, Z. Chen, K. Young, R. Mejia-Alvarez, E. Marban

11:30 – 12:00
Intracellular ion channels and pancreatic insulin and somatostatin secretion
P. Rorsman

12:00 – 12:30
Calcium/proton oscillations in secretory granules: a boolean-encoded signal transduction protocol?
P. Verdugo, I. Quesada, W. Chin

12:30 – 13:00
Phospholipase A2 activation is essential for priming the mitochondrial pathway in Ca^{2+}-triggered apoptosis
D. Penzo, V. Petronilli, A. Angelin, R. Colonna, L. Scorrano, F. Pagano, F. Di Lisa, **P. Bernardi**

S5.1 10:30 – 13:00 room [G]
Symbiosis and parasitism
Chair: I. Tikhonovich and A. Legocki

10:30 – 11:00
Innate immunity in plant defense
D. Scheel

11:00 – 11:30
Molecular control of root nodule development
A. Kondorosi, J. M. Vinardell, N. Maunoury, K. Nikovics, A. Campalans, S. Tarayre, I. d'Erfurth, D. Vaubert, H. Trinh, P. Ratet, P. Mergaert, M. Crespi, E. Kondorosi

11:30 – 12:00
Plant genes controlling the process of symbiosis
I. A. Tikhonovich

12:00 – 12:30
Symbiosis in the rizosphere: a meeting place for roots and mycorrhizal fungi
L. Lanfranco, P. Bonfante

12:30 – 13:00
Signaling in plant pest and pathogen resistance: networking in hostile enviroment
C. Lamb

SS.1 10:30 – 13:00 room [E]

Problem-Based Learning: information or skills organized by FEBS Working Group on Teaching Biochemistry

Chair: W. Makarewicz and P. Ott

10:30 – 11:00
Problem-based learning: where are we now?
E. J. Wood

11:00 – 11:30
Problem-Based Learning in a medical course
K. Burdett

11:30 – 12:00
Pulling it all together: the problem-based learning (PBL) approach in undergraduate science education
D. Allen

12:00 – 12:30
Assessment of medical competence in PBL
T. De Goeij

12:30 - 13:00
Introduction to the workshop on PBL and final discussion

13:00 – 14:30 room [H]

A carrier in science - lunch-time workshop

organised by: **FEBS' Working Group on Women in Science**

Chair: S. Rogne

13:00 – 14:30
Part 1: A carrier in science? - Views and opinions

E. Steines

A. Quintanihla

S. Petrescu

13:00 – 14:30 room [G]

Exhibitor presentations/workshops

13:00 – 14:00
Waters Corp.
Multiplexed proteomics [I]: A new system solution for simultaneous quantitative and qualitative protein profiling

M. Kennedy, Waters Corp., Netherlands

Multiplexed proteomics [II]: A novel parallel MALDI MS/MS life science analyzer

M. Ritchie, Waters Corp., United Kingdom

14:00 – 14:30
Olympus Europa
FRAP, FLIP, uncaging, photoactivation - live cell confocal imaging and simultaneous laser stimulation with unique new Olympus cLSM FluoView FV1000 Olympus

M. Tewinkel, Olympus Europa

LECTURES

Sunday, 27 June, Afternoon

S1.1 14:30 – 16:30 room [D]

Mutagenesis and DNA repair

Chair: B. Tudek and V. Bohr

14:30 – 15:00

Accumulation of unrepaired oxidative DNA-lesions: a driving force in inflammation-associated malignancies

H. Bartsch, J. Nair

15:00 – 15:30

DNA base excision repair enzymes can act as tumor suppressors

T. Lindahl, Q. An, D. Barnes, P. Koivisto, H. Nilsen, J. Paik, P. Robins, B. Sedgwick

15:30 – 16:00

Role of the mismatch repair system in genomic instability and DNA damage signalling

L. Stojic, N. Mojas, P. Cejka, G. Marra, **J. Jiricny**

16:00 – 16:30

Multiple specialized DNA polymerases in eukaryotic cells

E. C. Friedberg, C. Guo, P. L. Fischhaber

S2.1 14:30 – 16:30 room [F]

mRNA: biogenesis, localisation, translation

Chair: M. Konarska and E. Darzynkiewicz

14:30 – 15:00

Molecular mimicry in translational regulation: the case of ribosomal protein S15

C. Ehresmann, B. Ehresmann, E. Ennifar, P. Dumas, M. Garber, A. Nikulin, C. Portier, D. Patel, A. Serganov

15:00 – 15:30

Identification, structural and functional characterization of bacterial RNAs, including transfer-messenger RNA

M. Antal, M. Hallier, C. Pichon, V. Bordeau, **B. Felden**

15:30 – 16:00

Requirements for highly efficient templates for in vitro protein biosynthesis and their fast and easy construction

W. Stiege, H. Merk, D. Meschkat

16:00 – 16:30

RNA turnover in yeast and human mitochondria

P. P. Stepien

S3.2 14:30 – 16:30 room [A]

Enzyme structure and function: from bioinformatics to biochemistry

Chair: J. M. Bujnicki and J. M. Thornton

14:30 – 15:00

Evolution of active sites and enzyme functions

J. M. Thornton, G. J. Bartlett, A. Gutteridge, C. A. Orengo, C. Porter, A. Todd

15:00 – 15:30

How enzymes evolve: insights from natural and unnatural promiscuity

J. A. Gerlt

15:30 – 16:00

On the evolution of type II restriction endonucleases

A. Pingoud, V. Pingoud, A. Sudina, E. Kubareva, J. M. Bujnicki, R. Lurz, S. -Y. Xu

16:00 – 16:30

Evolution of adomet-dependent methyltransferases

J. M. Bujnicki, M. Feder, L. Aravind, E. V. Eugene

S4.1 14:30 – 16:30 room [B]
Cell physiology and lipid signaling
Chair: A. Dżugaj and R. S. Stoika

14:30 – 15:00
Structural requirements for NA/Pi-cotransporters: transport function and regulation
H. Murer, N. Hernando, I. Forster, J. Biber

15:00 – 15:30
Actin cytoskeleton signalling in early non genomic cell responses
C. Stournaras, E. A. Papakonstanti, A. Gravanis, E. Castanas

15:30 – 16:00
Approaches for study of macrophage - target cell interactions
R. S. Stoika, N. I. Kashchak, R. V. Tsaryk

16:00 – 16:30
Mitochondria and reactive oxygen species in programmed death phenomena
V. Skulachev

S4.9 14:30 – 16:30 room [C]
Membranes: transport and signaling
Chair: E. Carafoli and L. Wojtczak

14:30 – 15:30
The complexity of signaling
R. J. P. Williams

15:30 – 16:00
The survival of motor neurons protein: architect of ribonucleoprotein complexes
J. Yong, A. Gubitz, L. Wan, T. Golombe, D. Battle, J. Dostie, S. Kolb, J. Wang, M. Kassim, **G. Dreyfuss**

16:00 – 16:30
Second messenger heterogeneity in living cells measured with genetically enncoded fluorescent indicators
T. Pozzan

S5.2 14:30 – 16:30 room [E]
Molecular determinants of behaviour
Chair: K. Anokhin and M. Kossut

14:30 – 15:00
Molecular and environmental approaches to study complex brain functions
I. Mansuy, *awarded the FEBS Anniversary Prize*

15:00 – 15:30
Awakening of cognitive plasticity: development of experience-dependent gene expression after birth
K. Anokhin, I. Zarayskaya, E. Alexandrova, O. Efimova, A. Lazutkin

15:30 – 16:00
Activity-dependent regulation of PSD proteins: insights into molecular mechanisms of learning
M. di Luca

16:00 – 16:30
Gene-environment interactions modulating behaviour in wild-type and Huntington's disease transgenic mice
A. J. Hannan, *awarded the FEBS Anniversary Prize*

18:00 – 20:30 **room [G]**

The use of stem cells in research and future medical practice

Chair: F. Mayor, *Chairman of the FEBS Science and Society Committee* and G. Semenza

An overview on stem cells
A. McLaren

Panel (led by F. Mayor):

Brain repair via stem cells?
L. Sommer

Potential therapy of heart failure with stem cells
M. Puceat

Stem cells and heart repair
B. Fleischmann

Adult stem cells plasticity in therapeutic perspective
K. Domanska-Janik

Discussion, with the speaker, within the panel and with and from the floor, on the mutually related scientific, therapeutical and ethical/legislative issues

Notes

LECTURES

Monday, 28 June, Morning

PL-3 8:30 – 9:30 room [A]

EMBO lecture

The Ran GTPase as a signal of chromosome position

I. Mattaj

introduced by: Israel Pecht, *Vice-Chairman of FEBS*

S1.2 10:30 – 13:00 room [D]

Control of gene expression: chromatin and epigenetics

Chair: A. Jerzmanowski and M. Yaniv

10:30 – 11:00

Molecular anatomy of CHRAC, an ATP-dependent nucleosome remodeling

A. Eberharter, F. Hartlepp, C. Fernandez-Tornero, T. Grüne, I. Vetter, C. Müller, **P. Becker**

11:00 – 11:30

Regulators of transcriptional gene silencing in Arabidopsis

J. Paszkowski

11:30 – 12:00

Chromatin remodeling in growth control and differentiation

A. Klochendler-Yeivin, L. Gresh, B. Bourachot, C. Muchardt, **M. Yaniv**

12:00 – 12:30

Apoptotic catastrophe: chromatin at the end of its life

P. Widlak

12:30 – 13:00

Linker histones and chromatin remodelers in plant development

A. Jerzmanowski, M. Prymakowska-Bosak, J. Brzeski, A. Wierzbicki, T. Sarnowski, K. Olczak, S. Swiezewski, K. Pawlikowska

S2.2 10:30 – 13:00 room [F]

RNA interference and microRNAs

Chair: W. Filipowicz and A. Jarmolowski

10:30 – 11:00

Classes of small RNAs carrying out widespread gene silencing in *C. elegans*

C. Lee, C. Hammell, **R. Ambros**

11:00 – 11:30

Developmental regulation of the microRNA target Lin-28

E. G. Moss, K. Kemper, D. Yang, L. Tang

11:30 – 12:00

RNAi and microRNA machineries in mammalian cells

W. Filipowicz, C. Artus, Ł. Jaskiewicz, F. Kolb, R. Pillai, H. Zhang

12:00 – 12:30

Genetic analysis of RNA silencing in plants

D. C. Baulcombe

12:30 – 13:00

Genetic analysis of RNA-mediated transcriptional gene silencing

M. A. Matzke, W. Aufsatz, T. Kanno, M. F. Mette, L. Daxinger, A. J. M. Matzke

S3.3 10:30 – 13:00 room [A]

Macromolecular recognition

Chair: J. Otlewski and T. Heyduk

10:30 – 11:00

Interaction of GTP-binding proteins with regulators and effectors

A. Wittinghofer

11:00 – 11:30

Protein-protein interactions from a structural perspective

J. M. Thornton, T. Kabir, I. M. Nooren, H. Ponstingl

11:30 – 12:00

Protein interaction network mediated by protein interaction domains

C. Landgraf, S. Panni, L. Castagnoli, J. Schneider-Mergener, R. Volkmer-Engert, **G. Cesareni**

12:00 – 12:30

Structure and function of the metal-independent restriction enzyme

V. Siksnys, S. Grazulis, A. Lagunavicius, G. Sasnauskas, M. Zaremba

12:30 – 13:00

Structure and function of serine oligopeptidases

L. Polgár, Z. Szeltner, T. Juhász, V. Renner, V. Fülöp

S4.2 10:30 – 13:00 room [B]

Biology of glycoconjugates I: structure, metabolism, function and evolution

Cosponsored by The Foundation of Glycobiology GLYCO XII

Chair: J. Kościelak and E. Lisowska

10:30 – 11:00
O-linked N-acetylglucosamine (O-GlcNAc) is a metabolic sensor modulating transcription, signaling and stress responses
G. W. Hart, Z. Zachara, L. Wells, K. Vosseller

11:00 – 11:30
Glycosynapses controlling glycosylation-dependent cell adhesion and signaling
S. Hakomori

11:30 – 12:00
Glycosphingolipid metabolism at membrane-water interphases and its pathobiochemistry
K. Sandhoff

12:00 – 12:30
The mode of sialic acid O-acetylation and its role in virus infections
R. Schauer

12:30 – 13:00
Phylogeny and evolution of fucosyltransferase genes (FUT1 to FUT13)
R. Oriol, I. M. Duncker, J. -J. Candelier, R. Mollicone

S4.1 10:30 – 13:00 room [C]

Cell physiology and lipid signaling

Chair: J. Barańska, L. Cocco and M. Liscovitch

10:30 – 11:00
Phosphatidylinositol transfer proteins in cell function
G. T. Snoek, C. M. Van Tiel, M. Schenning,
K. W. A. Wirtz

11:00 – 11:30
Significance of nuclear location of the inositol lipid cycle
L. Cocco

11:30 – 12:00
Proteomic mapping of caveolae and lipid rafts: from molecular architecture to targets for specific delivery to solid tumors and single organs
P. Oh, E. Durr, Y. Li, J. Testa, J. Yu, N. Andon,
J. Schnitzer

12:00 – 12:30
Role of caveolin-1 in regulation of cancer cell growth and survival
M. Liscovitch

12:30 – 13:00
Dynamics of storage lipid formation and mobilization in the yeast
G. Daum, K. Athenstaedt, D. Sorger

S6.1 10:30 – 13:00 room [E]

Aging population

Chair: E. Sikora and C. Franceschi

10:30 – 11:00
Understanding the complexity of ageing
T. B. L. Kirkwood

11:00 – 11:30
Immunology and genetics of ageing and longevity in humans
C. Franceschi

11:30 – 12:00
Mitochondrial genome polymorphisms associated with longevity, Alzheimer's disease, or Parkinson's disease
M. Tanaka, T. Takeyasu, N. Fuku, Y. Fujita

12:00 – 12:30
Slowing down ageing horemtically from within
S. I. S. Rattan

12:30 – 13:00
Polish centenarians: what we have learnt from their immune system
E. Sikora

13:00 – 14:30 **room [G]**

A carrier in science - lunch-time workshop
Organised by: **FEBS' Working Group on Women in Science**

Chair: S. Rogne

Part II: A carrier in science: what made the difference?

P. Arimondo

S. van der Vies

E. Steines

13:00 – 14:30 **room [H]**
Exhibitor presentations/workshops

13:00 – 13:30
Olympus Europa
Apoptosis - high content cellular and tissue analysis using automated imaging cytometry
Olympus
T. Knorr, *Olympus Europa*

13.30 – 14.30
Bio-Rad workshop
Multiple data generation from biological samples

Welcome and introduction
D. Jablonski, *country manager Bio-Rad Poland*

Getting more from your sample - Bio-Rad tools for multiplex analysis
J. Razga, *Life Science product specialist*

Multiplexed analysis using the Bio-Plex suspension array system
H. T. H. Beernink, *R&D Scientist*

Discussion; Product demonstration

Notes

LECTURES

Monday, 28 June, Afternoon

S1.1 14:30 – 16:30 room [D]

Mutagenesis and DNA repair

Chair: J. T. Kuśmierek and S. Boiteux

14:30 – 15:00
Cellular repair of oxidative DNA damage in human genetic disease
M. Dizdaroglu

15:00 – 15:30
Oxidative DNA damage as a biomarker of cancer risk in humans
R. Olinski, D. Gackowski, R. Rozalski, E. Speina, M. Zielinska, K. Arczewska, T. Obtulowicz, J. Kuśmierek

15:30 – 16:00
Human diseases with early aging are defective in DNA repair
V. A. Bohr

16:00 – 16:30
DNA lesion recognition in global genome and transcription coupled nucleotide excision repair
M. Fousteri, J. Moser, H. Kool, M. Volker, S. Alekseev, H. Vrieling, A. A. van Zeeland, **L. H. F. Mullenders**

S2.2 14:30 – 16:30 room [F]

RNA interference and microRNAs

Chair: W. Filipowicz and A. Jarmołowski

14:30 – 15:00
RNA interference and germline expression of Stellate genes and retrotransposons in *Drosophila melanogaster*
I. Kalmykova, S. Klenow, L. Kogan, A. Usakin, V. Vagin, **V. A. Gvozdev**

15:00 – 15:30
RNA dependent RNA polymerases in dsRNA production and gene silencing
D. H. Bamford

15:30 – 16:00
RNAi and transposon silencing in *C. elegans*
N. Vastenhouw, R. Ketting, M. Tijsterman, T. Sijen, V. Robert, B. Tops, R. Plasterk

16:00 – 16:30
RNA recombination and RNA silencing
M. Figlerowicz, M. Alejska, N. Malinowska

S3.3 14:30 – 17:00 room [A]

Macromolecular recognition

Chair: J. Otlewski and T. Heyduk

14:30 – 15:00
DNA modification by platinum antitumor drugs and its recognition by DNA-binding proteins
V. Brabec

15:00 – 15:30
Selective, non-selective and excluding specificity of protein inhibitors targeting papain-like cysteine proteases
D. Turk

15:30 – 16:00
Non-orthodox macromolecular interactions in the translation compartment
A. V. El'Skaya

16:00 – 16:30
Protein-protein and protein-DNA interactions in transcription initiation
T. Heyduk

16:30 – 17:00
Limited proteolysis of proteins: Molecular mechanism and applications to unravel features of protein structure and dynamics
A. Fontana

S4.3 14:30 – 17:00 room [B]

Biology of glycoconjugates II: glycoconjugates in human pathology

Cosponsored by The Foundation of Glycobiology GLYCO XII

Chair: J. Kościelak and E. Lisowska

14:30 – 15:00
Molecular bases of congenital disorders of glycosylation (CDG)
K. von Figura, C. Thiel, T. Lübke, C. Hellbusch, M. Schwarz, L. Lehle, G. Matthijs, C. Körner

15:00 – 15:30
Carbohydrate microarrays and the unravelling of ligands for effector proteins of the immune system
T. Feizi

15:30 – 16:00
Disruption of GPI biosynthesis via cell membrane-permeable GPI analogues: anti-parasite drug design
A. Crossman, T. K. Smith, J. S. Brimacombe, M. A. J. Ferguson

16:00 – 16:30
Interactions of the neurodevelopmental and bacterial meningitis associated antigen polysialic acid with catalytically active and inactive endosialidases
A. Jokilammi, P. Ollikka, M. Korja, E. Jakobsson, V. Loimaranta, S. Haataja, H. Hirvonen, **J. Finne**

16:30 – 17:00
Lactosaminoglycans: implications in diseases
H. Miller-Podraza

S4.5 14:30 – 16:30 room [C]

Nucleotide receptors

Chair: J. Barańska and M. P. Abbracchio

14:30 – 15:00
Overview of the molecular biology of established and putative P2Y receptors
J. -M. Boeynaems

15:00 – 15:30
Role of P2Y receptors in the brain
M. P. Abbracchio

15:30 – 16:00
Therapeutic potential of purinergic signalling
G. Burnstock

16:00 – 16:30
Platform presentation

S6.2 14:30 – 16:30 room [G]

Food and health

Chair: H. Kostyra and M. Piskuła

14:30 – 15:00
Local food – nutraceuticals: the multidisciplinary study of local Mediterranean food plants
M. Heinrich

15:00 – 15:30
Expression profiles for safety evaluation of bioprocessed food
P. Renault

15:30 – 16:00
Nutrigenomics: from molecular signalling to prevention of diseases
M. Mueller

16:00 – 16:30
Dietary fatty acids and coronary heart disease
H. Campos

18:30 – 20:00 room [B]

Coctail for Young Scientists: Welcome to the FEBS journals

17:00 – 18:30 room [H]

Working group to explore ways of improving assistance to Central and Eastern European countries

Chair: G. Dirheimer

14:30 – 18:30 room [E]

Workshop

Problem-Based Learning: information or skills

Chair: W. Makarewicz and P. Ott

LECTURES

Tuesday, 29 June, Morning

PL-4 8:30-9:30 room [A]
IUBMB lecture
Extracellular proteolysis at the synapse: regulatory roles in synaptic structure, function, and plasticity

P. Sonderegger introduced by: V. Turk

S1.3 10:30 – 13:00 room [D]
Comparative genomics and bioinformatics

Cosponsored by Bio-Rad
Chair: A. Valencia and P. Zielenkiewicz

10:30 – 11:00
Functional classification and genome topology for the comparative analysis of microbial and fungal genomes
H. W. Mewes

11:00 – 11:30
Prediction of protein function - from the single case to large sets of interest in systems biology
S. Brunak

11:30 – 12:00
Function annotation by comparative analysis
P. Bork

12:00 – 12:30
Demographic history of Europeans as told by their haploid genomes
R. Villems

12:30-13:00
Complete sequencing and comparison of four hemiascomycetous yeast species to identify mechanisms of eukaryotic genome evolution
J. –L. Souciet

S2.3 10:30 – 13:00 room [F]
Ribosome: evolution, structure and function

Chair: B. F. C. Clark and J. Zakrzewska-Czerwińska

10:30 – 11:00
RNase P: an enzyme with an RNA subunit with a variety of functions
S. Altman

11:00 – 11:30
Aminoacyl-tRNA synthesis: different combinations of essential redundant pathways
D. Söll

11:30 – 12:00
The ribosome as an RNA-based molecular machine
A. S. Spirin

12:00 – 12:30
Ribosomal crystallography: peptide bond formation, amino acid polymerization, antibiotics synergism and cellular regulation
A. Yonath

12:30 – 13:00
The role of Maf1 protein in regulation of tRNA biosynthesis
M. Boguta, D. Oficjalska, M. Cieśla, O. Harismendy, J. Smagowicz, O. Lefebvre

S3.4 10:30 – 13:00 room [A]
G-protein coupled receptors

Chair: K. Palczewski and G. F. X. Schertler

10:30 – 11:00
Ligand channeling within a G protein-coupled receptor
P. K. Hofmann

11:00 – 11:30
The fourth and fifth transmembrane segments form the interface of the dopamine D2 receptor homodimer
W. Guo, M. Filizola, H. Weinstein, **J. A. Javitch**

11:30 – 12:00
G protein-coupled receptor rhodopsin in the oligomeric state
S. Filipek

12:00 – 12:30
G protein signaling in visual transduction
V. Y. Arshavsky

12:30 – 13:00
High resolution structure of the G-protein coupled receptor rhodopsin
G. F. X. Schertler, J. Ruprecht, P. Edwards, J. Li

S4.6 10:30 – 13:00 room [B]

Extracellular proteases in brain function and dysfunction

Chair: L. Kaczmarek and D. Monard

10:30 – 11:00
Tissue type plasminogen activator (tPA), a key partner for the working brain
D. Vivien, M. Fernandez Monreal, J. Lopez Atalaya, K. Benchenane, C. Ali, O. Touzani

11:00 – 11:30
β-secretase – a target for the treatment of alzheimer's disease
R. Vassar

11:30 – 12:00
Neuroserpin polymerisation and dementia
D. A. Lomas, E. Miranda, L. Sharp, K. Kinghorn, D. Crowther, D. Belorgey

12:00 – 12:30
Synaptic matrix metalloproteinase-9 in response to neuronal stimulation
L. Kaczmarek

12:30 – 13:00
Regulation of proteolytic activity controls the in vivo function of NMDA receptors
D. Monard, M. Kvajo, H. Albrecht, M. Meins, U. Hengst, E. Troncoso, J. Z. Kiss, S. Lefort, C. C. H. Petersen

S4.7 10:30 – 13:00 room [C]

PI-3K/Akt signaling in immunity, cancer and neuronal plasticity

Chair: B. Kamińska and B. A. Hemmings

10:30 – 11:00
Physiological roles of the PKB/AKT proto-oncogene
B. A. Hemmings

11:00 – 11:30
Signalling by PI 3-kinase isoforms
B. Vanhaesebroeck

11:30 – 12:00
A PI3-kinase-independent activation of Akt controls CREB phosphorylation in neurons: a role in neuronal plasticity.
K. Brami-Cherrier, E. Valjent, **J. Caboche**

12:00 – 12:30
Activation of the FOXO4 forkhead trancription factor by cellular oxidative stress mediated by the Ral GTPase and JNK
L. M. M. de Vries-Smits, M. A. G. Essers, I. Saarloos, S. Weijzen, J. L. Bos, **B. M. T. Burgering**

12:30 – 13:00
AKT signaling in glial cell differentiation and transformation
B. Kaminska

S5.3 10:30 – 13:00 room [E]

Molecular evolution

Chair: H. Saedler and J. Filipski

10:30 – 11:00
MADS-box genes in evolution: origin of morphological novelties in plants
H. Saedler, C. He

11:00 – 11:30
Genomewide identification and characterization of adaptive trait genes in *Arabidopsis*
K. Schmid

11:30 – 12:00
Evolutionary mechanisms responsible for the fluctuation of DNA composition along the chromatin loops.
J. Filipski

12:00 – 12:30
Buildup and dynamical maintenance of primordial genomes
E. Szathmáry, T. Czaran, B. Konnyu, M. M. Santos, E. Zintzaras

12:30 – 13:00
Two critical aspects of molecular phylogenies: robustness and homology
R. Zardoya

10:30 – 12:00 **room [G]**

Awards Session

Chair: G. Semenza and J. Barańska

10:30 - 11:15

Crystal structure of *Drosophila* angiotensin I- converting enzyme bound to captopril and lisinopril

J. -O. Lee, *FEBS Letters Young Scientist Award*

11:15 - 12:00

Growth - rate dependent RNA polyadenylation in *Escherichia coli*

G. Węgrzyn, *Polish Biochemical Society Lecture - Parnas Award*

Sponsored by Dr. P. Chomczyński, Molecular Research Center Inc. USA

Notes

Tuesday, 29 June, Afternoon

19:00 – 20:00
Piano Concert celebrating Forty Years of FEBS

Concert at the Fryderyk Chopin Monument in the Royal Łazienki Park

(entrance from Aleje Ujazdowskie 2)

13:30 – 17:30 **room [G]**
FEBS/ELSF Meeting
The European Research Council, a new instrument to foster and fund basic research at the European level

Part A. The ERC - General Perspectives

Chair: **Julio E. Celis**, *Secretary General of FEBS*, **Luc. van Dyck**, ELSF and **Maciej J. Nałęcz**, *Director Basic and Engineering Sciences Division, UNESCO*

13:30
Welcome address
Andrzej Legocki, *President of the Polish Academy of Sciences*

13:35
Historical background and characteristics of the ERC
Julio E. Celis, *Secretary General of FEBS*

13:50
A scientist's view
Kurt Wüthrich, *Nobel Prize Laureate*

14:05
The ERC Expert Group: Recommendations for the ERC
Federico Mayor, *Chair of the ERC Expert Group*

14:20
The views of the European Commission
Anastasia Andrikopoulou, *Principal Administrator, European Commission*

14:35 **Open discussion**

15:00 *Coffee Break*

Part B. The ERC – Perspectives for the new EU Member States

Chair: **Andrzej Dżugaj**, *Wroclaw University, Poland*

15:30
Introduction
Maciej J. Nałęcz, *Director Basic and Engineering Sciences Division, UNESCO*

15:45
Point of view of political leaders
Danuta Hübner, *European Commissioner, Poland (pending)*

16:15
Roundtable discussion
Peter Dovc, *President of the Slovenian Council for Life Sciences*

Péter Csermely, *Semmelweis University, Budapest, Hungary*

Sergij Komisarenko, *Palladin Institute of Biochemistry, Kyiv, Ukraine*

Magdalena Zernicka-Goetz, *University of Cambridge, UK*

Zdena Palkova, *Charles University, Prague, Czech Republic*

17:25
Concluding remarks
Luc van Dyck, *ELSF* and **Julio E. Celis**, *FEBS*

17:30 *End of the session*

Notes

LECTURES

Wednesday, 30 June, Morning

PL-5 8:30 - 9:30 room [A]
PABMB lecture
Yeast activator proteins and stress response: an overview
C. Rodrigues-Pousada, T. Nevitt, J. Pereira, R. Menezes, C. Amaral, D. Azevedo
introduced by: J. Guinovart *FEBS Meetings Councellor*

S1.3 10:30 – 13:00 room [D]
Comparative genomics and bioinformatics
Chair: A. Kolinski and P. Zielenkiewicz

10:30 – 11:00
Predicting and retrieving protein interaction networks
A. Valencia

11:00 – 11:30
Novel approaches for functional assignment and classification of proteins using comparative genomics
K. Bilecen, B. Bakir, B. Kaplan, T. Soykan, O. U. Sezerman, **Z. Sayers**

11:30 – 12:00
Current state of the *Paramecium tetraurelia* genome sequencing project
J. Cohen

12:00 – 12:30
Genomic sequence of *Ostreococcus tauri* (*Prasinophyceae*): the smallest eukaryotic cell
H. Moreau

12:30 – 13:00
Platform presentation

S2.4 10:30 – 13:00 room [F]
Noncoding RNAs
Cosponsored by SIGMA-ALDRICH
Chair: V. A. Erdman and J. Barciszewski

10:30 – 11:00
RNA rules!
J. Brosius

11:00 – 11:30
Non-coding RNAs play multiple roles in X-inactivation initiation
P. Avner

11:30 – 12:00
Replicable and recombinogenic RNAs
A. B. Chetverin

12:00 – 12:30
Viroids: the minimal non-coding RNAs with autonomous replication
R. Flores

12:30 – 13:00
The modern RNA world: computational screens for noncoding RNA genes
S. R. Eddy

S3.5 10:30 – 13:00 room [A]
Peptidases in health and disease
Chair: A. Wlodawer and M. Bochtler

10:30 – 11:00
Peptidases in the genomic era
A. J. Barrett

11:00 – 11:30
Structure-Function relationships of furin and the related proprotein/prohormone convertases.
W. Bode, M. Than, S. Henrich, I. Lindberg

11:30 – 12:00
HIV-1 protease and its inhibitors – mutual conformational adaptations for efficient binding
T. Unge

12:00 – 12:30
The LytM structure: Implications for lysostaphin and for the definition of a new group of metallopeptidases
S. G. Odintsov, I. Sabala, M. Marcyjaniak, **M. Bochtler**

12:30 – 13:00
Sedolisin and friends - from the sequences through structures to biological significance
A. Wlodawer, M. Li, A. Gustchina, H. Oyama, K. Oda, T. Nakayama, B. M. Dunn

S3.8 10:30 – 13:00 room [B]
Cell membrane molecules and cancer progression
Chair: P. Laidler and A. Lityńska

10:30 – 11:00
Immunotherapy and immunoselection - tumour escape as the final hurdle
G. Pawelec

11:00 – 11:30
Galectins: emerging effectors in tumor progression
H.-J. Gabius

11:30 – 12:00
The role of cell adhesion molecule in cancer gene therapy
R. C. Pong, Y. M. Li, T. Okegawa, **J. T. Hsieh**

12:00 – 12:30
Role of thymosin β4 in tumor metastasis and angiogenesis
C. Cierniewski

12:30 – 13:00
The crosstalk between cell adhesion molecules and growth factor receptors in tumor progression
U. Cavallaro, G. Christofori

13:00 – 18:00 room[G]

FEBS Council Meeting

S4.8 10:30 – 13:00 room [C]
Bioenergetics
Chair: E. Carafoli and L. Wojtczak

10:30 – 10:35
Presentation of IUBMB Distinguished Service Award to E. C. Slater
B. F. C. Clark, *Past President of IUBMB*

10:35 – 11:30
50+ years in bioenergetics
E. C. Slater

11:30 – 12:00
Redox-coupled proton translocation by respiratory oxidases
P. Brzezinski

12:00 – 12:30
The uncoupling proteins and the control of the efficiency of the mitochondrial oxidative phosphorylation
E. Rial

12:30 – 13:00
Pathophysiology of mitochondrial disease
D. C. Wallace

S6.3 10:30 – 13:00 room [E]
Bacterial diseases: mechanism and control
Chair: P. Cegłowski

10:30 – 11:00
Invasion and inflammatory destruction of the intestinal epithelium by *Shigella*: making sense of the molecular cross-talks
P. Sansonetti

11:00 – 11:30
A novel secretion system required for the persistence and pathogenesis of *Mycobacterium tuberculosis*
S. T. Cole

11:30 – 12:00
***Helicobacter pylori* infection strategies based on two major virulence functions**
R. Haas

12:00 – 12:30
Bacterial cell-to-cell communication as a novel anti-infective target
P. Williams

13:00 – 14:30 room [E]
Exhibitor presentations/workshops

13:00 – 13:30
Olympus Europa
FRAP, FLIP, uncaging, photoactivation - live cell confocal imaging and simultaneous laser stimulation with unique new Olympus cLSM FluoView FV1000Olympus
M. Tewinkel, *Olympus Europa*

13.30 – 14.30
Bio-Rad Workshop
Gel-based expression proteomics

Welcome and introduction
D. Jablonski, *country manager Bio-Rad Poland*

Bio-Rad expression proteomics program
J. Razga, *Life Science product specialist*

Strategies for successful 2-D separations
A. Posh, *application specialist - Proteomics*

Discussion; Product demonstration

LECTURES

Wednesday, 30 June, Afternoon

S1.1 14:30 – 16:30 room [D]
Mutagenesis and DNA repair
Chair: E. Sledziewska-Gojska and E. Friedberg

14:30 – 15:00
ATM: new insights into the complex DNA damage response
Y. Shiloh

15:00 – 15:30
Regulation of gene expression during reversible adaptation to oxidative stress
J. A. Davies

15:30 – 16:00
Involvement of the nucleotide excision repair (NER) proteins in the repair of oxidative DNA damage in mammalian cells
I. Rybanska, J. Gursky, E. P. Salazar, E. Kimlickova, K. Kleibl, L. H. Thompson, **M. Pirsel**

16:00 – 16:30
Correcting damage to base residues in nucleic acids
E. Seeberg, I. Alseth, L. Eide, A. Klungland, L. Luna, P. Ø. Falnes, M. Bjørås

S2.4 14:30 – 16:30 room [F]
Noncoding RNAs
Cosponsored by SIGMA-ALDRICH
Chair: V. A. Erdman and J. Barciszewski

14:30 – 15:00
The role of non-coding RNAs in genomic imprinting
D. P. Barlow

15:00 – 15:30
Small RNAs encoded by the *Escherichia coli* chromosome
G. Wagner, J. Vogel, F. Darfeuille, K. Udekwu, L. Argaman, S. Altuvia

15:30 – 16:00
Circadian clock-related antisense transcripts in *Neurospora crassa*
S. K. Crosthwaite

16:00 – 16:30
The arginine-riboswitch regulates alternative splicing of the *Aspergillus nidulans* arginase mRNA.
P. Weglenski, P. Borsuk, A. Przykorska, K. Solecka, M. Koper

S3.6 14:30 – 16:30 room [B]
Proteomics
Cosponsored by Bio-Rad
Chair: J. Silberring and R. Ekman

14:30 – 15:00
Miniaturized proteomics
M. Ramström, J. Bergquist

15:00 – 15:30
Neuronal growth factors and cytokines in stress
R. Ekman, A. S. Naylor, R. Persson, G. Karlsson, I. H. Jonsdottir, A. Nygren, M. Asberg

15:30 – 16:00
Comprehensive 2D capillary LC as a front end technique for MS in proteomics
M. Smoluch, M. Lubeck, R. Swart, J. P. Chervet

16:00 – 16:30
Protein chips linked to mass spectrometry
R. Nelson, D. Nedelkov, U. Kiernan, K. Tubbs, E. Niederkofler

S4.8 14:30 – 16:30 room [C]

Bioenergetics

Chair: E. Carafoli and L. Wojtczak

14:30 – 15:00
Calcium and mitochondria
T. E. Gunter, D. Yule, K. Gunter, R. Eliseev, J. Salter

15:00 – 15:30
Ca^{2+} signalling and molecular switches in neuronal cell death
P. Nicotera

15:30 – 16:00
Mitochondrial control of calcium ion influx into electrically non-excitable cells
J. Duszynski, K. Zabłocki, J. Szczepanowska

16:00 – 16:30
Mitochondrial ATP synthase: from mechanism to cancer medicine
P. L. Pedersen, Y. Ko, M. Delannoy, J. Hullihen, J. F. Geschwind, M. Torbenson

S6.4 14:30 – 16:30 room [E]

Viruses – threat or service?

Chair: A. Piekarowicz

14:30 – 15:00
Molecular aspects of the phenomenon of genetic RNA-RNA recombination in RNA viruses
A. Dzianott, M. Figlerowicz, A. Urbanowicz, R. Wierzchoslawski, **J. Bujarski**

15:00 – 15:30
HIV-specific cytotoxic T-cells from long-term survivors select a unique T-cell receptor
T. Dong, G. Stewart-Jones, N. Chen, P. Easterbrook, X. Xu, L. Papagno, V. Appay, M. Weekes, C. Conlon, C. Spina, S. Little, G. Screaton, D. D. Richman, A. J. McMichael, E.Y. Jones, S. L. Rowland-Jones

15:30 – 16:00
Prion pathogenesis: a journey through gut, spleen, and nerves
A. Aguzzi

Notes

LECTURES

Thursday, 1 July, Morning I

S1.3 8:30 – 9:30 room [D]

Comparative genomics and bioinformatics

Cosponsored by Bio-Rad

Chair: S. Brunak

8:30 – 9:00
Chip-on-chip: deconvoluting transcription regulatory networks
S. Denissov, C. Gazziola, M. A. Lohrum, M. A. Huynen, **H. G. Stunnenberg**

9:00 – 9:30
Protein modeling and structure prediction with reduced representation
A. Kolinski

S2.5 8:30 – 9:30 room [F]

Ribozymes and therapeutic use of RNA

Chair: J. E. Celis and W. Zagórski-Ostoja

8:30 – 9:00
Clinically relevant modulation of pre-mRNA splicing by antisense oligonucleotides
R. Kole

9:00 – 9:30
Functional RNAs for drug screening
M. Famulok

S3.7 8:30 – 9:30 room [E]

Signaling by the ubiquitin family

Chair: S. Jentsch and J. Kuźnicki

8:30 – 9:00
Transferring substrates to the 26S proteasome in fission yeast
C. Gordon

9:00 – 9:30
Role of ubiquitin and ubiquitin-like proteins in regulation of the c-Myb oncoprotein
J. Markus, M. Sramko, L. Wolff, **J. Bies**

S4.9 8:30 – 9:30 room [B]

Membranes: transport and signaling

Chair: E. Carafoli and L. Wojtczak

8:30 – 9:00
Identification of new mitochondrial transporters
F. Palmieri

9:00 – 9:30
ABC multidrug transporters – variations on the theme of cellular defense
B. Sarkadi, C. Özvegy-Laczka, B. N. Elkind, É. Bakos, K. Német, A. Váradi

S4.10 8:30 – 9:30 room [C]

Mechanisms of endogenous protection in cells

Chair: A. Ziegelhöffer and E. Seppet

8:30 – 9:00
Endogenous cardioprotective mechanism induced by chronic hypoxia
F. Kolar, J. Neckar, B. Ostadal

9:00 – 9:30
What do we know about intracellular calpains?
Z. Papp

S5.4 8:30 – 9:30 room [G]

Human genetic polymorphism and unity

Chair: W. Makalowski and W. Krzyzosiak

8:30 – 9:00
Evolutionary dynamics of the human genome
W. Makalowski,

9:00 – 9:30
Repetitive sequences that shape human transcriptome
A. Jasinska, **W. J. Krzyzosiak**

LECTURES

Thursday, 1 July, Morning II

S1.1 10:00 – 12:00 room [D]

Mutagenesis and DNA repair

Chair: I. Fijałkowska and E. Seeberg

10:00 – 10:30
The role of labile iron pool in induction of DNA damage and cellular response to oxidative stress
M. Kruszewski

10:30 – 11:00
Mechanisms of base excision repair of oxidative DNA lesions: repair of 8-oxoguanine in mammalian cells
S. Boiteux

11:00 – 11:30
Alternative nucleotide incision repair pathway for oxidative DNA damage possible biological relevance
M. Saparbaev

11:30 – 12:00
Molecular and functional interactions in macromolecular repair
H. E. Krokan, G. Slupphaug, B. Kavli, P. A. Aas, M. Akbari, M Otterlei, S. Andersen, J. Peña Diaz, C. B. Vaagbo, E. Feyzi, F. Drablos

S2.5 10:00 – 12:00 room [F]

Ribozymes and therapeutic use of RNA

Chair: J. E. Celis and W. Zagórski-Ostoja

10:00 – 10:30
Aptamers: specific ligands of viral RNA structures
J. J. Toulme, D. Boucard, E. Ledan-Schuester, F. Darfeuille, C. Di Primo

10:30 – 11:00
Gene screening on a genomic scale with oligoribonucleotides
J. Hall, D. Huesken, J. Lange, F. Natt, M. Reinhardt

11:00 – 11:30
RNA-spiegelmers: A new substance class to efficiently inhibit peptide hormones
S. Helmling, D. Eulberg, C. Maasch, K. Buchner, **S. Klussmann**

11:30 – 12:00
Catalytic nucleic acids as inhibitors of beta-amyloid peptide secretion
B. Nawrot

S3.7 10:00 – 12:00 room [E]

Signaling by the ubiquitin family

Chair: S. Jentsch and J. Kuźnicki

10:00 – 10:30
Regulation of gene expression by SUMO modification
R. T. Hay

10:30 – 11:00
Rsp5 ubiquitin protein ligase affects translation in *Saccharomyces cerevisiae*
T. Zoladek

11:00 – 11:30
Ubiquitin, SUMO and DNA repair
S. Jentsch

11:30 – 12:00
The modular structures of CacyBP/SIP AND Sgt1 allow them to stabilize multi-protein ubiquitinylation complexes
J. Kuźnicki

S4.9 10:00 – 12:00 room [B]
Membranes: transport and signaling
Chair: E. Carafoli and L. Wojtczak

10:00 – 10:30
Structure and function of sodium channels: voltage-dependent gating and drug block
W. Catterall

10:30 – 11:00
Nuclear calcium signaling in neuronal plasticity and survival
H. Bading

11:00 – 11:30
Calcium signalling during maturation and fertilization of starfish oocytes
L. Santella

11:30 – 12:00
Mutant calcium channels and migraine
D. Pietrobon

S4.10 10:00 – 12:00 room [C]
Mechanisms of endogenous protection in cells
Chair: A. Ziegelhöffer

10:00 – 10:30
Protective molecular mechanisms in tumor cells exposed to hypoxia and xenobiotics: role of carbonic anhydrases
S. Pastorekova, J. Pastorek

10:30 – 11:00
Regulation of oxidative phosphorylation and energy transfer in muscle cells in diseases. Adaptation, protection or injury?
E. Seppet, V. Saks, F. N. Gellerich, S. Zierz

11:00 – 11:30
Mechanisms for endogenous production and elimination of reactive oxygen species in mitochondria
L. Tretter, V. Adam-Vizi

11:30 – 12:00
Endogenous protective mechanisms and signaling in cells of the diabetic myocardium
A. Ziegelhöffer, T. Ravingerova, I. Waczulikova, M. Barancik, B. Ziegelhöffer-Mihalovicova, J. Carsky, M. Strniskova, M. Ferko, A. Gvozdjakova

S5.5 10:00 – 12:00 room [G]
Genotype – phenotype relations with extremophiles
Chair: H. Grosejean and J. Hennig

10:00 – 10:30
Dynamics of the photosynthetic membrane during state transitions in *Chlamydomonas* and *Arabidopsis*
J.-D. Rochaix, S. Bellafiore, N. Depège, L. Legendre, F. Barnèche

10:30 – 11:00
Hyperthermophiles in the history of life
K. O. Stetter,

11:00 – 11:30
Mechanisms of thermal adaptation of proteosynthetic elongation factors EF-Tu
J. Jonák, H. Šandrowá

11:30 – 12:00
Transfer RNA modification machinery in the three domains of life
H. Grosjean

PL-6 12:15-13:15 room [A]
Theodor Bücher lecture
Calcium signaling in apoptosis
R. Rizzuto
introduced by: J. Mowbray, *Treasurer of FEBS*

13:15-13:30 room [A]
Closing Ceremony
Chair: J. Barańska and W. Zagórski-Ostoja