



MEGHÍVÓ

A Magyar Tudományos Akadémia
Szegedi Biológiai Kutatóközpontjának kutatói
tisztelettel meghívják Önt és munkatársait a

2017. MÁJUS 24-25.

között megrendezésre kerülő

STRAUB-NAPOKRA

TRANSZLÁCIÓS MEDICINA

TUDOMÁNYOS ÜLÉS

Elnök: Ormos Pál
(MTA Szegedi Biológiai Kutatóközpont, Szeged):

🕒 10:00 – 10:05

Ormos Pál
(MTA Szegedi Biológiai Kutatóközpont, Szeged):

Megnyitó

🕒 10:05 – 10:30

Buzás Edit
(Semmelweis Egyetem ÁOK, Genetikai, Sejt- és Immunbiológiai Intézet, Budapest):

Extracelluláris vezikulák: múlt, jelen és jövő

🕒 10:30 – 10:55

Bíró Tamás
(Debreceni Egyetem ÁOK, Immunológiai Intézet, Debrecen):

A kannabinoid rendszer - A jövő terápiás lehetőségei

🕒 10:55 – 11:20

Széll Márta
(Szegedi Tudományegyetem ÁOK, Orvosi Genetikai Intézet, Szeged):

Hosszú nem kódoló RNS-ek és szerepük a gyulladásos folyamatok szabályozásában

🕒 11:20 – 11:35 Szünet

🕒 11:35 – 12:00

Haracska Lajos

(MTA Szegedi Biológiai Kutatóközpont, Genetikai Intézet, Szeged):

Molekuláris rákkutatás és célzott terápia: két lépés előre, egy hátra?

🕒 12:00– 12:25

Ormos Pál átadja a Straub plakettet

A Straub plakett 2017. évi díjazottjának előadása:

Puskás László

(MTA Szegedi Biológiai Kutatóközpont, Funkcionális Genomikai Laboratórium, Szeged):

Molekuláris célpontok azonosítása – út a sikeres gyógyszerekhez?

🕒 12:25 – 12:55

Vígh László kuratóriumi elnök átadja a Farkas Tibor emlékplakettet

A Farkas Tibor emlékplakett 2017. évi két díjazottjának előadása

🕒 12: 50 – 15: 00 E b é d s z ü n e t

Chairman: László Buday

(Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest)

🕒 15:00 – 15:25

Dóra Dedinszki¹, Flóra Szeri¹, Eszter Kozák¹, Viola Pomozi^{1,2}, Natalia Tókési¹, Olivier Le Saux², Tamás Arányi¹, Koen van de Wetering³ and András Váradi¹

(¹Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest;

²Department of Cell and Molecular Biology, University of Hawaii, Honolulu, USA;

³Division of Molecular Oncology, Netherlands Cancer Institute, Amsterdam, The Netherlands):

Preclinical translational research for therapeutical interventions in arterial calcification diseases

🕒 15:25 – 15:50

Ildikó Kristó¹, Csaba Bajusz¹, Péter Borkúti¹, Zoltán Kovács¹,

Barbara Borsos², Tibor Pankotai² and Péter Vilmos¹

(¹Institute of Genetics, BRC HAS, Szeged;

²Department of Biochemistry and Molecular Biology, University of Szeged, Szeged):

The actin binding cytoskeletal protein Moesin is involved in nuclear mRNA export

🕒 15:50 – 16:15

Anita Hajdu¹, Orsolya Dobos¹, István Nagy², Ferenc Nagy^{1,3} and

László Kozma-Bognár^{1,4}

(¹Institute of Plant Biology, BRC HAS, Szeged;

²SeqOmics Biotechnology Ltd, Mórahalom;

³Institute of Molecular Plant Sciences, School of Biological Sciences, University of Edinburgh, Edinburgh, UK;

⁴Department of Genetics, Faculty of Sciences and Informatics, University of Szeged, Szeged):

ELONGATED HYPOCOTYL 5 mediates blue light signaling to the Arabidopsis circadian clock

16:15 – 16:30 Break

Chairman: Miklós Erdélyi
(*Institute of Genetics, BRC HAS, Szeged*)

🕒 16:30 – 16:55

Tibor Hajszán, Judith Baka, Orsolya Huzián, Eszter Csákvári, Nikoletta Dobos and László Siklós
(*Institute of Biophysics, BRC HAS, Szeged*):

Potential Role of Synaptoprotection in Mood Disorders

🕒 16:55 – 17:20

Ákos Nyerges¹, Judit Cseklye², Balázs Bálint², István Nagy^{2,3}, Csaba Pál¹, György Pósfai¹ and **Tamás Fehér**¹
(¹*Institute of Biochemistry, BRC HAS, Szeged*;
²*Seqomics Biotechnology Ltd., Mórahalom*;
³*Sequencing Laboratory, BRC HAS, Szeged*):

CRISPR-based modulation of bacterial genome stability

🕒 17:20 – 17:45

Izabel Patik, Virág Székely, Nóra Kucsma, György Várady, Éva Bakos and Csilla Laczka
(*Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest*):

Fluorescent dyes as effective tools to screen and target hepatic Organic Anion Transporting Polypeptides

🕒 17:45 – 19:00

POSTER SECTION

🕒 19:00

Dinner – BRC Restaurant

Chairman: Imre Vass

(*Institute of Plant Biology, BRC HAS, Szeged*)

🕒 9:00 – 9:25

Melinda Bence, Ferenc Jankovics and Miklós Erdélyi

(*Institute of Genetics, BRC HAS, Szeged*):

Combining the auxin-inducible degradation system with crispr/cas9-based genome editing: a novel tool for the conditional depletion of endogenous proteins in *Drosophila melanogaster*

🕒 9:25 – 9:50

Magdolna Gombos¹, Zoltán Zombori¹, Gábor Horváth², Dávid Aleksza¹, Mária Szécsényi¹ and János Györgyey¹

(¹*Institute of Plant Biology, BRC HAS, Szeged*;

²*Institute of Genetics, BRC HAS, Szeged*):

The developing story of the LOB-domain transcription factor family in *Brachypodium distachyon*

🕒 9:50 – 10:15

András Harazin¹, Alexandra Bocsik¹, Judit Váradi², Vilmos Tubak³, Miklós Vecsernyés² and Mária A. Deli¹

(¹*Institute of Biophysics, BRC HAS, Szeged*;

²*Department of Pharmaceutical Technology, University of Debrecen, Debrecen*;

³*Creative Labor Kft., Szeged*):

The protective effect of α -melanocyte stimulating hormone in cytokine-damaged intestinal epithelial and brain endothelial cell cultures

🕒 10:15 – 10:40

Mattia Zampieri¹, **Balázs Szappanos**², Maria Virginia Buchieri³, Andrej Trauner⁴,

Sébastien Gagneux⁴, Brigitte Gicquel³, Joel Lelievre⁵, Balázs Papp² and Uwe Sauer¹

(¹*Institute of Molecular Systems Biology, ETH Zürich, Switzerland*;

²*Institute of Biochemistry, BRC HAS, Szeged*;

³*Mycobacterial Genetics Unit, Institute Pasteur, Paris, France*;

⁴*Swiss Tropical and Public Health Institute (Swiss TPH), Basel, Switzerland*;

⁵*Disease of the Developing World, GlaxoSmithKline, Severo Ochoa, Tres Cantos, Madrid, Spain*):

Untangling the mechanism of action of antibacterial compounds by non-targeted metabolomics

🕒 10:40 – 11:00 Break

Chairman: László Zimányi
(*Institute of Biophysics, BRC HAS, Szeged*)

🕒 11:00 – 11:25

Eszter Kozák^{1,2}, Bence Szikora², Attila Iliás², Péter Károly Jani³, Zoltán Hegyi¹, Dóra Dedinszki¹, Zsolt Matula¹, Imre Kacs Kovics^{2,3}, András Váradi¹
(¹*Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest;*
²*Department of Immunology, Eötvös Loránd University, Budapest;*
³*ImmunoGenes Ltd, Budakeszi*):

Antibody development recognizing extracellular epitopes of human ABCC6

🕒 11:25 – 11:50

Gergő Kovács, Enikő Sutus, Viktória Szabó and Melinda K. Pirity
(*Institute of Genetics, BRC HAS, Szeged*):

Balancing early and late neural processes by polycomb protein *Rybp*

🕒 11:50 – 12:15

László Szabados¹, Gábor Rigó¹, Ildikó Valkai¹, Dóra Faragó¹, Edina Kiss¹, Csaba Koncz^{1,2}, Sara Van Houdt³, Nancy Van de Steene³ and Matthew A. Hannah³
(¹*Institute of Plant Biology, BRC HAS, Szeged;*
²*Max-Planck-Institute for Plant Breeding Research, Cologne, Germany;*
³*Bayer CropScience, 9052-Ghent, Belgium*):

Gene mining in model and halophytic plants: functional identification of stress regulatory genes by random gene transfer and large-scale genetic screens

🕒 12:15 – 12:40

Kornél Kovács^{1,2,3}, Zoltán Bagi², Gergely Maróti⁴, Roland Wirth²,
Márk Szuhaj², Orsolya Strang², Balázs Kakuk², Tamás Böjti²,
Gábor Rákhely^{1,2} and Csaba Bagyinka¹

(¹*Institute of Biophysics, BRC HAS, Szeged;*

²*Department of Biotechnology, University of Szeged, Szeged;*

³*Department of Oral Biology and Experimental Dental Research, University of Szeged, Szeged;*

⁴*Institute of Biochemistry, BRC HAS, Szeged*);

Anaerobic microbial communities in biotechnological applications

🕒 12:40 – 14:00 Lunch break

Chairman: György Pósfai

(*Institute of Biochemistry, BRC HAS, Szeged*)

🕒 14:00 – 14:25

Zoltán Lipinszki, Margit Pál and Andor Udvardy

(*Institute of Biochemistry, BRC HAS, Szeged*):

Novel function of the evolutionarily conserved terminal lysine cluster of p54, the polyubiquitin receptor subunit of the 26S proteasome

🕒 14:25 – 14:50

Virág Vas¹, Gyöngyi Kudlik¹, Metta Dülk¹, Tamás Kovács¹, Dávid Ernszt²,
Krisztián Kvell², Ferenc Uher³ and László Buday¹

(¹*Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest;*

²*Department of Pharmaceutical Biotechnology, Faculty of Pharmacy and Szentagothai Research Center, University of Pécs;*

³*Stem Cell Biology, National Blood Service, Budapest*);

Analysis of mesenchymal stem cells and metabolic status of Tks4 mutant mice revealed new function of Tks4 scaffold protein

🕒 14:50 – 15:15

Gergely I. B. Varga¹, Gábor Csordás¹, Gyöngyi Cinege¹, Ferenc Jankovics¹,
Tamás Lukácsovich², Éva Kurucz¹, Viktor Honti¹ and István Andó¹

(¹*Institute of Genetics, BRC HAS, Szeged;*

²*Developmental Biology Center, University of California, Irvine, USA*);

Headcase regulates the hematopoiesis of *Drosophila melanogaster*

🕒 15:15 – 15:30 Break

🕒 15:30 – 15:55

Valéria Nagy¹, Anna Podmaniczki¹, André Vidal-Meireles¹, Roland Tengölics²,
László Kovács¹, Gábor Rákhely³, Alberto Scoma⁴ and **Szilvia Z. Tóth¹**

(¹*Institute of Plant Biology, BRC HAS, Szeged;*

²*Institute of Biochemistry, BRC HAS, Szeged;*

³*Department of Biotechnology, University of Szeged, Szeged;*

⁴*Center for Geomicrobiology, Aarhus University, Aarhus, Denmark);*

Fully phototrophic, efficient and sustainable H₂ production by the green alga *Chlamydomonas reinhardtii*

🕒 15:55 – 16:20

Ferenc Sarlós, Zoltán Násztor, **Áron Sipos**, János Horváth, Rita Nagypál,
András Dér and Géza I. Groma

(*Institute of Biophysics, BRC HAS, Szeged*):

Hofmeister effect on coenzyme FAD revealed by ultrafast fluorescence kinetics and molecular dynamics simulation

🕒 16:20 – 16:45

Máté Manczinger^{1,2,3}, Gábor Boross², Benjamin Papp¹, Balázs Papp²,
Lajos Kemény^{1,3} and Csaba Pál²

(¹*Department of Dermatology and Allergology, University of Szeged, Szeged;*

²*Institute of Biochemistry, BRC HAS, Szeged;*

³*MTA-SZTE Dermatological Research Group, Szeged*):

Parasite load drives rapid evolution of promiscuous peptide binding in human MHC-II alleles

INSTITUTE OF BIOPHYSICS

A bacterial “mother machine”: studying cell division and long term phenotypic variations on trapped bacterial cells

Ágnes Ábrahám, Krisztina Nagy, István Grexa, Lóránd Kelemen and Péter Galajda
(*Institute of Biophysics, BRC HAS, Szeged*)

Functional characterization of C-terminal domain in a sulfide: quinone oxidoreductase

Fanni Balogh¹, Ágnes Duzs¹, Nikolett Miklovcis¹, Gábor Paragi³,
Gábor Rákhely^{1,2} and András Tóth^{1,2}

(¹*Institute of Biophysics, BRC HAS, Szeged;*

²*Department of Biotechnology, University of Szeged, Szeged;*

³*Supramolecular and Nanostructured Materials Research Group,
Department of Medical Chemistry, University of Szeged, Szeged*)

Protection against the damaging effects of kainate on a culture model of the blood-brain barrier

Lilla Barna¹, Fruzsina Walter¹, András Harazin¹, Alexandra Bocsik¹, Patricia Campos-Bedolla² and Mária A Deli¹

(¹*Institute of Biophysics, BRC HAS, Szeged;*

²*Unidad de Investigacion Medica en Enfermedades Neurologicas, Hospital de Especialidades, Centro Medico Nacional Siglo XXI, Instituto Mexicano del Seguro Social, Mexico, D.F., Mexico*)

Integráns, transz-membrán fehérjék szolubilizálása kopolimerekkel

Bérczi Alajos¹, Domokos Réka¹, Deák Ágota², Szegletes Zsolt¹, Janovák László², Dékány Imre² és Zimányi László¹

(¹*MTA SZBK, Biofizikai Intézet, Szeged;*

²*SZTE TTK, Fizikai Kémiai és Anyagtudományi Tanszék, Szeged*)

Adhesion dynamics of melanoma cells to brain endothelium

Réka-Anita Domokos^{1,2}, Béla Varga^{1,3}, Csilla Fazakas¹, Imola Wilhelm¹,
Zsolt Szegletes¹, István A. Krizbai^{1,4}, György Váró¹ and Attila G. Végh¹

(¹*Institute of Biophysics, BRC HAS, Szeged;*

²*Babes-Bolyai University, Faculty of Physics, Cluj-Napoca, Romania;*

³*Laboratoire Charles Coulomb, UMR 5221 CNRS – Université de Montpellier, Montpellier, France;*

⁴*Institute of Life Sciences, Vasile Goldiș Western University, Arad, Romania*)

Evolution of resistance in antibiotic gradients

Barbara Dukic, Krisztina Nagy, Orsolya Hodula and Péter Galajda
(*Institute of Biophysics, BRC HAS, Szeged*)

Cell stiffness measurement with optical tweezers

István Grexa, Judit Molnár, István A. Krizbai and Lőránd Kelemen
(*Institute of Biophysics, BRC HAS, Szeged*)

Functional genomic analysis of biodegradation of substituted aromatic compounds

Botond Hegedüs^{1,2}, Gábor Bende², Krisztián Laczi², Katalin Perei²,
Péter B. Kós^{2,3} and Gábor Rákhely^{1,2}

(¹*Institute of Biophysics, BRC HAS, Szeged;*

²*Department of Biotechnology, University of Szeged, Szeged;*

³*Institute of Plant Biology, BRC HAS, Szeged*)

Hofmeister-active Ion Induced Changes in the Aggregation Properties of Benzyl Viologen Molecule; a Simulation Study

János Horváth, Csaba Bagyinka, András Dér and Zoltán Násztor
(*Institute of Biophysics, BRC HAS, Szeged*)

Characteristics of the blood-brain barrier in a novel model of vascular neurodegeneration

Zsófia Hoyk¹, Melinda Tóth², Brigitta Dukay², Judit Vígh¹, Miklós Sántha²
and Mária A. Deli¹

(¹*Institute of Biophysics, BRC HAS, Szeged;*

²*Institute of Biochemistry, BRC HAS, Szeged*)

Targeted delivery of nanoparticles across a culture model of the blood-brain barrier

Mária Mészáros¹, Gergő Porkoláb¹, Lőránd Kiss¹, Zoltán Kóta¹, Tibor Páli¹,
Zsófia Hoyk¹, Zsolt Bozsó², Livia Fülöp², Mária A. Deli¹ and Szilvia Veszelka¹

(¹*Institute of Biophysics, BRC HAS, Szeged;*

²*Department of Medical Chemistry, University of Szeged, Szeged*)

Catalytic mechanism of a novel sulfide: quinone oxidoreductase

Nikolett Miklovcics¹, Ágnes Duzs¹, Fanni Balogh¹, Gábor Rákhely^{1,2} and András Tóth^{1,2}

(¹Institute of Biophysics, BRC HAS, Szeged;

²Department of Biotechnology, University of Szeged, Szeged)

Effect of Hofmeister cosolutes on the photocycle of bacteriorhodopsin

Dávid Nagy, András Dér and László Zimányi

(Institute of Biophysics, BRC HAS, Szeged)

Development of Quantum Chemical Protocol for Parametrization of Phosphate and Ammonium Ions having Different Methylation

Zoltán Násztor¹, Ferenc Bogár², Gábor Paragi² and János Horváth¹

(¹Institute of Biophysics, BRC HAS, Szeged;

²MTA-SZTE Supramolecular and Nanostructured Materials Research Group of Hungarian Academy of Sciences, University of Szeged, Szeged)

Investigation of Collins's Rule for Phosphate and Ammonium Ions having Different Methylation

Zoltán Násztor¹, Ferenc Bogár², Gábor Paragi² and János Horváth¹

(¹Institute of Biophysics, BRC HAS, Szeged;

²MTA-SZTE Supramolecular and Nanostructured Materials Research Group of Hungarian Academy of Sciences, University of Szeged, Szeged)

Changes in the Local Hydration Environment of the Trp-cage Miniprotein elucidate Hofmeister effect

Zoltán Násztor¹, János Horváth¹, András Dér¹ and Ferenc Bogár²

(¹Institute of Biophysics, BRC HAS, Szeged;

²MTA-SZTE Supramolecular and Nanostructured Materials Research Group of Hungarian Academy of Sciences, University of Szeged, Szeged)

Expression of pattern recognition receptors and activation of the non-canonical inflammasome pathway in brain pericytes

Ádám Nyúl-Tóth, Mihály Kozma, Péter Nagyősz, Krisztina Nagy, Csilla Fazakas, János Haskó, Kinga Molnár, Attila E. Farkas, Attila G. Végh, György Váró, Péter Galajda, Imola Wilhelm and István A. Krizbai

(Institute of Biophysics, BRC HAS, Szeged)

The effect of surface charge on brain endothelial permeability

Ana Raquel Santa Maria, Fruzsina Walter, Nóra Horányi, András Kincses, Ilona Gróf, Sándor Valkai, András Dér and Mária A. Deli
(*Institute of Biophysics, BRC HAS, Szeged*)

Effect of helioxanthin on melanoma – endothelial adhesion, measured by single-cell force spectroscopy

Gergely Somogyi^{1,2}, Csilla Fazakas¹, Réka-Anita Domokos^{1,3}, Zsanett Hajdu⁴, Dezső Csupor⁴, Imola Wilhelm¹, Zsolt Szegletes¹, István A. Krizbai^{1,5}, György Váró¹ and Attila G. Végh¹
(¹*Institute of Biophysics, BRC HAS, Szeged*;

²*Info-Bionics, Faculty of Science and Informatics, University of Szeged, Szeged*;

³*Babes-Bolyai University, Faculty of Physics, Cluj-Napoca, Romania*;

⁴*Department of Pharmacognosy, Faculty of Pharmacy, University of Szeged, Szeged*;

⁵*Institute of Life Sciences, Vasile Goldiș Western University, Arad, Romania*)

Nanomechanical aspects of brain metastasis formation

Attila G. Végh¹, Béla Varga^{1,2}, Réka-Anita Domokos^{1,3}, Csilla Fazakas¹, Imola Wilhelm¹, Zsolt Szegletes¹, István A. Krizbai^{1,4} and György Váró¹
(¹*Institute of Biophysics, BRC HAS, Szeged*;

²*Laboratoire Charles Coulomb, UMR 5221 CNRS – Université de Montpellier, Montpellier, France*;

³*Babes-Bolyai University, Faculty of Physics, Cluj-Napoca, Romania*;

⁴*Institute of Life Sciences, Vasile Goldiș Western University, Arad, Romania*)

Onset of Quorum sensing in *Pseudomonas aeruginosa* bacteria

Vanda Zsiros, Krisztina Nagy, Eszter Csákvári, Orsolya Hodula and Péter Galajda
(*Institute of Biophysics, BRC HAS, Szeged*)

X-RAD (Crystallographic Radiation Studies)

Valéria Bugris¹, Veronika Harmat¹, Alberto Cassetta² and Sándor Brockhauser¹
(¹*X-Ray Crystallography Laboratory, BRC HAS, Szeged*;
²*CNR - Istituto di Cristallografia – UOS di Basovizza, Trieste, Italy*)

INSTITUTE OF BIOCHEMISTRY

Convergent evolution of isoenzymes in *E. coli*Ferenc Pál¹, Shijulal Nelson-Sathi², William Martin² and Balázs Papp¹*(¹Institute of Biochemistry, BRC HAS, Szeged;**²Institute of Molecular Evolution, Düsseldorf, Germany)***Enzyme promiscuity contributes to environmental adaptation through horizontal gene transfer**

Ádám Györkei, Bálint Kintsés, Ákos Nyerges and Balázs Papp

*(Institute of Biochemistry, BRC HAS, Szeged)***Effect of new morphine analogues on MOP and DOP receptors**Edina Szűcs¹, János Marton² and Sándor Benyhe¹*(¹Institute of Biochemistry, BRC HAS, Szeged;**²ABX Advanced Biochemical Compounds Biomedizinische Forschungsreagenzien GmbH, Radeberg, Germany)***A *Drosophila* H4r gén *in situ* módosítása CRISPR/Cas9 módszerrel**

Ábrahám Andrea, Henn László és Boross Imre Miklós

*(MTA SZBK Biokémiai Intézet, Szeged)***Metagenomic mining of the environmental microbiome for biotechnological purposes**

Waheed Ur Rahman, Bálint Kintsés, Orsolya Katinka Méhi, György Pósfai and Tamás Fehér

*(Institute of Biochemistry, BRC HAS, Szeged)***A pontmutációk gyakoriságának szabályozása *Escherichia coli*-ban CRISPR-interferencia felhasználásával**

Józsa Ádám, Pósfai György és Fehér Tamás

*(MTA SZBK Biokémiai Intézet, Szeged)***Synthesis and *in vitro* pharmacological characterization of the human cannabinoid peptide, RVD-hemopressin**Szabolcs Dvorácskó¹, Adriano Mollica², Csaba Vizler¹, Annamária Marton¹, Katalin Jósvay¹ and Csaba Tömböly¹*(¹Institute of Biochemistry, BRC HAS, Szeged;**²Dipartimento di Farmacia, Università di Chieti-Pescara "G. d'Annunzio", Chieti, Italy)*

O-glycosylation analysis of human serum

Ádám Pap¹, Amol Prakash², Katalin Medzihradzsky¹ and Zsuzsanna Darula¹

(¹Laboratory of Proteomics Research, BRC HAS, Szeged;

²Optys Corporation, Toronto, Canada)

Information on extracellular PTMs „hiding” in plain sight

Éva Klement and Katalin Medzihradzsky

(Laboratory of Proteomics Research, BRC HAS, Szeged)

Disturbing TCEP-induced side-reaction

Éva Hunyadi-Gulyás¹, Tamás Lango², Gábor Tusnády² and

Katalin Medzihradzsky¹

(¹Laboratory of Proteomics Research, BRC HAS, Szeged;

²Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest)

INSTITUTE OF ENZYMOLOGY

Effect of IGF2R mutational transcriptomic fingerprint on survival in colorectal cancerÁdám Nagy^{1,2}, Lőrinc Sándor Pongor^{1,2} and Balázs Győrffy^{1,2}*(¹Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest;**²Semmelweis University 2nd Dept. of Pediatrics, Budapest)***Prediction of residual risk of recurrence by a 3-gene expression signature following adjuvant chemotherapy in ER positive breast cancer**Péter Herman¹, Alberto Ocana², Christos Hatzis³, Lajos Pusztai³ and Balázs Győrffy^{1,4}*(¹MTA TTK Lendület Cancer Biomarker Research Group, Budapest;**²Servicio de Salud de Castilla-La Mancha, Albacete, Spain;**³Yale Universtiy, New Haven, Connecticut, USA;**⁴Semmelweis University 2nd Dept. of Pediatrics, Budapest)***Evaluation of induced overexpression efficiency by evaluating 342 independent experiment**Gyöngyi Munkácsy¹, Péter Herman², Boglárka Weltz² and Balázs Győrffy^{1,2}*(¹Semmelweis University 2nd Dept. of Pediatrics, Budapest;**²Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest)***Estrone derivatives as potent inhibitors of human Organic Anion Transporting Polypeptide (OATP) 2B1**Réka Rigó¹, Izabel Patik¹, Ildikó Bacsa², Erzsébet Mernyák² and Csilla Laczka¹*(¹Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest;**²Department of Organic Chemistry, University of Szeged, Szeged)*

INSTITUTE OF GENETICS

Analysis of the nuclear transport of the Moesin protein

Zoltán Kovács, Ildikó Kristó and Péter Vilmos
(*Institute of Genetics, BRC HAS, Szeged*)

Elimination of an actin-binding protein from the nucleus causes developmental defects

Csaba Bajusz, Izabella Bajusz, Péter Borkúti and Péter Vilmos
(*Institute of Genetics, BRC HAS, Szeged*)

Transposon-based mutagenesis to identify cancer „driver” genes

Liza Hudoba¹, Andrea Nagy¹, Gergely Imre¹, Anna Faragó¹, Balázs Bálint²,
Dóra Latinovics², Péter Bihari², István Nagy^{2,4}, Thomas Rüllicke³,
Lajos Mátés¹

(¹*Institute of Genetics, BRC HAS, Szeged;*

²*SeqOmics Biotechnology Ltd., Mórahalom;*

³*Institute of Laboratory Animal Science, University of Veterinary Medicine,
Vienna, Austria;*

⁴*Sequencing Laboratory, BRC HAS, Szeged)*

Analysis of sessile tissue integrity and function in *Drosophila melanogaster*

Viktor Honti, Gergely István Varga, Gyöngyi Cinege, Gábor Csordás, Róbert Márkus, Ferenc Jankovics, Szilárd Szikora, Éva Kurucz and István Andó
(*Institute of Genetics, BRC HAS, Szeged*)

Marker analysis of functionally different hemocyte subsets in the honey bee (*Apis mellifera*)

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Functional analysis of the Multinucleated Giant Hemocytes

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Absence of *Rybp* accelerates neural progenitor formation

Gergő Kovács, Enikő Sutus, Bertalan Takács and Melinda K. Pirity
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***Rybp* null mutant stem cells do not form functional sarcomeres during *in vitro* cardiac differentiation**

Viktória Szabó, Surya Henry and Melinda K. Pirity
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Two independent functions of yeast Rad5 in DNA damage tolerance

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Development of an *in vitro* RNAi efficiency monitoring system

Dávid Pusztai, András Blastyák, Péter Germán, Katalin Hegedűs,
Ildikó Fekete and Lajos Mátés
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Genetic dissection of legume-rhizobia symbiosis via Tnt1-insertion mutagenesis in *Medicago truncatula*

Szilárd Kovács, Ernő Kiss, Boglárka Oláh, Sándor Jenei,
Erzsébet Fehér-Juhász and Gabriella Endre
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Atg8* genes in *Drosophila melanogaster

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Artificial Amino Acid and its application in Protein-Protein interactions

Paras Gaur, Róbert Tóth and Lajos Haracska
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Computational evaluation of NGS-based approach for non-invasive detection of aneuploidy and copy number variation

Bence Széplaki¹, Katalin Priskin², Lajos Pintér^{1,2}, Gábor Jaksa², Dávid Balogh², Miklós Csűrös³, Katalin Farkas⁴, Nikoletta Nagy⁵, Márta Széll⁵ and Lajos Haracska^{1,2}

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Regulation of the DNA damage tolerance pathways

Kata Dudás, Lili Hegedűs, Lajos Haracska and Péter Burkovics
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Investigation of the redundancy between two formin proteins dDAAM and FRL during eye development in *Drosophila melanogaster*

Gabriella Gázsó-Gerhát, Rita Gombos and József Mihály
(*Institute of Genetics, BRC HAS, Szeged*)

INSTITUTE OF PLANT BIOLOGY

The mechanism of photosystem II inactivation during sulphur deprivation-induced H₂ production in *Chlamydomonas reinhardtii*

Valéria Nagy¹, Anna Podmaniczki¹, Anna Jójárt¹, André Vidal-Meireles¹, Gábor Rákhely², Laura Zsigmond¹, László Kovács¹ and Szilvia Z. Tóth¹

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The lifetime of the photosystem II subunit PSBO in green algae as studied by inducible *PSBO*-amiRNA lines

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Ascorbate deficiency leads to increased non-photochemical quenching in the green alga *Chlamydomonas reinhardtii*

André Vidal-Meireles¹, László Kovács¹, Valéria Nagy¹, Ralph Bock² and Szilvia Z. Tóth¹

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Methyl viologen mediated PSII photodamage via the generation of superoxide radicals

Sandeesh Kodru, Ateeq Ur Rehman and Imre Vass

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Singlet oxygen induced impairment of extracellular polymeric substances in *Synechocystis* and *Symbiodinium*

Faiza Bashir¹, Ateeq Ur Rehman¹, Ildikó Domonkos¹, Ferhan Ayaydin² and Imre Vass¹

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Proline is an excellent quencher of superoxide, and singlet oxygen

Ateeq Ur Rehman¹, Faiza Bashir¹, Ferhan Ayaydin², Zoltán Kóta³, Tibor Páli³ and Imre Vass¹

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Singlet oxygen sensing in cyanobacteria

Gábor Patyi, Ivy Mallick, Imre Vass and Péter Kós
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How to induce somatic embryogenesis in *Arabidopsis* roots

Dóra Bernula¹, Katalin Gémes², Péter Benkő², Ildikó Domonkos¹,
Györgyi Ferenc¹, Ferhan Ayaydin³ and Attila Fehér^{1,2}

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The *Arabidopsis* RLCK VI_A2 kinase affects cell elongation and thus contributes to plant growth and morphogenesis

Ildikó Valkai¹, Dézi Bianka Lajkó¹, Mónika Domoki¹, Dalma Ménesi¹, Ildikó Domonkos¹, Györgyi Ferenc¹, Ferhan Ayaydin², Petra Pál² and Attila Fehér^{1,3}

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Determination of PSI oligomerization in various cyanobacterial strains and mutants by non-invasive methods

Tomas Zakar, Éva Herman, László Kovács, Sindhuja Vajravel, Hajnalka Laczkó-Dobos and Zoltán Gombos

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Breaking the dogma: Transactivation by E2Fs is not essential, but their marked box domain is vital in *Arabidopsis thaliana*

Eszter Molnár¹, Aladár Pettkő-Szandtner¹, Gábor V. Horváth¹, Csaba Vizler² and Zoltán Magyar¹

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Exciton Relaxation Dynamics in Trimers and Aggregates of Light-Harvesting Complex II probed by 2D Electronic Spectroscopy

Parveen Akhtar^{1,2}, Cheng Zhang¹, Győző Garab², Howe-Siang Tan¹ and Petar H. Lambrev^{1,2}

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Anisotropic circular dichroism of macroscopically oriented light-harvesting complex II

Mónika Lingvaj, Parveen Akhtar, Krzysztof Pawlak, Győző Garab and Petar H. Lambrev

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Salt stress induced changes in the photosynthetic membranes of *Chlamydomonas reinhardtii*

Sai Divya Kanna¹, Parveen Akhtar¹, Satyabala Neelam², Srilatha Nama², Petar H. Lambrev¹, Győző Garab¹, Rajagopal Subramanyam² and Bettina Ughy¹

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Studying of the *Arabidopsis* CRK5 kinase function in the gravitropic response

Gábor Rigó¹, Lilla Koczka², László Szabados¹, Zsuzsanna Darula³, Katalin Medzihradzsky³, Csaba Koncz^{1,4} and Ágnes Cséplő¹

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Transcription factor WR11 involved in glycolysis and fatty acid synthesis is regulated by E2Fs controlling both proliferation and maturation in developing *Arabidopsis* seeds

Tünde Vaskő-Leviczky¹, Mihály Kis¹, János Pauk² and Zoltán Magyar¹

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²Cereal Research Non-Profit Ltd., Szeged)

***Arabidopsis* E2FB regulates organ formation and growth under the control of Retinoblastoma-related (RBR) protein**

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***Arabidopsis* Retinoblastoma-related (RBR) and E2F proteins; less canonical but more complex interactions**

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MAP kinase-mediated phosphorylation regulates intramolecular interactions of the *Arabidopsis* heat shock factor A4A

Norbert András¹, Gábor Rigó¹, Ágnes Cséplő¹, Ramakrishna Dasari¹,

Imma Pérez-Salamó² and László Szabados¹

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ZFP3 and flowering time regulation in *Arabidopsis*

Dániel Benyó¹, Mary Prathiba Joseph¹, Nitin Labhane^{1,2} and László Szabados¹

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Xanthophylls dependence of the microdomain organization of thylakoid membrane in the cyanobacterium *Synechocystis* sp. PCC 6803

Sindhujaa Vajravel¹, Mihály Kis¹, László Kovács¹, Parveen Akhtar¹,

Petar H Lambrev¹, Zoltán Gombos¹, Tünde N. Tóth² and Radek Kaňa³

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Studies on uptake of oligonucleotide-lipid conjugates

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