

2016
MÁJUS 25-26.

STRAUB-NAPOK

MEGHÍVÓ



MTA SZEGEDI BIOLÓGIAI KUTATÓKÖZPONT
AZ EURÓPAI UNIÓ KIVÁLÓSÁGI KÖZPONTJA
SZEGED, TEMESVÁRI KRT. 62., NAGYELŐADÓ





MEGHÍVÓ

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

2016. MÁJUS 25-26.

között megrendezésre kerülő

STRAUB-NAPOKRA

GENOMSZERKESZTÉS

TUDOMÁNYOS ÜLÉS

Elnök: Pósfai György

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

🕒 10:00 – 10:05

Ormos Pál

(MTA Szegedi Biológiai Kutatóközpont, Szeged):

Megnyitó

🕒 10:05 – 10:30

Csörgő Bálint

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

Bakteriális genommérnöki technikák fejlesztése az antibiotikum rezisztencia kutatásra

🕒 10:30 – 10:55

Sándor Judit

(Közép-európai Egyetem, Budapest):

A génszerkesztés etikai és jogi aspektusai

🕒 10:55 – 11:20

Erdélyi Miklós

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

Hogyan formálták át a genomszerkesztési eljárások a *Drosophila* genetikát; egy modellszervezet tanulságai

🕒 11:20 – 11:35 **Sz ü n e t**

🕒 11:35 – 12:00

Hiripi László

(Mezőgazdasági Biotechnológiai Kutatóintézet, Gödöllő):

Genomeditálás házinyúlban

25th
MAY
2016

WEDNESDAY

🕒 12:00–12:25

Dudits Dénes

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

Génművesség precízebben a növénytudományokban

🕒 12:25– 12:50

Ormos Pál átadja a Straub plakettet

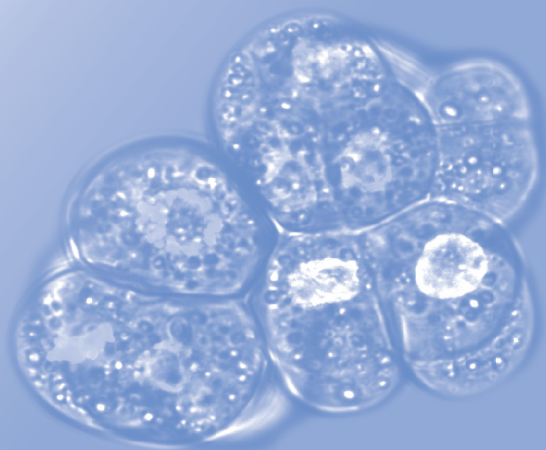
A STRAUB PLAKETT 2016. ÉVI DÍJAZOTTJÁNAK ELŐADÁSA:

Papp Balázs

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

Komplex metabolikus újítások darwini evolúciója

🕒 12: 50 – 15: 00 Ebéd szünet



Chairman: László Buday

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

🕒 15:00 – 15:25

Marianna Nagymihály^{1,2}, Federico Ariel³, Teddy Jégu³, Attila Szűcs¹,
Moussa Benhamed³, Attila Kereszt¹, Peter Mergaert² and Éva Kondorosi^{1,2}

(¹Institute of Biochemistry, BRC HAS, Szeged;

*²Institut de Biologie Intégrative de la Cellule, Centre National de la
Recherche Scientifique, Gif-sur-Yvette, France;*

*³Institute of Plant Sciences Paris-Saclay (IPS2), CNRS, INRA, University Paris-Sud,
University of Evry, University Paris-Diderot, Sorbonne Paris-Cite, University of
Paris-Saclay, France);*

**Dynamic changes in chromatin structure during endoreduplication
regulate expression of nodule-specific NCR genes in *Medicago truncatula***

🕒 15:25 – 15:50

Balázs Györfy^{1,2}, András Lánckzy¹ and Ádám Nagy^{1,2}

*(¹Lendület Cancer Biomarker Research Group, Research Centre for Natural
Sciences, HAS, Budapest;*

²Semmelweis University 2nd Dept. of Pediatrics, Budapest);

**Validation of survival-associated miRNAs by utilizing expression data of
1,053 human miRNAs from 2,060 breast cancer patients**

🕒 15:50 – 16:15

Róbert Katona

(Institute of Genetics, BRC HAS, Szeged);

De novo mammalian artificial chromosomes for future biomedicine

🕒 16:15 – 16:30 Break

25th
MAY
2016

WEDNESDAY

Chairman: Pál Ormos
(BRC HAS, Szeged)

🕒 16:30 – 16:55

Aladár Pettkő-Szandtner¹, Zsuzsa Darula², Kosuke Kobayashi³, Tünde Leviczky¹, Anita Kovács¹, László Bögre⁴, Masaki Ito³ and Zoltán Magyar¹

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

²*Laboratory of Proteomic Research, BRC HAS, Szeged;*

³*Graduate School of Bioagricultural Sciences, Nagoya University, Chikusa, Nagoya, Japan;*

⁴*Royal Holloway, School of Biological Sciences, University of London, Egham, Surrey, UK);*

Arabidopsis DREAM complexes: variations on a theme

🕒 16:55 – 17:20

Csaba Bagyinka

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

Reaction kinetics of hydrogenase „in charta”

🕒 17:20 – 17:45

Károly Kovács¹, Zoltán Farkas¹, Dorottya Kalapis¹, Patrick Kemmeren², Frank C.P. Holstege², Richard Notebaart³, Andreea Daraba¹, Zoltán Bódi¹, Csaba Pál¹ and Balázs Papp¹

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

²*Molecular Cancer Research, University Medical Center Utrecht, Utrecht, The Netherlands;*

³*Radboud University, Nijmegen, The Netherlands*);

Detrimental effect of knock-outs in yeast is partially explained by maladaptive transcriptional response

🕒 17:45 – 19:00

POSTER SECTION

🕒 19:00

Dinner – BRC Restaurant

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

🕒 9:00 – 9:25

Izabel Patik, Daniella Kovacsics, Orsolya Német, Virág Székely, Éva Bakos and **Csilla Laczka**

(*Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest*):
Organic Anion Transporting Polypeptides, uptake transporters involved in drug absorption, distribution and toxicity

🕒 9:25 – 9:50

István Földi¹, Szilárd Szikora¹, Ede Migh¹, Andrea Vig², Beáta Bugyi² and József Mihály^{1,3}

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

²*Department of Biophysics, Medical School, University of Pécs, Pécs*;

³*Office for Subsidized Research Units, HAS, Budapest*):

Coordinated regulation of the actin and microtubule cytoskeleton during axonal growth

🕒 9:50 – 10:15

Szilvia Z. Tóth

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

The biosynthesis and transport of ascorbate (vitamin C) in green algae and higher plants

🕒 10:15 – 10:40

Roland Patai¹, Melinda Paizs^{1,2}, Massimo Tortarolo³, Caterina Bendotti³ and László Siklós¹

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

²*Department of Physiology, Anatomy and Neuroscience, University of Szeged, Szeged*;

³*Laboratory of Molecular Neurobiology, "Mario Negri" Institute for Pharmacological Research, Milan, Italy*):

Calcium and calcium binding proteins in cell autonomous and non-cell autonomous degeneration of motor neurons

🕒 10:40 – 11:00 Break

Chairman: Imre Vass
(*Institute of Plant Biology, BRC HAS, Szeged*)

🕒 11:00 – 11:25

Imre Gombos¹, Tim Crul¹, Zsolt Török¹, Gábor Balogh¹, Mária Péter¹, Ana-Maria Pilbat², Ákos Hunya², Ibolya Horváth¹ and László Vígh¹

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

²*LipidArt Ltd., Szeged*);

Hsp co-modulator drug candidates acting on the base of membrane lipid therapy

🕒 11:25 – 11:50

László Radnai¹, Balázs Merő¹, Ibolya Leveles^{1,2}, Gergő Gógl³, Bálint Szeder¹, Gréta Kuzma¹, Anna Fekete¹, Anna Cserkaszky¹, Beáta G. Vértessy^{1,2}, László Nyitrai³ and László Buday¹

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

²*Department of Applied Biotechnology and Food Sciences, University of Technology and Economics; Budapest;*

³*Department of Biochemistry, Eötvös Loránd University, Budapest*);

Structural background of the regulation of Abl family kinases by SH3 domain tyrosine phosphorylation

🕒 11:50 – 12:15

Miklós Halmai, Zoltán Szabó and Ildikó Unk

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

PCNA at the crossroad of DNA repair pathways

🕒 12:15 – 12:40

András Viczián¹, Stefan Kircher², Péter Bernula¹, Roman Ulm³, Eberhard Schäfer² and Ferenc Nagy^{1,4}

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

²*Institute of Molecular Plant Physiology, University of Freiburg, Germany;*

³*Department of Botany and Plant Biology, Sciences III, University of Geneva, Switzerland;*

⁴*Institute of Molecular Plant Science, School of Biological Sciences, University of Edinburgh, UK*);

Tissue-specific aspects of photoreceptor controlled signalling pathways in *Arabidopsis thaliana*

🕒 12:40 – 14:00 Lunch break

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

🕒 14:00 – 14:25

Gábor Rákhely^{1,2,3}, Attila Bodor¹, Botond Hegedűs², Ágnes Kis², Krisztián Laczi¹, Gergely Maróti³ and Katalin Perei¹

(¹*Department of Biotechnology, University of Szeged, Szeged;*

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

³*Institute of Environmental and Technological Science, University of Szeged, Szeged;*

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

How to eat toxic compounds? Metabolic insights into microbial degradation of xenobiotics

🕒 14:25 – 14:50

Jingyan Fu¹, **Zoltán Lipinszki**^{1,2}, Héléne Rangone¹, Mingwei Min¹, Charlotte Mykura¹, Jennifer Chao-Chu¹, Sandra Schneider¹, Nikola S. Dzhindzhev¹, Marco Gottardo³, Maria G. Riparbelli³, Giuliano Callaini³ and David M. Glover¹

(¹*Department of Genetics, University of Cambridge, Cambridge, U.K.;*

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

³*Department of Life Sciences, University of Siena, Siena, Italy*);

Centriole maturation to motherhood: Conserved molecular interactions in centriole-to-centrosome conversion

🕒 14:50 – 15:15

Dávid Szűts¹, Judit Zámboreszky¹, Bernadett Szikriszt¹, Judit Z. Gervai¹, Ádám Póti¹, Orsolya Pipek², Dezső Ribli², István Csabai², Zoltán Szállási³ and Judit Moldvay⁴

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

²*Department of Physics of Complex Systems, Eötvös Loránd University, Budapest;*

³*Center for Biological Sequence Analysis, Department of Systems Biology, Technical University of Denmark, Lyngby, Denmark;*

⁴*Department of Tumor Biology, National Korányi Institute - Semmelweis*

University, Budapest):

Experimental and clinical analysis of mutational processes shaping cancer genomes

15:15 – 15:30 Break

🕒 15:30 – 15:55

Eszter Zsigmond, Mónika Mórocz, Róbert Tóth, Orsolya Berczeli, Lili Döme, Szilvia Juhász and Lajos Haracska

(Institute of Genetics, BRC HAS, Szeged):

The role of human Spartan in the maintenance of genome integrity

🕒 15:55 – 16:20

Ildikó Domonkos, Tomás Zakar, Mihály Kis, Ildikó Valkai and Gábor Horváth
(Institute of Plant Biology, BRC HAS, Szeged):

Biological sample preparation for Scanning Electron Microscopy- from cyanobacteria to Arabidopsis leaves

🕒 16:20 – 16:45

Balázs Szalontai

(Institute of Biophysics, BRC HAS, Szeged):

The hierarchy of the dynamics of biological membrane components

INSTITUTE OF BIOPHYSICS

Studying the movement of microscopic particles and bacteria in holographic optical tweezers

Ágnes Ábrahám, Orsolya Sipos and Péter Galajda
(*Institute of Biophysics, BRC HAS, Szeged*)

17 β -estradiol augments axotomy-induced cell-type specific changes in P2X7 receptor expression in the mouse hypoglossal nucleus

Beáta Barabási¹, Andrea Csondor¹, Tamara Martín-Pozas², Adriana Marisol Pulupa Sánchez², Géza Antalffy³, László Siklós¹, Ulises Gómez-Pinedo², Árpád Párducz¹ and Zsófia Hoyk¹

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

²*Instituto de Neurociencias, Hospital Clínico San Carlos, Universidad Complutense, Madrid, Spain;*

³*3DHISTECH Ltd., Budapest)*

Alfa-tokoferol és egyik analógjának kölcsönhatása citokróm-b561 fehérjékkel

Bérczi Alajos¹, Laskay Krisztina¹, Márton Zsuzsanna¹, Tóth András^{1,2}, Rákhely Gábor^{1,2} és Zimányi László¹

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

²*Szegedi Tudományegyetem, Biotechnológiai Tanszék, Szeged)*

PN159 peptide increases drug penetration across Caco-2 intestinal barrier model by reversibly modulating tight junctions

Alexandra Bocsik^{1,7}, Ilona Gróf¹, Lóránd Kiss¹, Ferenc Ötvös², Ottó Zsíros³, Livia Fülöp⁴, Mónika Vastag⁵, Ágnes Kittel⁶, Piroska Szabó-Révész⁷ and Mária A. Deli¹

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

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

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

⁴*Department of Medical Chemistry, University of Szeged, Szeged;*

⁵*Division of Pharmacology and Drug Safety Research, Gedeon Richter Plc., Budapest;*

⁶*Institute of Experimental Medicine, HAS, Budapest;*

⁷*Department of Pharmaceutical Technology, University of Szeged, Szeged)*

Isolation of potential hydrocarbon-degrading bacterial strains from mazut suitable for oil spill bioremediation

Attila Bodor^{2,3}, Sándor Mészáros¹, Péter Petrovski¹, Ágnes Kis^{1,3}, Krisztián Laczi^{2,3}, Katalin Perei^{2,3} and Gábor Rákhely^{1,2,3}

(¹Institute of Biophysics, BRC HAS, Szeged;

²Department of Biotechnology, University of Szeged, Szeged;

³Institute of Environmental and Technological Science, University of Szeged, Szeged)

Effect of adaptation on n-hexane degradation of a hydrocarbon-utilizing *Rhodococcus* strain

Attila Bodor^{2,3}, Nikolett Rácz¹, Sándor Mészáros¹, Gábor Rákhely^{1,2,3} and Katalin Perei^{2,3}

(¹Institute of Biophysics, BRC HAS, Szeged;

²Department of Biotechnology, University of Szeged, Szeged;

³Institute of Environmental and Technological Science, University of Szeged, Szeged)

The effect of antibiotic concentration gradients on *Escherichia coli* bacteria

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

α -MSH protects brain endothelial cells from cytokine-induced damage

András Harazin¹, Alexandra Bocsik¹, Miklós Vecsernyés² and Mária A. Deli¹

(¹Institute of Biophysics, BRC HAS, Szeged;

²Department of Pharmaceutical Technology, University of Debrecen, Debrecen)

Isolation and characterization of a novel cellulose and hemicellulose degrading strain

Barbara Hódi², Katalin Ördög², Árpád Szilágyi², Katalin Perei² and Gábor Rákhely^{1,2,3}

(¹Institute of Biophysics, BRC HAS, Szeged;

²Department of Biotechnology, University of Szeged, Szeged;

³Institute of Environmental and Technological Science, University of Szeged, Szeged)

Structural modeling of sulfide oxidase enzymes

Levente Ivanov¹, Ágnes Duzs¹, András Tóth^{1,2}, Gábor Rákhely^{1,2} and Gábor Paragi³

(¹Department of Biotechnology, University of Szeged, Szeged;

²Institute of Biophysics, BRC HAS, Szeged;

³HAS and University of Szeged, Szeged)

Lab-on-a-chip eszköz biológiai gátak modellezésére

Kincses András, Walter Fruzsina, Valkai Sándor, Ormos Pál, Deli Mária és Dér András

(MTA SZBK, Biofizikai Intézet, Szeged)

Stability and unfolding of FomA, a β -barrel membrane protein, studied by fluorescence spectroscopy

Zoltán Kóta¹, Esther Talmon², Jörg H. Kleinschmidt² and Tibor Páli¹

(¹Institute of Biophysics, BRC HAS, Szeged;

²Department of Biology, University of Kassel, Kassel, Germany)

Rekombináns citokróm-b561 fehérjék spektrális analízise

Laskay Krisztina¹, Márton Zsuzsanna¹, Bérczi Alajos¹, Tóth András^{1,2}, Rákhely Gábor^{1,2} és Zimányi László¹

(¹MTA SZBK, Biofizikai Intézet, Szeged;

²Szegedi Tudományegyetem, Biotechnológiai Tanszék, Szeged)

X-ray Crystallography Facility at the Biological Research Centre, Szeged

Katalin Mató, Valéria Bugris, Veronika Harmat and Sándor Brockhauser

(X-Ray Crystallography Laboratory, BRC HAS, Szeged;)

Targeted nanoparticle delivery across brain endothelial cells using nutrient transporter ligands

Mária Mészáros¹, Lóránd Kiss¹, Dóra Hantosi¹, Zsolt Bozsó², Livia Fülöp², Balázs Szalontai¹, Zoltán Kóta¹, Péter Sipos³, Piroska Szabó-Révész³, Mária A. Deli¹ and Szilvia Veszélka¹

(¹Institute of Biophysics, BRC HAS, Szeged;

²Department of Medical Chemistry, University of Szeged, Szeged;

³Department of Pharmaceutical Technology, University of Szeged, Szeged)

Characterization of catalytic mechanism of a sulfide quinone oxidoreductase enzyme

Nikolett Miklovics¹, Ágnes Duzs², Levente Ivanov², 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*HAS and University of Szeged, Szeged)*

Effect of acetic acid on nitrogenase catalysed biohydrogen production in *Thiobacillus thiooxidans*

Nikolett Miklovics¹, Andrea Nyilasi¹, Kornél L. Kovács^{1,2} and Gábor Rákhely^{1,2}

(¹*Department of Biotechnology, University of Szeged, Szeged;*

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

Hofmeister active salt-induced changes in the first solvation shell of the TC5B miniprotein

Zoltán Násztor¹, András Dér¹ and Ferenc Bogár²

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

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

Effect of Hofmeister-active salts on the conformation of the FAD coenzyme: a simulation study

Zoltán Násztor, János Horváth, András Dér and Géza Groma

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

Free energy profile and fluctuations at the protein-water interface

Zoltán Násztor¹, János Horváth¹, Ferenc Bogár² and András Dér¹

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

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

Differences in the molecular structure of the blood-brain barrier in the cerebral cortex and white matter: an *in silico*, *in vitro* and *ex vivo* study

Ádám Nyúl-Tóth¹, Maria Suciu², Judit Molnár¹, Csilla Fazakas¹, János Haskó¹,
Hildegard Herman², Attila E. Farkas¹, Mihály Kozma¹, Kinga Molnár¹,
József Kaszaki³, Anca Hermenean², Imola Wilhelm¹ and István A. Krizbai^{1,2}

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

²*Institute of Life Sciences, Vasile Goldis Western University of Arad,
Arad, Romania;*

³*Institute of Surgical Research, University of Szeged, Szeged)*

Expression and regulation of toll-like and nod-like receptors in cerebral endothelial cells

Ádám Nyúl-Tóth, Péter Nagyősi, Csilla Fazakas, Imola Wilhelm, Judit Molnár, Mihály Kozma, János Haskó and István A. Krizbai
(*Institute of Biophysics, BRC HAS, Szeged*)

Electron paramagnetic resonance studies of radical reactions of a NADH analogue

Krisztina Sebők-Nagy¹, Dániel Rőzsár², Árpád Balázs², László G. Puskás² and Tibor Páli¹
(¹*Institute of Biophysics, BRC HAS, Szeged*;
²*AVICOR Ltd., Szeged*)

Direct mapping intercellular interactions: key steps for brain metastasis formation

Attila G. Végh, Béla Varga, Csilla Fazakas, Imola Wilhelm, Judit Molnár, Zsolt Szegletes, István A. Krizbai and György Váró
(*Institute of Biophysics, BRC HAS, Szeged*)

Cerebrovascular damage induced by low dose X-ray irradiation of whole brain in mice is reversible

Fruzsina R. Walter¹, Boglárka Tóth Schilling², Alexandra Bocsik¹, Nikolett Sándor², Violetta Léránd², Zsuzsanna Kahán³, Géza Sáfrány², Hargita Hegyesi^{2,4} and Mária A. Deli¹
(¹*Institute of Biophysics, BRC HAS, Szeged*;
²*Frédéric Joliot-Curie National Research Institute for Radiobiology and Radiohygiene, Budapest*;
³*Department of Oncotherapy, Faculty of Medicine, University of Szeged, Szeged*;
⁴*Faculty of Health Sciences, Semmelweis University, Budapest*)

Studying the dynamics of quorum sensing in *Pseudomonas aeruginosa* bacteria

Vanda Zsiros, Krisztina Nagy, Ádám Kerényi, Orsolya Sipos and Péter Galajda
(*Institute of Biophysics, BRC HAS, Szeged*)

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)

NMDA receptor mediated acute effect of kynurenic acid and it's analogue on the opioid receptor activity

Reza Samavati¹, Edina Szűcs¹, Ferenc Zádor¹, Róbert Gáspár², Bernadett Tuka³, Anna Borsodi¹, Sándor Benyhe¹, Ferenc Fülöp⁴, László Vécsei³ and József Toldi³

(¹Institute of Biochemistry, BRC HAS, Szeged;

²Department of Pharmacodynamics and Biopharmacy, Faculty of Pharmacy, University of Szeged, Szeged;

³Institute of Pharmaceutical Chemistry, Faculty of Pharmacy, University of Szeged, Szeged;

⁴Department of Neurology, Faculty of Medicine, University of Szeged, Szeged)

No evidence that bacterial gene regulation has adapted to avoid the accumulation of toxic metabolites

Ádám Györkei¹, Balázs Szappanos¹, Laurence D. Hurst² and Balázs Papp¹

(¹Synthetic and Systems Biology Unit, Institute of Biochemistry, BRC HAS, Szeged;

²Department of Biology & Biochemistry, University of Bath, Bath, U.K.)

Initial cell density may bias microbial fitness measurements

Gábor Boross, Zoltán Farkas, Andreea Daraba, Karola Almási, Anett Dunai, Viktória Lázár, Csaba Pál, and Balázs Papp

(Institute of Biochemistry, BRC HAS, Szeged)

INSTITUTE OF ENZYMOLOGY

Examining the effect of cell dispersal on tumor heterogeneity and diagnostic sequencing

Lőrinc S. Pongor^{1,2}, Hajnalka Harami-Papp², Előd Méhes³, András Cziráok^{3,4} and Balázs Győrfy^{1,2}

(¹Lendület Cancer Biomarker Research Group, Research Centre for Natural Sciences, HAS, Budapest;

²Semmelweis University 2nd Dept. of Pediatrics, Budapest;

³Eötvös Lóránd University, Budapest;

⁴University of Kansas Medical Center, Kansas, USA)

Expression signature driven by somatic KRAS mutations display prognostic power in NSCLC

Ádám Nagy¹, Lőrinc S. Pongor^{1,2} and Balázs Győrfy^{1,2}

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

²Semmelweis University 2nd Dept. of Pediatrics, Budapest)

Microarray validated RNAi silencing efficiency displays 18.5% failure rate across 429 independent experiments

Péter Herman¹, Gyöngyi Munkácsy^{1,2}, Zsófia Sztupinszki² and Balázs Győrfy^{1,2}

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

²Semmelweis University 2nd Dept. of Pediatrics, Budapest)

New methods for the investigation of uptake transporter drug interactions

Izabel Patik, Virág Székely and Csilla Laczka

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

Gene-expression based colon cancer molecular subtypes: concordance, effect on survival and selection of most representative preclinical models

Zsófia Sztupinszki¹ and Balázs Győrfy^{1,2}

(¹Semmelweis University 2nd Dept. of Pediatrics, Budapest;

²Lendület Cancer Biomarker Research Group, Research Centre for Natural Sciences, HAS, Budapest)

INSTITUTE OF GENETICS

Investigation of the biological significance of nuclear actin

Péter Borkúti¹, Izabella Bajusz¹, Beáta Kari¹, Tamás Lukácsovich² and Péter Vilmos¹

(¹Institute of Genetics, BRC HAS, Szeged;

²University of California Irvine, Irvine, USA)

Modification of the nuclear transport of an actin-binding protein

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

The actin-binding moesin protein is a new member of nuclear mRNP complexes

Ildikó Kristó¹, Csaba Bajusz¹, Joseph Dopie², Maria Vartiainen² and Péter Vilmos¹

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Characterization of the Vajk proteins in *Drosophila melanogaster*

Gyöngyi Cinege¹, János Zsámboki¹, Gábor Csordás¹, Viktor Honti¹, Erika Gábor¹, Gergely Varga¹, Zoltán Hegedűs², István Andó¹ and Éva Kurucz¹

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An immunological toolkit for the characterization of the honey bee (*Apis mellifera*) hemocytes

Erika Gábor¹, Tibor Török², János Zsámboki¹, Gyöngyi Cinege¹, Gábor Csordás¹, Viktor Honti¹, Éva Kurucz¹ and István Andó¹

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Headcase, a novel regulator of blood cell homeostasis in *Drosophila melanogaster*

Gergely I. B. Varga¹, Gábor Csordás¹, Ferenc Jankovics¹, Tamás Lukácsovich², Éva Kurucz¹, Viktor Honti^{1*} and István Andó^{1*}

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Potential applications of a novel transgenic organ model

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Study of loss of heterozygosity (LOH) in the BRCA1-2 tumor suppressor genes

Tímea Óvári¹, Zsolt Márton Enyedi¹, Gábor Jaksa², Farkas Sükösd³, Adrienn Hajdu³ and Lajos Haracska¹

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Non-invasive MPS-based detection of copy number variation using internal amplification control

B. Széplaki¹, K. Priskin², L. Pinter^{1,2}, G. Jaksa², D. Balogh², M. Csűrös³, K. Farkas⁴, N. Nagy⁵, M. Széll⁵ and L. Haracska^{1,2}

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Regulation of DNA damage tolerance by ZBTB1

Kata Dudás, Lili Döme, Lajos Haracska and Péter Burkovics
(*Institute of Genetics, BRC HAS, Szeged*)

Analysis of a novel gene involved in stem cell differentiation in the *Drosophila* testis niche

Brigitta Alexandra Szarka-Kovács, Ferenc Jankovics and Miklós Erdélyi
(*Institute of Genetics, BRC HAS, Szeged*)

Conditional depletion of *Drosophila* Vasa protein by auxin-inducible degradation system

Melinda Bence, Ferenc Jankovics and Miklós Erdélyi

(Institute of Genetics, BRC HAS, Szeged)

The role of Atg9 in fertility of *Drosophila* females

Viktória Kiss¹, András Jipa¹, Kata Varga¹, Zsófia Simon-Vecsei¹,
Tamás Maruzs¹, Dávid Tóth³, János Szabad³ and Gábor Juhász^{1,2}

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Eötvös Loránd University, Budapest;*

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Cas9-mediated mutagenesis of core autophagy genes in *Drosophila*

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The role of Atg16 in autophagy and in alcohol tolerance

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Identification of new binding partners of *Drosophila* Atg proteins with proteomic analysis

Zsófia Simon-Vecsei¹, Ágnes Varga², Viktória Kiss¹, Kata Varga¹,
András Jipa¹, Tamás Maruzs¹, Szabolcs Takáts² and Gábor Juhász^{1,2}

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Retromer is required for autophagy through maintaining proper lysosome function in *Drosophila*

Tamás Maruzs^{1,2}, Péter Lőrincz¹, Zsuzsanna Szatmári¹, Szilvia Széplaki¹, Zoltán Sándor¹, Zsolt Lakatos¹, Gina Puska¹, Gábor Juhász^{1,2} and Miklós Sass¹

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Stem cell derived *rybp null* mutant cardiomyocytes lack functional sarcomeres

Viktória Szabó and Melinda K. Pirity

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Alteration of retinoic acid signaling in *rybp null* mutant neural cultures

Enikő Sutus, Gergő Kovács and Melinda K. Pirity

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A doxycycline-regulable gene expression system in B16-F10 mouse melanoma cell line

Dávid Pusztai¹, Péter Germán¹, Katalin Hegedűs¹, Ildikó Fekete¹,

Ibolya Horváth², László Vígh² and Lajos Mátés¹

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Somatic-transgenic mouse model to introduce random genome-wide deletions

Gergely Imre¹, Liza Hudoba¹, Andrea Nagy¹, Bálint Balázs³, István Nagy^{2,3}, Thomas Rülcke⁴ and Lajos Mátés¹

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Neuronal cytoskeleton regulation during axonal growth in *Drosophila*

Tamás Mészáros¹, István Földi², Szilárd Szikora², Rita Gombos²,

Ede Migh² and József Mihály²

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Arabidopsis retinoblastoma-related (RBR) acts on chloroplast biogenesis and differentiation in an E2FC-dependent manner

Eszter Molnár¹, Beatrix Horváth^{2,4}, Ottó Zsíros¹, Gábor V. Horváth¹, Árpád Párducz³, Ben Scheres², Győző Garab¹, László Bögre⁴, and Zoltán Magyar¹

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The Arabidopsis cell cycle regulator E2FB controls seed and early seedling development through the regulation of LEC2 and WRI1 genes

Tünde Levicky¹, Áron Juhász¹, Anita Kovács¹, Mihály Kis¹, Zoltán Gombos¹, János Pauk² and Zoltán Magyar¹

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The Arabidopsis retinoblastoma-related (RBR) functions in sucrose-dependent manner

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Regulation of ascorbate biosynthesis in the green alga *Chlamydomonas reinhardtii*

André Vidal Meireles¹, Juliane Neupert², Valéria Nagy¹, László Kovács¹, Laura Zsigmond¹, Laise Rosado de Souza², Alisdair R. Fernie², Ralph Bock² and Szilvia Z. Tóth¹

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The chloroplastic bile acid transporter 3 is required for the operation of the photosynthetic electron transport chain in *Arabidopsis thaliana*

Anikó Galambos¹, Dávid Tóth¹, André Vidal Meireles¹, László Kovács¹, Valéria Nagy¹, Anna Podmaniczki¹, Gábor Rigó², Alisdair R. Fernie², Laura Zsigmond¹ and Szilvia Z. Tóth¹

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Assessment of the lifetime of the PSBO subunit of photosystem II using the artificial microRNA approach in *Chlamydomonas reinhardtii*

André Vidal Meireles¹, Anna Podmaniczki¹, Valéria Nagy¹, László Kovács¹, Ralph Bock² and Szilvia Z. Tóth¹

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Ascorbate accumulation during sulphur deprivation and its effects on photosystem II activity and H₂ production of the green alga *Chlamydomonas reinhardtii*

Valéria Nagy¹, André Vidal-Meireles¹, Roland Tengölics², Gábor Rákhely², Győző Garab¹, László Kovács¹ and Szilvia Z. Tóth¹

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Additional effect of carotenoids and lipid desaturation on temperature and high-light resistance of *Synechocystis* mutants

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

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

Does β-carotene influence the proteolysis pathway of cyanobacterial phycobilisomes?

Sindhuja Vajravel, Mihály Kis, László Kovács, Zoltán Gombos and Tünde N. Tóth

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

Reconstituted membranes of Photosystem I and LHCII show efficient energetic connectivity and resistance to photodamage

Parveen Akhtar, Mónika Lingvay, Győző Garab and Petar H. Lambrev
(*Institute of Plant Biology, BRC HAS, Szeged*)

Acclimatization of photosynthetic apparatus to NaCl in *Chlamydomonas reinhardtii*

Kanna DS¹, Akhtar P¹, Lambrev P¹, Garab G¹, Subramanyam R² and Ughy B¹
(¹*Institute of Plant Biology, BRC HAS, Szeged*;
²*Department of Plant Sciences, School of Life Sciences, University of Hyderabad, Hyderabad, India*)

LBD gene family members exhibit highly diverse spatial transcriptional profiles in *Brachypodium distachyon*

Magdolna Gombos, Zoltán Zombori, Gábor Horváth, Mária Szécsényi, Györgyi Sándor, Hajnalka Kovács and János Györgyey
(*Institute of Plant Biology, BRC HAS, Szeged*)

Connection of phosphate starvation response regulation and proline metabolism in *Arabidopsis thaliana*

Dávid Aleksza, Hajnalka Kovács, László Szabados and Gábor V. Horváth
(*Institute of Plant Biology, BRC HAS, Szeged*)

The Ethylene Response Factor-VII genes RAP2.12, RAP2.2 and RAP2.3 regulate low oxygen, oxidative and osmotic stress responses

Csaba Papdi^{1,2}, Imma Pérez-Salamó^{1,2}, Mary Prathiba Joseph¹, Beatrice Giuntoli³, László Bögre², Csaba Koncz^{1,4} and László Szabados¹
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The Arabidopsis Zinc Finger Protein 3 interferes with ABA and light signaling in seed germination and plant development

Joseph Mary Prathiba¹, Csaba Papdi^{1,2}, László Kozma-Bognár¹, István Nagy¹, Marta López-Carbonell³, Csaba Koncz⁴ and László Szabados¹

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Auxin-ethylene interactions in the Arabidopsis *crk5-1* mutant in dark. Localization of polar auxin transport proteins.

Abu Imran Baba, Norbert András, Gábor Rigó, László Szabados and Ágnes Cséplő

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Genetic analysis of mitochondrial functions and stress responses

Laura Zsigmond¹, Bogáta Boros¹, Niklas Koerber², Fabio Fiorani² and László Szabados¹

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Expression of connexins and androgen hormones changed in hearing loss patients

Viktória Szűts¹, Piroska Fazekas², András Kovács^{1,2}, Attila Nagy^{2,3}, Péter Deák^{1,4}, János Jarabin², Ferenc Ötvös¹, Csaba Vágvolgyi⁵, Mihály Szécsi⁶, Katalin Halasy⁷, László Rovó², and József Géza Kiss²

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Application of histidine-mediated chemical trapping technique in different strains of *Synechosystis* sp. PCC 6803

Ateeq Ur Rehman and Imre Vass

(Institute of Plant Biology, BRC HAS, Szeged)

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