

2018. MÁJUS 10-11.

STRAUB-NAPOK

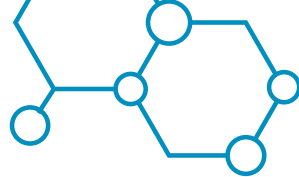
MEGHÍVÓ



MTA SZEGEDI BIOLÓGIAI KUTATÓKÖZPONT
AZ EURÓPAI UNIÓ KIVÁLÓSÁGI KÖZPONTJA

SZEGED, TEMESVÁRI KRT. 62., NAGYELŐADÓ





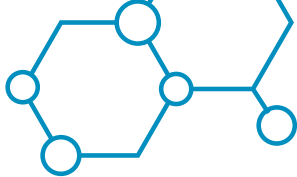
MEGHÍVÓ

A Magyar Tudományos Akadémia
Szegei Biológiai Kutatóközpontjának kutatói
tisztellel meghívják Önt és munkatársait a

2018. MÁJUS 10-11.

között megrendezésre kerülő

STRAUB-NAPOKRA



CIRKADIÁN RITMUSOK – CIRKADIÁN ÓRÁK

TUDOMÁNYOS ÜLÉS

Elnök: Nagy Ferenc
MTA Szegedi Biológiai Kutatóközpont, Szeged

🕒 10:00 – 10:05

Nagy Ferenc
MTA Szegedi Biológiai Kutatóközpont, Szeged

Megnyitó

🕒 10:05 – 10:30

Kozma-Bognár László^{1,2}

¹*MTA Szegedi Biológiai Kutatóközpont, Növénybiológiai Intézet, Szeged*

²*Szegedi Tudományegyetem, TTIK, Genetikai Tanszék, Szeged*

Egy óra a zöldben – a növényi cirkadián óra szerkezete, élettani szerepe és kölcsönhatása egyéb jelátviteli rendszerekkel

🕒 10:30 – 10:55

Szabó Áron

MTA Szegedi Biológiai Kutatóközpont, Genetikai Intézet, Szeged

Épp ideje egy Nobel-díjnak – a cirkadián óra molekuláris felépítése és működése ecetmuslicában

🕒 10:55 – 11:20

Nagy András Dávid

Pécsi Tudományegyetem, ÁOK, Anatómiai Intézet, Pécs

Sejtszintű cirkadián ritmus: háttérzaj, vagy kódolt molekuláris program?

🕒 11:20 – 11:55

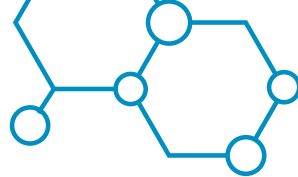
Káldi Krisztina^{1,2}

¹*Semmelweis Egyetem, ÁOK, Laboratóriumi Medicina Intézet, Budapest*

²*Semmelweis Egyetem, ÁOK, Élettani Intézet, Budapest*

A humán cirkadián óra: ritmuszavar, szociális jetlag, kronoterápia

🕒 11:55 – 12:10 Szünet



🕒 12:10 – 12:35

Nagy Ferenc átadja a Straub plakettet

A STRAUB PLAKETT 2018. ÉVI DÍJAZOTTJÁNAK ELŐADÁSA:

Horváth Péter

MTA Szegedi Biológiai Kutatóközpont, Biokémiai Intézet, Szeged

Élet a pixelek mögött

🕒 12:35 – 13:00

Puskás László¹, Giber János²

¹MTA Szegedi Biológiai Kutatóközpont, Szabadalmi Bizottság

²Vegyészmérnök, európai szabadalmi ügyvivő

Szellemi tulajdon és iparjogvédelem lényege, fontossága és szempontjai a kutatásban

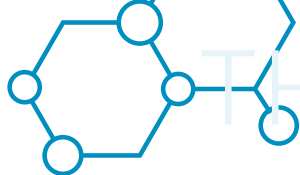
🕒 13:00 – 13:10

Siklós László

MTA Szegedi Biológiai Kutatóközpont, Főigazgatói Főosztály

Féldős az SZBK GINOP-2.3.2-15-2016-00001 pályázata

🕒 13:10 – 15:00 Ebéd szünet



THURSDAY

10th
May
2018

Chairman: László Buday

Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest, Hungary

🕒 15:00 – 15:25

Péter Gál¹, **Andrea Kocsis**¹, Gábor Oroszlán¹, Dávid Szakács², Katalin Paréj¹, Ráhel Dani¹, Gábor Pál², Péter Závodszy¹, József Dobó¹

¹*Institute of Enzymology, RCNS, HAS, Budapest, Hungary*

²*Department of Biochemistry, Eötvös Loránd University, Budapest, Hungary*

Cross-talks between the lectin and the alternative pathways of the complement system

🕒 15:25 – 15:50

Nikoletta Murvai¹, Lajos Kalmár¹, Bianka Szalainé Ágoston^{1,2}, Zoltán Magos¹, Anna Felméry¹, Beáta Szabó¹, Ágnes Tantos¹, György Csikós³, Didier Vertommen⁴, Nevena Hristozova⁵, Dénes Kovács⁵, András Láng², László Buday¹, Kyou-Hoon Han^{6,7}, András Perczel², Péter Tompa^{1,5}

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

²*MTA-ELTE Protein Modelling Research Group and Laboratory of Structural Chemistry and Biology, Institute of Chemistry, Eötvös Loránd University, Budapest, Hungary*

³*Department of General Zoology, Eötvös Loránd University, Budapest, Hungary*

⁴*Faculty of Medicine and de Duve Institute, Université Catholique de Louvain, Brussels, Belgium*

⁵*VIB Structural Biology Research Center (SBRC), Vrije Universiteit Brussel, Brussels, Belgium*

⁶*Department of Bioinformatics, University of Science and Technology, Daejeon, Korea*

⁷*Biomedical Translational Research Center, Division of Convergent Biomedical Research, Korea; Research Institute of Bioscience and Biotechnology, Daejeon, Korea*

Structural disorder is a key element of the cellular chaperone function of plant dehydrin ERD14

🕒 15:50 – 16:15

Attila Lehotzky, Judit Oláh, Adél Szabó, Sándor Szunyogh, Tibor Szénási, Judit Ovádi

Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest, Hungary

Modulation of microtubule acetylation by the interplay of TPPP/p25, SIRT2 and new anticancer agents

🕒 16:15 – 16:30 Break

Chairman: Ferenc Nagy

Biological Research Centre HAS, Szeged, Hungary

🕒 16:30 – 16:55

Eszter Farkas¹, Ákos Menyhárt¹, István A. Krizbai², Ferenc Bari¹

¹*Department of Medical Physics and Informatics, University of Szeged, Szeged, Hungary*

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

Experimental optical imaging of the activity of the cerebral cortex

🕒 16:55 – 17:20

Tibor Németh, Renáta Tóth, Katalin Csonka, Erik Zajta, Csaba Papp,

Attila Gácsér

Department of Microbiology, University of Szeged, Szeged, Hungary

Lurking enemies: Future aspects of opportunistic fungal infection biology

🕒 17:20 – 17:45

Sophie Canton

ELI-ALPS, Szeged, Hungary

Investigating Energy and Charge Transfer Dynamics in Biomimetic and Biological Photoactive Systems at ELI - ALPS

🕒 17:45 – 19:00 Poster section

🕒 19:00 – Dinner, BRC Restaurant



FRIDAY

11th
May
2018

Chairman: Miklós Erdélyi
Institute of Genetics, BRC HAS, Szeged, Hungary

🕒 9:00 – 9:25

Zoltán Kármán, Zoltán Lipinszki
Institute of Biochemistry, BRC HAS, Szeged, Hungary

PP4 phosphatase: how to identify a substrate specific consensus motif?

🕒 9:25 – 9:50

Ágnes Tóth¹, Gábor Harami², Karola Almási¹, Enikő Sajben-Nagy¹, Mihály Kovács², Péter Burkovics¹

¹*Institute of Genetics, BRC HAS, Szeged, Hungary*

²*Department of Biochemistry, Eötvös Loránd University, Budapest, Hungary*

Characterization of a novel G-quadruplex binding protein

🕒 9:50 – 10:15

Erika Öszü¹, Csaba Papdi², Binish Mohammed², Aladár Pettkó-Szandtner^{1,3}, Tünde Leviczky¹, Eszter Molnár¹, Gábor V. Horváth^{1,4}, Csaba Vizler⁵, Zsuzsa Darula³, Beatrix Horváth², László Bögre², Zoltán Magyar¹

¹*Institute of Plant Biology, BRC HAS, Szeged, Hungary*

²*Royal Holloway University of London, London, UK*

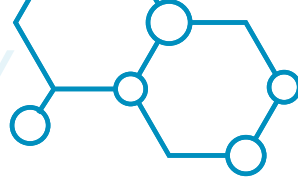
³*Laboratory of Proteomics Research, BRC HAS, Szeged, Hungary*

⁴*Institute of Genetics, BRC HAS, Szeged, Hungary*

⁵*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

E2FA and E2FB non-redundantly regulate cell proliferation but compensate for each other's function

🕒 10:15 – 10:30 Break



Chairman: Imre Vass

Institute of Plant Biology, BRC HAS, Szeged, Hungary

🕒 10:30 – 10:55

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

Institute of Biophysics, BRC HAS, Szeged, Hungary

Pattern recognition receptors and inflammasome activation in the blood-brain barrier: new players in neuroinflammation

🕒 10:55 – 11:20

Szabolcs Dvorácskó¹, Adriano Mollica², Csaba Tömböly¹

¹*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

²*Dipartimento di Farmacia, Università di Chieti-Pescara "G. d'Annunzio", Chieti, Italy*

Multitargeting the opioid and cannabinoid receptors with ortho- and allosteric ligands

🕒 11:20 – 11:45

Viktória Kiss¹, András Jipa¹, Kata Varga¹, Szabolcs Takáts³, Szilárd Szikora¹, Tamás Maruzs¹, István Földi¹, Dávid Tóth¹, Attila L. Kovács³, Paolo Ronchi⁴, Imre Gáspár⁴, Anne Ephrussi⁴, János Szabad², József Mihály¹, Gábor Juhász¹

¹*Institute of Genetics, BRC HAS, Szeged, Hungary*

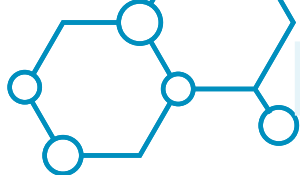
²*Department of Medical Biology, University of Szeged, Szeged, Hungary*

³*Department of Anatomy, Cell and Developmental Biology, Eötvös Loránd University, Budapest, Hungary*

⁴*European Molecular Biology Laboratory, Heidelberg, Germany*

Atg9: a new regulator of the actin cytoskeleton

🕒 11:45 – 13:30 Lunch break



Chairman: László Zimányi

Institute of Biophysics, BRC HAS, Szeged, Hungary

🕒 13:30 – 13:55

Bettina Ughy¹, Uroš Javornik², Parveen Akhtar¹, Pieter de Waard³, Primož Šket², Václav Karlický⁴, Zuzana Materova⁴, Christos Kotakis¹, Ottó Zsíros¹, Vladimír Špunda⁴, Janez Plavec², Herbert van Amerongen⁵, Henk Van As⁵, Petar Lambrev¹, László Vígh⁶, Győző Garab¹

¹*Institute of Plant Biology, BRC HAS, Szeged, Hungary*

²*Slovenian NMR Center, National Institute of Chemistry, Ljubljana, Slovenia*

³*MAGNEFY, Magnetic Resonance Research Facility, Wageningen NMR Centre, Wageningen University & Research, Wageningen, The Netherlands*

⁴*Department of Physics, University of Ostrava, Ostrava, Czech Republic*

⁵*Laboratory of Biophysics, Wageningen University & Research, Wageningen, The Netherlands*

⁶*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

Lipid polymorphism in chloroplast thylakoid membranes

🕒 13:55 – 14:20

András Kincses, Ana Raquel Santa Maria, Fruzsina Walter, Sándor Valkai, Mária A. Deli, András Dér

Institute of Biophysics, BRC HAS, Szeged, Hungary

Lab-on-a-chip device for the investigation of electric properties of biological barriers

🕒 14:20 – 14:55

Zoltán Lipinszki^{1,2}, Viktor Vernyik¹, Nóra Faragó³, Tóbiás Sári¹, László G. Puskás³, Fredrick R. Blattner⁴, György Pósfai¹, **Zsuzsanna Györfy**¹

¹*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

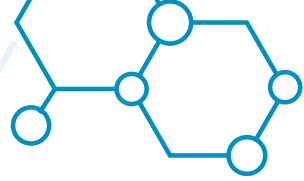
²*Lendület Laboratory of Cell Cycle Regulation, BRC HAS, Szeged, Hungary*

³*Institute of Genetics, BRC HAS, Szeged, Hungary*

⁴*Scarab Genomics LLC, Madison, WI, USA*

Enhancing the translational capacity of *E. coli* by resolving the codon bias

🕒 14:55 – 15:10 Break



Chairman: György Pósfai

Institute of Biochemistry, BRC HAS, Szeged, Hungary

🕒 15:10 – 15:35

Szilárd Szikora¹, Tamás Gajdos², Tibor Novák², Miklós Erdélyi², József Mihály¹

¹Institute of Genetics, BRC HAS, Szeged, Hungary

²Department of Optics and Quantum Electronics, University of Szeged, Hungary

Nanoscale reconstruction of flight muscle sarcomeres

🕒 15:35 – 16:00

Szilárd Kovács¹, Sándor Jenei¹, Ernő Kiss², Attila Kereszt¹, Gabriella Endre¹

¹Institute of Plant Biology, BRC HAS, Szeged, Hungary

²Institute of Genetics, BRC HAS, Szeged, Hungary

A new symbiotic gene required for the Rhizobial infection of *Medicago truncatula*

🕒 16:00 – 16:25

Gaszton Vizsnyiczai^{1,2}, Filippo Saglimbeni¹, Giacomo Frangipane¹, Silvio Bianchi¹, Claudio Maggi¹, Roberto Di Leonardo¹

¹Department of Physics, "Sapienza" University of Rome, Rome, Italy

²Institute of Biophysics, BRC HAS, Szeged, Hungary

Study of flagellated swimming in tight confinement

**INSTITUTE OF ENZYMOLOGY****Validation of prognostic miRNAs in hepatocellular carcinoma**Ádám Nagy^{1,2}, András Lánckzy¹, Lőrinc Pongor^{1,2}, Balázs Győrffy^{1,2}¹*Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest, Hungary*²*Semmelweis University 2nd Dept. of Pediatrics, Budapest, Hungary***Current and expected cancer incidence and mortality in Hungary up to 2030**Otília Menyhárt^{1,2}, János Fekete², Balázs Győrffy^{1,2}¹*Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest, Hungary*²*Semmelweis University, 2nd Dept. of Pediatrics, Budapest, Hungary***Effects of impaired DNA double strand repair on somatic mutation distribution in colon cancer**Lőrinc Pongor^{1,2}, Ádám Nagy^{1,2}, Balázs Győrffy^{1,2}¹*Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest, Hungary*²*Semmelweis University 2nd Dept. of Pediatrics, Budapest, Hungary***muTarget: a web service to connect mutations to differential gene expression**Tibor Nagy¹, Balázs Győrffy^{1,2}¹*Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest, Hungary*²*Semmelweis University 2nd Dept. of Pediatrics, Budapest, Hungary***Consensus list of essential cancer risk genes by combining Hungarian and international databases**Ágnes Ósz^{1,2}, Otília Menyhárt^{1,2}, Balázs Győrffy^{1,2}¹*Institute of Enzymology, Research Centre for Natural Sciences, HAS, Budapest, Hungary*²*Semmelweis University, 2nd Dept. of Pediatrics, Budapest, Hungary*



INSTITUTE OF BIOCHEMISTRY

Insertion sequence-mediated engineering of the *Escherichia coli* genome

Ranti Dev Shukla, Tamás Fehér

Institute of Biochemistry, BRC HAS, Szeged, Hungary

Asymmetric changes in the activity of spinal and thalamic opioid systems in a mice neuropathic pain model

Edina Szűcs¹, Ewelina Rojewska², Agnieszka Wawrzczak-Bargiela³, Sándor Benyhe¹, Joanna Starnowska², Joanna Mika², Ryszard Przewlocki³, Barbara Przewlocka²

¹*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

²*Department of Pain Pharmacology, Institute of Pharmacology, Polish Academy of Sciences, Krakow, Poland*

³*Department of Molecular Neuropharmacology, Institute of Pharmacology, Polish Academy of Sciences, Krakow, Poland*

Comparing chromosomal interaction patterns in human drug resistant and sensitive cancer cells

Anikó Szabó^{1,2}, Gábor Jaksa¹, Lajos Pintér³, Imre Boros^{1,2}

¹*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

²*Department of Biochemistry and Molecular Biology, University of Szeged, Szeged, Hungary*

³*Delta Bio 2000 Ltd., Szeged, Hungary*

Validation of novel sigma 1 receptor ligands

Ádám Ködmön¹, Csaba Tömböly¹, Ferenc Bogár², Szabolcs Dvorácskó¹

¹*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

²*MTA-SZTE Supramolecular and Nanostructured Materials Research Group, Szeged, Hungary*

Development of fluorescent vasopressin receptor ligands

Judit Darusi¹, Maithé Corbani², Csaba Tömböly¹

¹*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

²*Institute of Functional Genomics, CNRS5203 – INSERM U661 – University of Montpellier I&II, Montpellier, France*



Dynamic gene duplication/loss history marks the unique evolutionary route to fungal multicellularity

Enikő Kiss, Arun Prasanna N., Krisztina Krizsán, Tamás Kószó, László G. Nagy
Institute of Biochemistry, BRC HAS, Szeged, Hungary

Insights into the genetic background and transcriptome level changes during fruiting body development of fungi

Krisztina Krizsán¹, Éva Almási¹, Arun Prasanna N.¹, Brigitta Kiss¹, Balázs Bálint², István Nagy^{1,2}, László G. Nagy¹

¹*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

²*SeqOmics Biotechnology Ltd., Mórahalom, Hungary*

Comparative transcriptomics of the pathogenic lifestyle of a devastating group of forest killers

Neha Sahu¹, Zsolt Merényi¹, Brigitta Kiss¹, Balázs Bálint², István Nagy², György Sipos³, Martin Münsterkötter³, László G. Nagy¹

¹*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

²*SeqOmics Biotechnology Ltd., Mórahalom, Hungary*

³*Functional Genomics and Bioinformatics Group, University of Sopron, Sopron, Hungary*

Optimization of the CRISPR-Cas9 system in a complex multicellular model organism

Máté Virágh, Viktória Bense, László G. Nagy
Institute of Biochemistry, BRC HAS, Szeged, Hungary

Tempo and mode of the evolution of the yeast metabolome

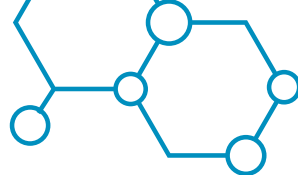
Balázs Szappanos¹, Roland Tengölics¹, João Benhur Mokochinski¹, Dorottya Kalapis¹, Ivett Török¹, Stefánia Erdei¹, Barbara Hódi¹, Enrica Calvani², Marcus Ralser², Michael Mülleeder², Balázs Papp¹

¹*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

²*Department of Biochemistry and Cambridge Systems Biology Centre, University of Cambridge, Cambridge, U.K.; The Francis Crick Institute, Mill Hill Laboratory, Mill Hill, London, U.K.*

Biosynthesis of industrially relevant compounds by underground enzyme reactions

Szabolcs Cselgő Kovács, Balázs Szappanos, Balázs Papp
Institute of Biochemistry, BRC HAS, Szeged, Hungary



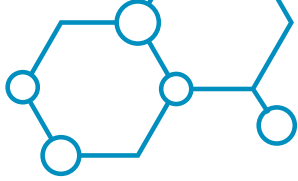
Transcriptomic rewiring as a consequence of antibiotic adaptation contributes to sensitivity towards other drugs

Gábor Grézal¹, Réka Spohn¹, Anett Dunai¹, Balázs Bálint², István Nagy^{2,3}, Csaba Pál¹, Balázs Papp¹

¹*Institute of Biochemistry, BRC HAS, Szeged, Hungary*

²*SeqOmics Biotechnology Ltd., Mórahalom, Hungary*

³*Sequencing Platform, BRC HAS, Szeged, Hungary*

**INSTITUTE OF GENETICS****The role of Mesr4 in the germline stem cell differentiation**

Alexandra Brigitta Szarka-Kovács, Ferenc Jankovics, Miklós Erdélyi
Institute of Genetics, BRC HAS, Szeged, Hungary

Development of an *in vitro* RNAi efficiency monitoring system

Dávid Pusztai, András Blastyák, Péter Germán, Katalin Hegedűs,
Ildikó Fekete, Lajos Mátés
Institute of Genetics, BRC HAS, Szeged, Hungary

Lack of Rybp alters the kinetics of neural progenitor formation

Bertalan Takács, Gergő Kovács, Melinda K. Pirty
Institute of Genetics, BRC HAS, Szeged, Hungary

Extension of the mammalian biotechnology toolbar with a well-balanced bidirectional promoter

Anna Georgina Kopasz¹, Erzsébet Fehérné Juhász¹, Andrea Nagy¹, Imre
Ocsovszki², Lajos Mátés¹

¹*Institute of Genetics, BRC HAS, Szeged, Hungary*

²*Department of Biochemistry, Faculty of Medicine, University of Szeged, Szeged, Hungary*

***In vitro* lipidation assay for the investigation of Atg8**

Dalma Börcsök^{1,2}, Gábor Horváth¹, Hajnalka Laczkó-Dobos¹, Juhász Gábor¹

¹*Institute of Genetics, BRC HAS, Szeged, Hungary*

²*Szent István University, Gödöllő, Hungary*

Characterization of mutant alleles of Atg8 genes in *Drosophila melanogaster*

András Jipa^{1,4}, Szabolcs Takács³, Ágota Varga³, Viktor Vedelek², Adél
Ürmösi^{1,4}, Margaret Mukami¹, Rita Sinka², Gábor V. Horváth¹, Gábor Juhász^{1,3}

¹*Institute of Genetics, BRC HAS, Szeged, Hungary*

²*Department of Genetics, University of Szeged, Szeged, Hungary*

³*Department of Anatomy, Cell and Developmental Biology, Eötvös Loránd University,
Budapest, Hungary*

⁴*Doctoral School in Biology, Faculty of Science and Informatics, University of Szeged,
Szeged, Hungary*

Secrets of Plagl1: a cardiac specific transcription factor with complex genomic structure, expression pattern and protein localization

Henry Surya, Melinda K. Pirty
Institute of Genetics, BRC HAS, Szeged, Hungary



Analysis of G-quadruplex stability in *Caenorhabditis elegans*

Karola Almási, Péter Burkovics
Institute of Genetics, BRC HAS, Szeged, Hungary

Investigating the role of p62/Ref(2)P LIR mutation in ubiquitin-dependent selective autophagy in *Drosophila melanogaster* model

Adél Ürmösi^{1,2}, Arindam Bhattacharjee¹, András Jipa^{1,2}, Gábor Juhász³
¹*Institute of Genetics, BRC HAS, Szeged, Hungary*
²*Doctoral School in Biology, Faculty of Science and Informatics, University of Szeged, Szeged, Hungary*
³*Department of Anatomy, Cell and Developmental Biology, Eötvös Loránd University, Budapest, Hungary*

The role of human Fanconi anemia nuclease 1 in DNA damage repair pathways

Szabolcs Bene, Li Quizhen, Alexandra Gráf, Péter Burkovics, Ágnes Tóth, Ernő Kiss, Lajos Haracska
Institute of Genetics, BRC HAS, Szeged, Hungary

Single yeast colony mutagenesis screen based on next generation sequencing

Alexandra Gráf, Róbert Tóth, Márton Enyedi, Bence Széplaki, Gábor Jaksa, Zoltán Gyuris, Lajos Pintér, Ernő Kiss, Lajos Haracska
Institute of Genetics, BRC HAS, Szeged, Hungary

A good reason to shut up: The role of RYBP in germ cell specific gene silencing

Izabella Bajusz¹, Enikő Sutus^{1,2}, Viktoria Szabó^{1,2}, Gergő Kovács¹, Henry Surya¹, Melinda K. Purity¹
¹*Institute of Genetics, BRC HAS, Szeged, Hungary*
²*Doctoral School in Biology, Faculty of Science and Informatics, University of Szeged, Szeged, Hungary*

Characterization of conserved motifs in LiliA protein

Zsófia Tóth, Lili Hegedűs, Ernő Kiss, Szabolcs Bene, Alexandra Gráf, Lajos Haracska
Institute of Genetics, BRC HAS, Szeged, Hungary



New regulatory pathway of BRCA1 in DNA damage tolerance

Kata Dudás, Lili Hegedűs, Péter Burkovics, Lajos Haracska
Institute of Genetics, BRC HAS, Szeged, Hungary

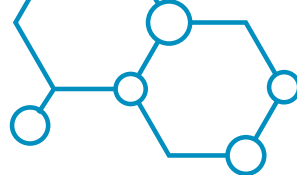
Advanced method for genetic sex determination using NGS data in archaeology and forensics

Dániel Gerber^{1,2}, Bea Szeifert^{1,2}, Veronika Csáky¹, Balázs Stégmár^{1,2}, Viktória Bódis¹, Adél Ürmösi³, Annamária Pósa¹, Balázs Gusztáv Mende¹

¹*Archaeogenetic Laboratory, Institute of Archaeology, Research Centre for Humanities, HAS, Budapest, Hungary*

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INSTITUTE OF PLANT BIOLOGY

The effects of ascorbate-deficiency on non-photochemical quenching in *Chlamydomonas reinhardtii*

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Differential expression of algal hosts under axenic and bacterial association

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Functional characterization of RLCKVI_A kinases with usage of a miRNA-induced gene silencing system

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Inhibitory effect of auxin on plant regeneration from cytokinin-induced *Arabidopsis* roots

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Role of polyamines during plant regeneration of *Arabidopsis thaliana*

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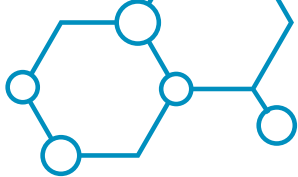
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Single cell level monitoring of morphological and photosynthetic parameters of microalgae

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Functional analysis of the *Arabidopsis thaliana* CDPK Related Kinase (CRK) family

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Light dependent expression of LEA genes in rice (*Oryza sativa*) and *Brachypodium distachyon*

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Rho GTPase mutant *Arabidopsis* plants show distinct nitric oxide (NO) sensing

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The role of chloramphenicol in enhancing photodamage of photosystem II in *Synechocystis* 6803

Sandeesh Kodru, Ateeq Ur Rehman, Milán Szabó, Imre Vass

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The structural role of carotenoids and lipids in cyanobacterial photosynthetic complexes characterized by CD spectroscopy

Terézia Kovács, Éva Herman, Hajnalka Laczkó-Dobos, László Kovács, Zoltán Gombos, Tomás Zakar

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Improving the stability of photosynthetic pigment–protein complexes in reconstituted membrane models

Mónika Lingvaj, Parveen Akhtar, Ottó Zsíros, Győző Garab, Petar Lambrev
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Relaxed chromatin induced by histone deacetylase inhibitors improves the oligonucleotide-directed gene editing in plant cells

Bettina Nagy¹, Hilda Tiricz¹, Györgyi Ferenc¹, Katalin Török¹, István Nagy^{2,3}, Dénes Dudits¹, Ferhan Ayaydin^{1,4}

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The effect of alginate immobilization on the *Symbiodinium microadriaticum* microalgae

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The marked box as a non-canonical RBR-binding domain of the activator E2Fs is essential in *Arabidopsis thaliana*

Eszter Molnár¹, Gábor V. Horváth¹, Csaba Vizler², Brigitta M. Kállai³, Tamás Mészáros³, Zoltán Magyar¹

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Novel polymer-based delivery of gene editing components in plants

Ayşegül Öktem^{1,3}, Györgyi Ferenc¹, Aladina Kalac^{1,3}, Elfrieda Fodor², Dénes Dudits¹, Ferhan Ayaydin^{1,3}

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Efficient long term cryopreservation of plant cultures

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Comparison of different genome-editing technologies (CRISPR/Cas9 és ODM) in maize (*Zea mays* L.) and rice (*Oryza sativa* L.)

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Assessment of the structural integrity of *Synechocystis* sp. PCC6803 phycobilisomes by differential scanning calorimetry

Nia Petrova¹, Svetla Todinova¹, Hajnalka Laczkó-Dobos², Tomás Zakar², Sindhujaa Vajravel², Stefka Taneva¹, Zoltán Gombos², Saska Krumova¹

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Excitation energy transfer in cyanobacterial phycobilisomes and intact cells

Avratanu Biswas, Tomás Zakar, Parveen Akhtar, Gábor Sipka, Mónika Lingvaj, Zoltán Gombos, Petar Lambrev

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Fluorescence quenching in photosynthetic light-harvesting complexes in reconstituted membranes

Görföl Fanni, Parveen Akhtar, Petar Lambrev

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Effect of salt treatments on biotechnologically important microalgal strains

Sai Divya Kanna¹, Izabella Leitner¹, Tímea Ottilia Kóbori², Ágnes Dergez², Ildikó Domonkos¹, Ottó Zsíros¹, Renáta Ünnepe³, Gergely Nagy^{1,3,4}, Győző Garab¹, Bettina Ughy¹

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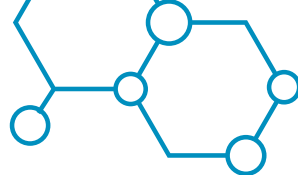
⁴*European Spallation Source ERIC, 22363 Lund, Sweden*

The effect of chemical modifications of oligonucleotides on gene editing efficiency in plant cells

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Study of the quadruplex-forming properties of 2'-Deoxy-5-hydroxyuridine containing oligonucleotides

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

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

Valéria Nagy¹, André Vidal-Meireles¹, Anna Podmaniczki¹, Klára Szentmihályi², Gábor Rákhely³, Laura Zsigmond¹, László Kovács¹, Szilvia Z. Tóth¹

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Effect of high-intensity light on Photosystem II function and singlet oxygen production in the brown seaweed *Saccharina latissima*

Ateeq Ur Rehman^{1,2}, Huiru Li², Faiza Bashir¹, László Kovács¹, Imre Vass¹, Christian Wild², Kai Bischof²

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The dinoflagellate *Symbiodinium peridinin*-chlorophyll *a*-protein is an excellent quencher of singlet oxygen

Ateeq Ur Rehman¹, Milán Szabó¹, Zoltán Kóta², Tibor Páli², Imre Vass¹

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Role of xanthophylls in the cyanobacterial photosystem I trimer

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Przemysław Malec², László Kovács¹, Zoltán Gombos¹, Tünde N. Tóth^{1,3}

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INSTITUTE OF BIOPHYSICS

Laboratory and translational potential of enteroids

Attila E. Farkas^{1,2}, Christopher T. Capaldo¹, Ricardo Cruz-Acuña³, Miguel Quirós^{1,4}, Jason R. Spence⁴, Andrés J. García³, Charles Parkos^{1,4}, Asma Nusrat^{1,4}

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Microfluidic trapping of single bacterial cells and their progeny to study the emergence of phenotypic heterogeneity

Ágnes Ábrahám, Krisztina Nagy, Lóránd Kelemen, Péter Galajda
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Analysis of the C-terminal domain in a ttype VI sulfide: quinone oxidoreductase

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

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The effect of a cell-permeable α -helical amphipathic model peptide on epithelial cell layers

Ilona Gróf¹, Alexandra Bocsik¹, Ferenc Ötvös², Ottó Zsíros³, Lívia Fülöp⁴, Mónika Vastag⁵, Ágnes Kittel⁶, Mária A. Deli¹

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P-glycoprotein expressional changes in brain capillary endothelial cells related to neuroinflammation

Beáta Barabási¹, Lilla Barna¹, András Harazin¹, Judit Vigh¹, Melinda Tóth², Brigitta Dukay², Miklós Sántha², Zsófia Hoyk¹, Mária A. Deli¹

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The effect of kainate on brain endothelial cells and potential protective molecules

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Developing a low-cost, DIY automated cell culturing and screening device

László Dér¹, Róbert Fáncsik², Gábor Lóki², Krisztina Nagy¹, Ágnes Ábrahám¹, Eszter Csákvári¹, Péter Galajda¹

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Resveratrol reshapes intercellular dynamics

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

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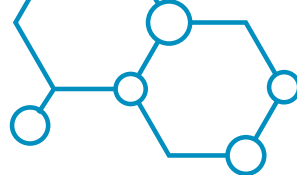
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Investigation of local hydration features of PLL and PGA systems: a simulation study

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Nanomechanical characterization of human retinal pigment epithelial cells

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The effect of adenosine on a culture model of the blood-brain barrier

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Morphological changes of the neurovascular unit during brain metastasis formation of breast cancer cells

János Haskó, Imola Wilhelm, Csilla Fazakas, Kinga Molnár, Ádám Mészáros, László Andróczy, István A. Krizbai

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Automatization of electric measurements on endothel monolayers

Dániel Márai, András Kincses, Mária A. Deli, András Dér

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Optofluidikai detektor fejlesztése chiplaboratórium rendszerbe

Horváth Bence¹, Rebeca Martínez Vázquez², Eugenia Lepera², Ormos Pál¹, Kelemen Lóránd¹

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Hofmeister active salt induced changes in the properties of water molecules confined between graphene sheets

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Expression and role of pattern recognition receptors and activation of inflammasomes in cerebral endothelial cells and pericytes

Mihály Kozma, Ádám Nyúl-Tóth, Péter Nagyősz, Krisztina Nagy, Csilla Fazakas, János Haskó, Kinga Molnár, Attila E. Farkas, Attila G. Végh, Péter Galajda, Imola Wilhelm, István A. Krizbai
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Integrated optical investigation of the photocycle of dried Photoactive Yellow Protein films in environments of controlled humidity

Szilvia Krekic, Dávid Nagy, László Fábián, László Zimányi, András Dér
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Changes in the motoneuronal calcium level after long-term treatment with blood serum from patients with amyotrophic lateral sclerosis

Valéria Meszlényi^{1,2}, Roland Patai¹, Bernát Nógrádi^{1,2}, Tamás Ferenc Polgár¹, József István Engelhardt³, László Siklós¹

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Újgenerációs elektronmikroszkópos technika bevezetése szerkezetkutatási alkalmazásokban

Patai Roland, Polgár Tamás Ferenc, Nógrádi Bernát, Meszlényi Valéria, Siklós László
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Biotin and glutathione targeting of solid nanoparticles to cross human brain endothelial cells

Mária Mészáros¹, Lóránd Kiss¹, Zoltán Kóta¹, Tibor Páli¹, Zsófia Hoyk¹, Zsolt Bozsó², Livia Fülöp², András Tóth^{1,3}, Gábor Rákhely^{1,3}, Mária A. Deli¹, Szilvia Veszelka¹

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Interactions of malignant cells with the cerebral endothelium during brain metastasis formation

Kinga Molnár¹, Csilla Fazakas¹, János Haskó¹, Hildegard Herman², Judit Molnár¹, Ádám Nyúl-Tóth¹, Mihály Kozma¹, Attila E. Farkas¹, Anca Hermenean², István A. Krizbai¹, Imola Wilhelm¹

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Improved fluorescence image quality using re-scan confocal microscope (RCM)

Dávid Nagy, Gábor Steinbach, László Zimányi

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Evolution of antibiotic resistance in microstructured environments

Krisztina Nagy, Ágnes Ábrahám, Barbara Dukic, Péter Galajda

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Neuroprotective effect of diazoxide on microglia activation in differently susceptible motor brain nuclei after acute nerve injury

Bernát Nógrádi^{1,2}, Roland Patai¹, Valéria Meszlényi^{1,2}, Tamás Ferenc Polgár¹, László Siklós¹

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Integrated optical Mach-Zehnder interferometer biosensor and its improvement

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The effect of lidocaine on the surface charge of brain endothelial cells

Ana Raquel Santa Maria¹, Ana Rita Bras², Dóra Lipka¹, Sándor Valkai¹, András Kincses¹, András Dér¹, Mária A. Deli¹

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

Gergő Porkoláb¹, Mária Mészáros¹, Zoltán Kóta¹, Tibor Páli¹, Ana-Maria Pilbat², Zsolt Török², Zoltán Kupihár³, Piroska Szabó-Révész⁴, Mária A. Deli¹, Szilvia Veszélka¹

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Quantification of intracellular calcium level and neuronal survival after acute blood serum inoculation from patients with different genetic mutations of amyotrophic lateral sclerosis

Tamás Ferenc Polgár¹, Roland Patai¹, Bernát Nógrádi^{1,2}, Valéria Meszlényi^{1,2}, József István Engelhardt³, László Siklós¹

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Tű-erősített RAMAN spektroszkópia (TERS) biológiai minták vizsgálatában

Végh Attila Gergely, Kelemen Lóránd, Szegletes Zsolt, Szalontai Balázs, Ormos Pál

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Membrane tethers in 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}, György Váró¹

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Az impulzus üzemmódú Fourier-transzformációs elektron paramágneses rezonancia spektroszkópia lehetőségei

Sebőkné Nagy Krisztina, Páli Tibor

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Re-scan confocal microscope modified for anisotropy imaging – as a part of a differential polarization system

Gábor Steinbach¹, Dávid Nagy¹, Gábor Sipka², Erik Manders^{3,4}, Győző Garab^{2,5}, László Zimányi¹

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Insights into the mechanism of type VI sulfide: quinone oxidoreductases

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Dynamics of bacterial quorum sensing: from single cells to populations

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