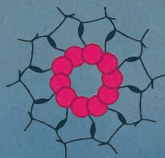


# Annual Meeting of the Hungarian Biochemical Society

29-31 August, 2024, Budapest, Hungary

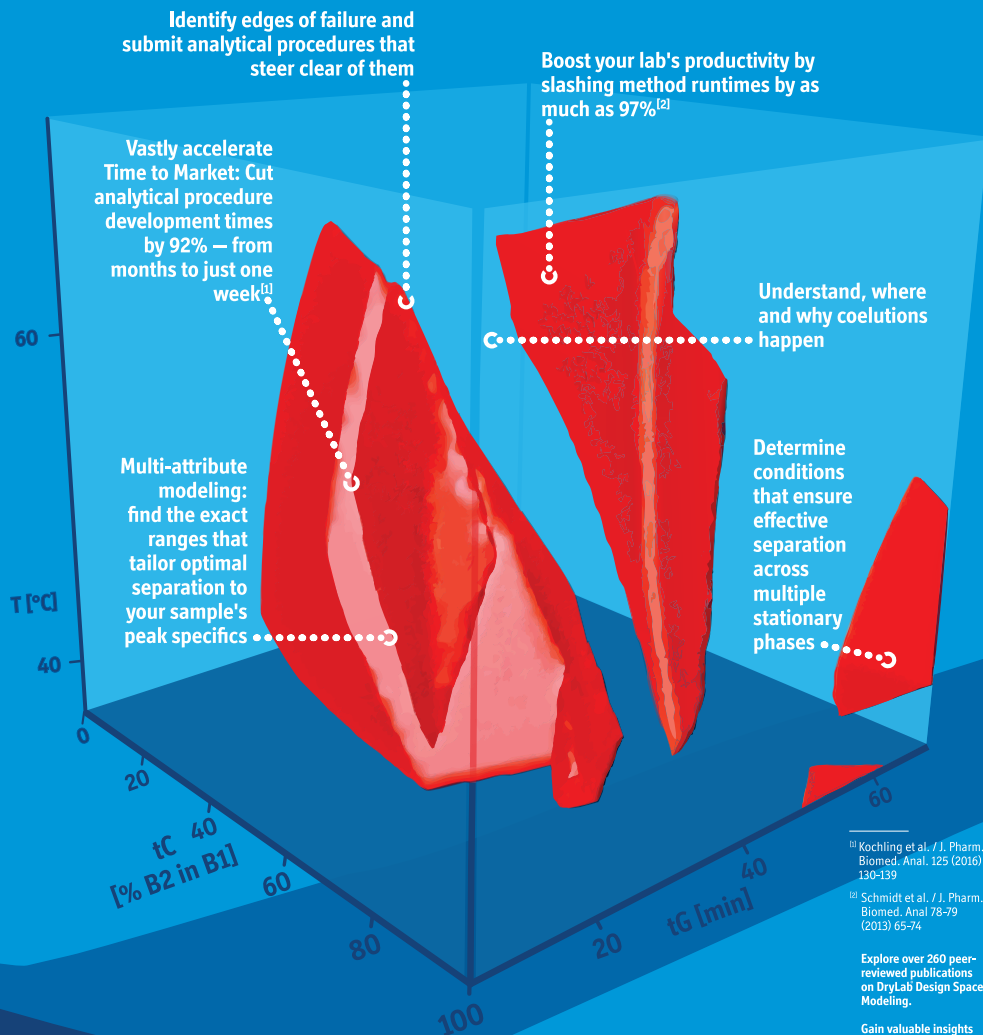


## Programme booklet



# DryLab® Design Space Comparison.

## Unmatched in Separation System Analysis and Evaluation.



<sup>[1]</sup> Kochling et al. / J. Pharm. Biomed. Anal. 125 (2016) 130-139

<sup>[2]</sup> Schmidt et al. / J. Pharm. Biomed. Anal. 78-79 (2013) 65-74

Explore over 260 peer-reviewed publications on DryLab Design Space Modeling.

Gain valuable insights from R&D and QC for your separation challenges.

## GENERAL INFORMATION

### CONFERENCE ORGANISERS

Magyar Biokémiai Egyesület (Hungarian Biochemical Society)

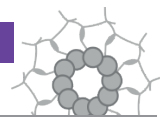
### ORGANISING COMMITTEE

László Buday<sup>1</sup>, Mihály Kovács<sup>2</sup>, Beáta Lontay<sup>3</sup>, Zoltán Lipinszki<sup>4</sup>, András Micsonai<sup>2</sup>, Virág Vas<sup>2</sup>

- 1 HUN-REN Research Centre for Natural Sciences  
Magyar tudósok körútja 2., Budapest, H-1117  
<https://www.ttk.hun-ren.hu/ei/en/>
- 2 Eötvös Loránd University  
Pázmány Péter sétány 1/c., Budapest, H-1117  
<https://www.elte.hu/>
- 3 Department of Medical Chemistry, University of Debrecen  
Egyetem tér 1., Debrecen, H-4032  
<https://chemistry.med.unideb.hu/en>
- 4 FEBS Member Society Representative  
University of Szeged  
Dugonics tér 13., Szeged, H-6720  
<https://u-szeged.hu/english>

# Annual Meeting of the Hungarian Biochemical Society

29-31 August, 2024, Budapest, Hungary



## TECHNICAL ORGANISERS

Diamond Congress Ltd.  
1015 Budapest, Csalogány u. 28.  
Tel: +36-1-225-0209  
elesetele@diamond-congress.com  
<https://www.diamond-congress.hu/>

## WEBSITE OF THE CONFERENCE

<https://hbs-conference.hu>

## WEBSITE OF THE HUNGARIAN BIOCHEMICAL SOCIETY

<http://www.mbkegy.hu>

## VENUE

**Campus of Eötvös Loránd University**  
1117 Budapest, Pázmány Péter sétány 1/A

## OPENING HOURS OF THE REGISTRATION

Thursday, 29 August, 2024	-	12.00 – 18.00
Friday, 30 August, 2024		08.30 – 18.00
Saturday, 31 August, 2024		08.30 – 13.30

## ONSITE CONTACT NUMBERS

Ildikó Gémes-Kruppa / Attila Varga  
+36/70-610-0243, +36/20-936-2969  
Diamond Congress Ltd.

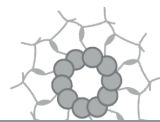
## OFFICIAL LANGUAGE

Official language of the Conference is English (no translation is available).

## REGISTRATION FEES

Registration fees include admission to the scientific sessions and to the exhibition, Welcome reception, Coffee breaks, Lunches, VAT.

Tickets for the gala dinner can be requested through the registration database. Participation in the dinner is possible upon payment of 15.000 HUF.



## EXHIBITON

In accordance with the conventions of the conference, parallel to the scientific sessions a professional exhibition is to be organised. Please have a look at the exhibition floor plan of the booklet.

## SOCIAL PROGRAMMES (incl. in the registration fees)

Thursday, <b>29 August, 2024</b>	Welcome reception (Venue)
Friday, <b>30 August, 2024</b>	Gala dinner (Öböl Ház) – participation only with ticket
Friday - Saturday, <b>30-31 August 2024</b>	Lunches (Venue)
Thursday - Saturday, <b>29-31 August 2024</b> (indicated in the programme)	Coffee breaks (Venue)

All participants and accompanying persons will receive a personal badge upon registration. You are kindly requested to wear your name badge when attending the meetings or social events.

## CANCELLATION POLICY

Cancellations on registration can be made only in writing. The refund for cancellations made prior to 8 July, is 100%. After this there is no way to refund in case of latter cancellation.

## PAYMENT, INVOICES

The price of the ordered services will be indicated on the final invoice according to the Hungarian official financial rules. Official final invoices and receipts for fees paid by the participants are sent by e-mail right after the payment arrives to our bank account. **Please forward them to the financial department of your institution.**

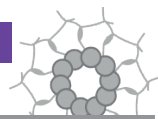
## LIABILITY AND INSURANCE

The organisers cannot accept liability for any personal accidents, loss of belongings or damage to private property of participants and accompanying persons that may occur during the conference.

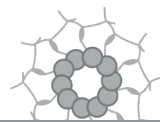
## POSTER PRESENTATION SCHEDULE

Posters should be affixed and removed by the presenters themselves in time. All posters will be on display throughout the whole conference from P-01 to P-68. Posters should be mounted from the time of registration, on 29 August and they have to be removed latest during the last coffee break till 11 AM on 31 August.

**ODD numbered posters** will be presented on **Thursday (Poster discussion I.) between 17:00-18:00**,  
**EVEN numbered posters** will be presented on **Friday (Poster discussion II.) between 16:45-18:00**.



# PROGRAMME



## Day 1 – Thursday, 29 August 2024

15:00-15:10 *Opening*

**15:10-16:20** **Plenary session**  
*Congress Hall*  
**Chair: László Buday**

**15:10-16:00** **PL-1**  
***György Keserű***  
Mapping protein-protein interaction surfaces by photoactivable molecular fragments

**16:00-16:20** **Bio Science award talk**  
***Áron Szabó***  
LC3-associated phagocytosis promotes glial degradation of axon debris after injury in *Drosophila* models

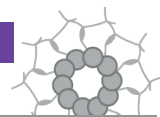
**16:20-16:35** **Company lecture of Kromat Kft.**  
***Éva Csősz***  
Complex analysis of obesity and type 2 diabetes moonlights Olink's proximity extension assay as a method of choice in multiomics setup

**16:35-16:50** **Company lecture of Molnar Institute**  
***Imre Molnár***  
Speeding up research in Biochemistry by Modeling HPLC

**16:50-17:15** ***Coffee break***

**17:00-18:15** ***Poster discussion I. – Odd numbers***

**18:15-** ***Welcome reception – Gömb Aula of the Venue***



## Day 2 – Friday, 30 August 2024

09:00-09:30

**Plenary session**

*Congress Hall*

**Chair: László Virág**

09:00-09:30

**PL-2**

***József Tőzsér***

Structure, function, inhibition and resistance development of sars-cov-2 main protease (MPRO). what is common with retroviral proteases?

09:30-10:50

**Molecular signaling, cell-cell communication, cell death and differentiation**

**Chair: Zoltán Lipinski**

**O-01 – Zoltán Lipinski**

Exploring the Substrate Recognition Mechanism of Protein Phosphatase 4 Reveals Novel Functions of the Enzyme in DNA Damage Repair

**O-02 – Krisztina Tar**

Can Manipulating Mitochondrial Dynamics Enhance Neuronal Differentiation?

**O-03 – Endre Kristóf**

Upregulation of Inhibitor of DNA Binding 1 and 3 is important for efficient thermogeninc response in human adipocytes

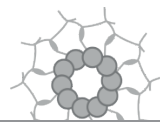
**O-04 – Virág Vas**

A comprehensive study from EMT regulation to cancer biomarker discovery: "Tyrosine kinase substrate with four SH3 domains" in focus

10:50-11:10

***Coffee break***





11:10-12:30

**Regulation of gene expression, regulatory RNA, epigenetics**

**Chair: Mihály Kovács**

**O-05 – Mihály Kovács**

Subcellular rearrangements of bacterial single-stranded DNA binding (SSB) protein condensates indicate roles in stress response and cell proliferation

**O-06 – Ágnes Tantos**

Competing endogenous RNA networks in different cancers

**O-07 – Pantazi Vasiliki**

K63-linked ubiquitylation of RNAPII in response to DNA Double-Strand Breaks drives repair regulation

**O-08 – Jacksi Mevan**

The role of EZH2 in TKS4-deficient colorectal carcinoma cells

12:30-13:30

**Lunch**

13:30-14:50

**Protein structure, function and modeling, proteomics**

**Chair: Ferenc Erdődi**

**O-09 – Orsolya Tőke**

Pressure denaturation of proteins

**O-10 – Zoltán Kónya**

Characterization and analysis of protein phosphatase-1 and -2A modulators identified by high throughput screening

**O-11 – Boglárka Zámbo**

Proteome-wide affinity survey of DNA-protein interactions: A case study on the erythroid-specific promoter of ATP2B4 gene and GATA1 mutations

**O-12 – Gergő Gógl**

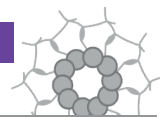
The non catalytic epsilon DNA polymerase subunit is an NPF motif recognition protein

14:50-15:10

**Coffee break**

# Annual Meeting of the Hungarian Biochemical Society

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15:10-16:30

**Bioinformatics, synthetic biology, genome engineering, biotechnology**  
**Chair: Zoltán Ivics**

**O-13 – Zoltán Ivics**

Advances in non-viral engineering of therapeutic cells with the Sleeping Beauty transposon system

**O-14 – Orsolya Kapuy**

Re-wiring the AMPK-ULK1 regulatory connection at the service of periodic autophagy induction

**O-15 – Regina Martinek**

Comprehensive investigation of the mutagenic potential of six pesticides classified by IARC as probably carcinogenic to humans

**O-16 – István Hajdú**

Beta secretase 1 Recruits Amyloid beta Precursor Protein to ROCK2 Kinase, Resulting in Erroneous Phosphorylation and Beta-amyloid Plaque Formation

16:30-16:45

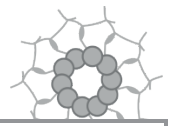
**Indtroduction of the FEBS Junior Section Hungary**  
**Chair: Virag Vas**

16:45-18:00

**Poster discussion II. – Even numbers**

18:30

**Gala dinner – Öböl Ház, participation only with ticket**



## Day 3 – Saturday, 31 August 2024

09:00-10:40

**Molecular basis of disease and therapy, stem cells, immunity and inflammation**

**Chair: Zsuzsanna Izsvák**

**O-17 – Zsuzsanna Izsvák**

HERVHLin protects human genome from mutagenic retroelements by rewiring the conserved LIN28A/let7 pathway in the early embryo

**O-18 – Flóra Szeri**

Alkaline phosphatase activity correlates with circulatory mineralization factors upon aging in mice and human

**O-19 – Rini Arianti**

Solute carrier transporters-mediated amino acids uptake is essential for thermogenic activation of human primary adipocytes

**O-20 – Andrea Kocsis**

SARS-CoV-2 Nucleocapsid Protein Is Not Responsible for the Over-Activation of Complement Lectin Pathway

**O-21 – Yousif Qais Muhsin Al-Khafaji**

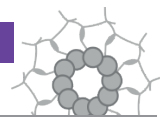
Short-term thiamine deficiency altered transcriptomic profile of human deep cervical-derived adipocytes

10:40-11:00

**Coffee break**

# Annual Meeting of the Hungarian Biochemical Society

29-31 August, 2024, Budapest, Hungary



11:00-12:20

**Translational research, medicinal biochemistry, drug development**  
**Chair: György Vereb**

**O-22 – György Vereb**

Chimeric antigen receptors (CAR) in the treatment of solid tumors: lessons from HER2+ preclinical models

**O-23 – József Prechl**

A truly quantitative antibody serological assay utilizing double-titration on antigen microspots

**O-24 – Mohammed Maki**

Anaerobic glycolysis and MCT1 inhibition via diclofenac lead to tumorigenesis regression, ROS accumulation through links intracellular acidification and OXPH in K562 erythroleukemia

**O-25 – Tibor Pankotai**

Proteogenomics reveals varying levels of intra-patient heterogeneity in melanoma metastases

12:20

**Closing ceremony**

12:40-

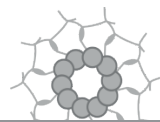
**Lunch**



Electroporation

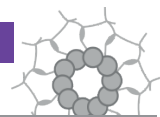
# Transfect with the best of what's NxT

## Neon NxT Electroporation System

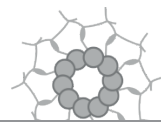


## List of posters

- P-01 **Kristóf Gui**  
The analysis of the classical and extended synergy transcription programs in macrophages and in epithelial-like tumor cells in the presence and absence of the transcription factor BACH1
- P-02 **Botond Engel**  
The mutagenic outcome of translesion replication at DNA adducts depends on polymerase choice
- P-03 **Valentina Madár**  
Exploring multicellular growth of yeast
- P-04 **Judit Tóth**  
dUTPase modulates mycobacterial homologous recombination through interaction with AdnAB
- P-05 **Ankita Murmu**  
Intercellular communication and CD8+ T-cell trajectory analysis in ovarian cancer tissues
- P-06 **Anna Zichy**  
Mapping and validation of structural variants in lung cancer for enhanced understanding of tumor development
- P-07 **Tamás Takács**  
Orthosteric inhibitors targeting SHP2: structural insights and challenges
- P-08 **Eszter Vámos**  
The effect of trimethylamine, a metabolite of gut microbiota on the metabolic reprogramming of M1 macrophages
- P-09 **Nikolett Nagy**  
Moonlighting role for dUTPase: establishing a viable mammalian cell line with high uracil DNA levels
- P-10 **Bence Farkas**  
The dominant form of the C1 inhibitor R444C variant causing type II hereditary angioedema is its covalent adduct with serum albumin explaining elevated levels
- P-11 **András Zeke**  
Analyzing redox features of proteins based on AlphaFold2 models
- P-13 **Péter Tóth**  
Cell sorting based method for identifying CRISPR knock-in clones
- P-14 **Kriszinta Rubina Vass**  
Recombinant production and characterization of human alpha-keto acid dehydrogenase complex subunits and their disease-relevant variants
- P-15 **Balázs Csoma**  
Prime editing: advancing the frontiers of genetic engineering
- P-16 **Ilka Keller**  
Smoothelin-like protein 1 promotes insulin sensitivity and modulates the contractile properties of endometrial epithelial cells with insulin resistance
- P-17 **Zsuzsanna Biczók**  
A study on the reduction of self-complementarity in the prime editing RNA
- P-18 **Károly Hegedűs**  
Estimating efficiency of immunosuppressive therapy in heart transplant patients
- P-19 **Bálint Csörgő**  
Repurposing CRISPR-Cas3 systems for probing phage-host interactions
- P-20 **Eszter Holub**  
Key factors and consequences of drug induced genomic cytosine deamination

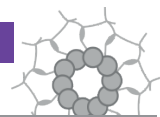


- P-21 **Balázs Ligeti**  
ProkBERT: genomic language models for understanding the microbiome
- P-22 **Alexandra Sándor**  
Development of an induced pluripotent stem cell-based organoid model for investigating the molecular mechanisms of cerebellar ataxia
- P-23 **Csaba Kiss**  
Investigating the role of non-coding genetic variants in colorectal cancer through single-cell multiomics analysis
- P-24 **Edit Szabó**  
Genetic variants of the human thiamine transporter (SLC19A3, THTR2) - potential relevance in type 2 diabetes mellitus
- P-25 **Ágnes Becsei**  
Detecting uracil in DNA with nanopore sequencing
- P-26 **Katalin Vincze**  
Exploring the neurological impact of type 2 diabetes in induced pluripotent stem cell derived neuronal progenitors and neurons
- P-27 **Beáta Vértessy**  
Artificial Intelligence-based search for new enzymes to degrade polluting hydrocarbons
- P-28 **Hédi Maczelka**  
Developing a novel endothelial dysfunction model using pluripotent stem cell-derived endothelial cells for extracellular matrix recellularisation
- P-29 **Dániel Molnár**  
Antibacterial action of membrane-incising peptide lamellae
- P-30 **Zita Bognár**  
Effect of Desethylamiodarone on mitochondrial mechanisms in breast cancer cell lines
- P-31 **Dávid Kovács**  
Triglyceride acyl length drives lipolysis and adipocyte metabolism
- P-32 **Ádám Ungvári**  
Myosin phosphatase promotes insulin-sensitizing mechanisms in C2C12 muscle cells
- P-33 **Mihály Józsi**  
Functional characterization of complement Factor H CCP19-20 variants with a set of host-derived and microbial ligands
- P-34 **Viktória Jenei**  
Immunological characterization the different forms of necrotic cell death
- P-35 **János András Mótán**  
Structure-based identification of interacting partners of the human retroviral-like aspartic protease 1 (ASPRV1)
- P-36 **Renáta Bíró**  
ARHGAP25 has an anti-inflammatory role in the imiquimod-induced psoriasis mouse model
- P-37 **Klára Irene Wanjiru**  
Inhibition profiling of integrase strand-transfer inhibitors and the capsid inhibitor against HIV-2, and exploration of factors associated with viral latency
- P-38 **Bálint Jezsó**  
Phase separation and cytoplasmic granulation by single-stranded DNA binding protein 1 (SSB1) delineate new mechanisms of cellular stress response



- P-39 **Éva Gráczér**  
Dissecting the cellular effects of beta-actin mutations causing non-muscle actinopathies
- P-40 **Zoltán Ódor**  
Utilizing NanoFlare gold nanoparticles for dynamic monitoring of gene expression and cellular differentiation in colorectal cancer cells
- P-41 **Mária Golda**  
Investigation of the substrate specificity of human retroviral-like aspartic protease 1 (ASPRV1)
- P-42 **Viktória Tisza**  
CHD1 deletion in prostate cancer and its impact on PARP inhibitor sensitivity
- P-43 **Kriszinta Rubina Vass**  
NMR structural analysis of the lipoyl domain of the hKGDHc-E2 protein
- P-44 **Petra Körmendi**  
Crosstalk of LKB1- and PKA-dependent signaling pathways in the regulation of hepatocyte polarity
- P-45 **Dávid Szakács**  
Interaction of complement C3b with factor H family proteins
- P-46 **Seo Mizuki**  
Transferrin receptor-mediated iron uptake is required for thermogenic activation in human cervical derived adipocytes
- P-47 **Dávid Szakács**  
Annexin A2 is a ligand for complement factor H, FHL-1 and FHR proteins
- P-48 **Mustafa Abdulkareem**  
Investigating the role of RNA binding in the cellular function of KMT2D
- P-49 **Mónika Ágnes Szűtsné Tóth**  
Structure-function coordination in the SALS protein
- P-50 **Otília Tóth**  
Expression of dUTPase in mouse postnatal development
- P-51 **Péter Gaszler**  
Structural analysis of the EB1 protein
- P-52 **Tamás Orbán**  
Exosomal small RNA profiling in first-trimester maternal blood explores early molecular pathways of preterm preeclampsia
- P-53 **Mohamad Mahfood**  
Expression of myosin phosphatase in breast cancer
- P-54 **Viktória Perey-Simon**  
Role and effect of uracil metabolism on zebrafish embryonic development
- P-55 **Csaba Magyar**  
MD simulation analysis of heterodimeric mutual synergistic folding proteins
- P-56 **Laura Vizkeleti**  
Functional understanding Septin9 intronic DNA methylation and its impact on colorectal cancer development and diagnosis
- P-57 **Rita Hirmondó**  
Do Mycobacteria really have no actin? Characterization of a potential Mbl protein
- P-58 **Tamás Arányi**  
Hepatocyte-specific DNMT3A and DNMT3B knockout mice develop pre-cancerous phenotype
- P-59 **Zsóé S. Tóth**  
The full-length Stl repressor is required for efficient inhibition of mycobacterial dUTPase





- P-60 **Zsuzsánna Réthi-Nagy**  
Correlation between virulence and cytotoxicity of multidrug-resistant bacteria in human cell models
- P-61 **Katalin Kuffa**  
Side-specific cell surface biotinylation to analyze the apical-basolateral distribution and accessible regions of transmembrane proteins in polarized epithelial cells
- P-62 **Richárd Kinter**  
The effect of fluorescent photoactive Hsp90 inhibitors on the metastatic properties of melanoma cells
- P-63 **Anna Sánta**  
Analysis of disease-associated point mutations of the Shank1 PDZ domain
- P-64 **Doa'a Al-u'datt**  
Nanoparticles-derived royal jelly exerts antidiabetic properties
- P-65 **Eszter Nagy-Kanta**  
Structural investigation of the multivalent complex of the GKAP scaffold and LC8 hub protein
- P-66 **Nikoletta Pfeiffer**  
Effect of olaparib on temozolomide-induced cell death
- P-67 **Bálint Péterfia**  
Ensemble-based modeling using SAXS and NMR data of the Drebrin single alpha-helix
- P-68 **Ammar Darwish**  
Silver-lipid nanoparticles shaped for targeted tumor therapy
- P-69 **Mátyás Sámuel Szabó**  
Examining the molecular mechanisms of irradiation-induced myocardial damage
- P-70 **Barbara Erdélyi-Furka**  
The cytoprotective effect of preimplantation factor on irradiation-induced cardiac cell injury
- P-71 **Dóra Nógrádi-Halmi**  
Kynurenic acid protects cardiac cells against doxorubicin-induced cardiotoxicity
- P-72 **Renáta Gáspár**  
Mechanism of kynurenic acid-derived protection against simulated ischemia/reperfusion-induced cardiac cell damage: investigation on the potential modulation of autophagy

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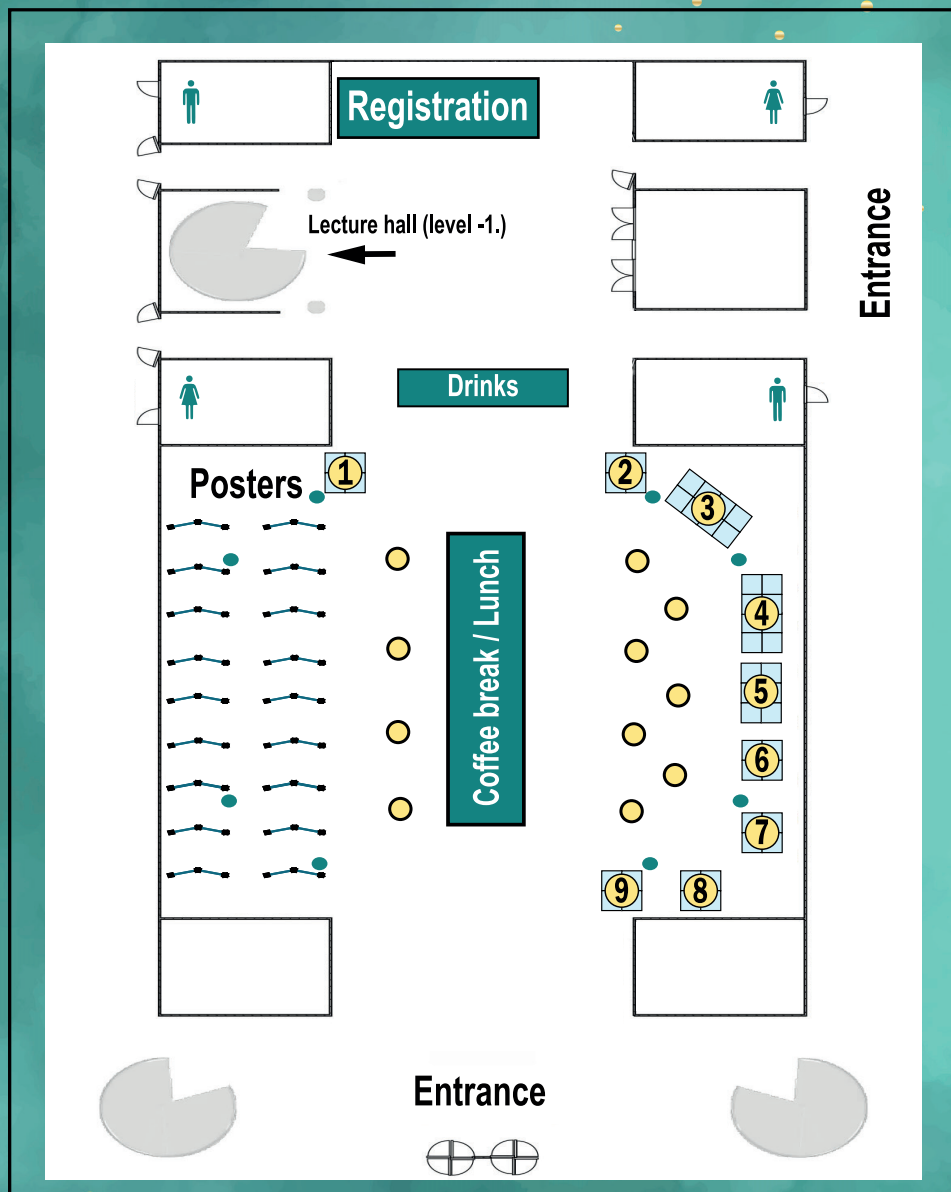


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A Magyar Biokémiai Egyesület internetes folyóirata

- Tudományos cikkek
- Áttekintő összefoglalók
- PhD disszertációk bemutatása
- Kitüntetések, elismerések
- Munkacsoportok bemutatása
- Konferencia felhívások és beszámolók
- FEBS hírek
- Aktualitások

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