PEPTIDE CHEMISTRY AND CHEMICAL BIOLOGY SYMPOSIUM
MAY 30 – JUNE 1 2022
BALATONSZEMES

Organized By the Peptide Chemistry and the Chemical Biology Working Committees of the Hungarian Academy of Sciences

SYMPOSIUM PROGRAM

MONDAY, MAY 30

11:00 Arrival, registration

12:00 Lunch

13:30 Welcome address (Tamás Martinek, Péter Kele, chairs)

Session Chair: Tamás Martinek

13:35-14:00 IL1 **Andrew J. Wilson (University of Leeds School of Chemistry)**
„Modulation of Interactions Employing Intrinsically Disordered Domains"

14:00-14:20 L1 **Gábor Mező (ELKH-ELTE Research Group Peptide Chemistry)**
„Structure optimization of F3 nucleolin recognizing peptide for efficient drug targeting in cancer therapy."

14:20-14:40 L2 **Kata Nóra Enyedi (Eötvös Loránd University, Department of Organic Chemistry)**
„Wise shuffling."

14:40-15:00 L3 **Attila Tököli (University of Szeged Department of Medical Chemistry)**
„Two anchor point-binding of the SSB C-terminal to DNA metabolizing proteins facilitates development of enhanced inhibitors."

15:00-15:25 L4 **Attila Borics (Biological Research Centre, Laboratory of Chemical Biology)**
„The role of correlated motions of conserved motifs and the binding modes of agonists in the activation mechanism of G protein-coupled receptors."

15:25-16:00 Coffee Break

Session Chair: Csaba Tömböly

16:00-16:20 L5 **Anna Júlia Kiss-Szemán (Laboratory of Structural Chemistry and Biology, Institute of Chemistry, Eötvös Loránd University)**
„Cryo-EM structure of the mammalian acylpeptide hydrolase: selection by multimerization and a multi-state serine-protease triad."

16:20-16:40 L6 **Veronika Harmat (MTA-ELTE Protein Modelling Research Group, Eötvös Loránd Research Network, Laboratory of Structural Chemistry and Biology, Institute of Chemistry, Eötvös Loránd University)**
"Structural background of inhibitory effect of ecotin on MASP enzymes.'

16:40-17:00 L7 **Dóra Karancsiné Menyhárd (MTA-ELTE Protein Modelling Research Group, Eötvös Loránd Research Network (ELKH))**
"Pseudouridinases: structure, mechanism and therapeutic potential."

17:00-17:25 L8 **Botond Penke (University of Szeged Department of Medical Chemistry)**
"Physiological and pathophysiological role of amyloid proteins and the protein quality control system in health and diseases."

18:00 Dinner

19:30 Meeting for the members of the Peptide Chemistry Working Committee

TUESDAY, MAY 31

Session Chair: Tamás Beke-Somfai

9:00-9:25 IL2 **György Miklós Keserű (Research Centre for Natural Sciences, Medicinal Chemistry Research Group)**
„SpotXplorer fragments for maximal coverage of pharmacophore space."

9:25-9:45 L9 **Imola Csilla Szigyártó (Research Centre for Natural Sciences, Biomolecular Self-assembly Research Group)**
„Membrane active foldamers: structure and morphology."

9:45-10:05 L10 **Gábor Paragi (University of Szeged Department of Medical Chemistry)**
„Computer-aided investigation of quadruplex systems in different media."

10:05-10:25 L11 **Adina Noémi Borbély (Eötvös Loránd University, Department of Analytical Chemistry)**
„Characterization of peptide disulfide isomers with cyclic ion mobility mass spectrometry."

10:25-11:00 Coffee Break

Session Chair: Szilvia Bősze

11:00-11:25 IL3 **Łukasz Berlicki (Wrocław University of Science and Technology)**
"Design and engineering of miniproteins - towards functional molecules."

11:25-11:45 L12 **Pál Stráner (MTA-ELTE Protein Modelling Research Group, Eötvös Loránd Research Network (ELKH))**
"Viral capsid-like RNA transfer in the brain: structural biochemistry of molecular tools and functional perspectives"

11:45-12:05 L13 **Judit Darusi (Biological Research Centre, Institute of Biochemistry)**
"Chemical modification of Interleukin-15."

12:05-12:30 L14 **Tamás Beke-Somfai (Research Centre for Natural Sciences, Biomolecular Self-assembly Research Group)**
"Membrane sensitivity of short peptidic assemblies."

12:30-14:00 Lunch

Session Chair: Gábor Mező

14:00-14:25 IL4 **Róbert Horváth (Nanobiosensorics Laboratory, ELKH EK MFA)**
"Novel biophysical tools for label-free single-cell monitoring and manipulation."

14:25-14:45 L15 **Szilvia Bősze (ELKH-ELTE Research Group Peptide Chemistry)**
"Collaborative SARS-CoV-2 studies in the Research Group of Peptide Chemistry: need and challenges."

14:45-15:05 L16 **Ildikó Szabó (ELKH-ELTE Research Group Peptide Chemistry)**
"Optimizing peptide candidates as drug carriers to target SARS-CoV-2 infected host cells."

15:05-15:25 L17 **Kata Horváti (ELKH-ELTE Research Group Peptide Chemistry)**
"Peptides, peptide-conjugates and natural compounds against SARS-CoV-2."

15:25-16:00 ***Coffee Break***

Session Chair: Gábor Tóth

16:00-16:20 L18 **Eszter Lajkó (Semmelweis University, Department of Genetics, Cell- and Immunobiology)**
"Comparing the effects of uPA derived peptides on uPAR positive melanoma cells with metastatic activity."

16:20-16:40 L19 **Veronika Nagy (University of Pécs)**
"Conjugation of carotenoids with other antioxidants."

16:40-17:00 L20 **Katalin Uray (ELKH-ELTE Research Group Peptide Chemistry)**
"Perspectives in the application of virus derived carrier peptides."

17:00-17:20 L21 **Ágnes Simon** (**Research Centre for Natural Sciences)**
"Formation of gap junction proteins from hemichannels - the role of disulfide bonds."

17:20-18:00 ***Coffee Break***

Session Chair: Zsófia Hegedüs

18:00-19:00 ***Poster session and flash presentations***

19:00 ***Dinner***

WEDNESDAY, JUNE 1

Session Chair: Veronika Harmat

9:00-9:25 IL5 **Hannes Mikula (Technische Universität Wien)**
"Exit the Cube: Next-Level Chemical Tools for Ultrafast Bioorthogonal Bond-Cleavage."

9:25-9:45 L22 **László Petri (Research Centre for Natural Sciences, Medicinal Chemistry Research Group)**
"Development of targeted covalent inhibitors applying target-specific warhead optimization."

9:45-10:05 L23 **Dénes Szepesi Kovács (Research Centre for Natural Sciences, Medicinal Chemistry Research Group)**
"Synthesis and application of new boranyl fluorophores."

10:05-10:30 IL6 **Gabriel Fenteany (University of Szeged Department of Medical Chemistry)**
"Chemical Biology Approaches to Studying Cell Signalling in Cancer Progression."

10:30-11:00 ***Coffee Break***

Session Chair: Kata Horváti

11:00-11:25 IL7 **Péter Kele** (**Research Centre for Natural Sciences, Chemical Biology Research Group)**
"Bioorthogonally activated photoresponsive systems."

11:25-11:45 L24 **Attila Kormos** (**Research Centre for Natural Sciences, Chemical Biology Research Group)**
"A Bioorthogonal Double Fluorogenic Probe to Visualize Protein–DNA Interaction."

11:45-12:05 L25 **Dóra Kern** (**Research Centre for Natural Sciences, Chemical Biology Research Group)**
"Fluorogenic self-immobilizing quinone methide probes for bioorthogonal labelling schemes."

12:05-12:25 L26 **Ágnes Szatmári** (**Research Centre for Natural Sciences, Chemical Biology Research Group)**
"A Genetically Encoded Isonitrile Lysine for Orthogonal Bioorthogonal Labeling Schemes."

12:25-12:35 ***Presentation of the Kálmán Medzihradszky Performer Award***

12:35-12:45 ***Closing remarks***

12:45- ***Lunch***

Poster presentations

FP1 **Mayra Quemé-Peña (Research Centre for Natural Sciences, Biomolecular Self-assembly Research Group)**
"Assembly formation and perturbation of function of selected cationic peptides by drugs and natural metabolites."

FP2 **Lilla Horváth (ELKH-ELTE Research Group Peptide Chemistry)**
"Host cell targeting of 4-aminosalicylic acid derivatives: design, synthesis, and evaluation on different in vitro platforms."

FP3 **Beáta Biri-Kovács (ELKH-ELTE Research Group Peptide Chemistry)**
"In vitro evaluation of new salicylanilide derivatives on glioblastoma: compounds' role in autophagy."

FP4 **Kaushik Nath Bhaumik (University of Szeged Department of Medical Chemistry)**
"Comparative ion channel forming ability of Host defense peptides (HDPs) at sub-inhibitory concentration."

FP5 **Tasvilla Sonallya (Research Centre for Natural Sciences, Biomolecular Self-assembly Research Group)**
"Systematic investigation on the interactive mechanism of extracellular vesicles and membrane active peptides."

FP6 **Nóra Taricska (Laboratory of Structural Chemistry and Biology, Institute of Chemistry, Eötvös Loránd University)**
"Investigation of peptides amyloid formation, the effect of gate keeper amino acids."

FP7 **Chiara Bellini (ELKH-ELTE Research Group Peptide Chemistry)**
"Reducing the cytotoxicity while improving the cellular uptake of lipopeptides through cyclodextrin formulation."

FP8 **Orsolya Dömötör (University of Szeged, Department of Inorganic and Analytical Chemistry)**
"Comparative solution equilibrium studies on the serum protein binding of tyrosine kinase inhibitors."

P1 **Pavela Olivér (Természettudományi Kutatóközpont)**
"NFAP2 antifungális peptid membrán kölcsönhatásainak számítógépes vizsgálata."

P2 **Pál Stráner (MTA-ELTE Protein Modelling Research Group, Eötvös Loránd Research Network (ELKH))**
"A novel fusion protein system for rapid production of in silico designed nanobodies using bacterial expression for in vitro bioassays."

P3 **Vencel László Petrovicz (University of Szeged Department of Medical Chemistry)**
„Influence of backbone modifications of CITED2 on the allosteric regulation of the p300/HIF-1α inhibition."

P4 **Sohini Chakraborty (Research Centre for Natural science)**
"Phosphate mediated co-assembly of cationic non-natural peptides."

P5 **Dániel Horváth (MTA-ELTE Protein Modelling Research Group, Eötvös Loránd Research Network (ELKH))**
„Polymorphic amyloid-like crystal structures of proglucagon derived hexapeptides demonstrate pH-dependent reversible amyloid formation."

P6 **Resch Vivien (SZTE Orvosi Vegytani Intézet)**
„Módosított szteroidok kötődésének számítógépes vizsgálata tubulin fehérjéhez."

P7 **Pihál Fruzsina (Hevesy György Doctoral School of Chemistry, Laboratory of Structural Chemistry and Biology, Eötvös Loránd University)**
"Investigation of the isomerization of NG peptides by NMR spectroscopy and molecular modelling."

FUNDING

Foundation for Hungarian Peptide and Protein Research
Gedeon Richter Plc.
ELKH-Research Centre for Natural Sciences
ABL&E-JASCO Magyarország Kft.
Kvalitex Kft
ChemAxon Kft

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TITOKTARTÁSI FELHÍVÁS

A Peptidkémiai és Kémiai Biológiai Munkabizottság ülésén, valamennyi előadásán elhangzó vagy egyéb módon ismertetett, nem publikált kutatási eredmény, találmány, egyéb műszaki információ és adat az ülés résztvevőire korlátozott számú személynek kerül átadásra. Az itt elhangzottak, vagy leírtak törvényes jogosultjaik kizárólagos szellemi tulajdonát képezik, és csak a jogosultak engedélyével használhatók fel, vagy hozhatók nyilvánosságra. Az engedély nélküli felhasználás vagy nyilvánosságra hozatal a találmányok szabadalmi oltalmáról szóló 1995. évi XXXIII. tv. 3.§. (2) bekezdésének a) pontja értelmében nem jelenthet újdonságrontást későbbi szabadalmi bejelentésekkel szemben.

Részletes Program

Hétfő

11:00 Érkezés, regisztráció

12:00 ebéd

13:30 megnyitó (Martinek Tamás és Kele Péter)

Elnök Martinek Tamás

13:35
Andy Wilson
Modulation of Interactions Employing Intrinsically Disordered Domains
University of Leeds School of Chemistry;

14:00
Diána Vári-Mezõ,1 Bettina Basa,2,3 Lilla Borbála Horváth,2,3 Beáta Biri-Kovács,2,3 Kata Nóra Enyedi,2 Krisztina Kiss,4,5, Balázs Vári,1 Bõsze Szilvia,3 József Tóvári,1 **Gábor Mezõ2**,3*
Structure optimization of F3 nucleolin recognizing peptide for efficient drug targeting in cancer therapy.
1National Institute of Oncology, Department of Experimental Pharmacology, Budapest, Hungary 2Eötvös Loránd University, Faculty of Science, Institute of Chemistry, Budapest, Hungary 3ELKH-ELTE Research Group of Peptide Chemistry, Budapest, Hungary 4Tavanta Therapeutics Hungary Zrt., Budapest, Hungary 5Department of Organic Chemistry and Technology, Budapest University of Technology and Economics, Budapest, Hungary

14:20
Ödön Farkas 1, Eszter Lajkó 2, **Kata Nóra Enyedi** 1,3*
Wise shuffling
1 Institute of Chemistry, Faculty of Sciences, Eötvös Loránd University, Budapest, Hungary 2 Department of Genetics, Cell- and Immunobiology, Semmelweis University, Budapest, Hungary 3 ELKH Research Group of Peptide Chemistry, Hungarian Academy of Sciences, Budapest, Hungary

14:40
Attila Tököli,1* Brigitta Bodnár,1 Ferenc Bogár,2 Gábor Paragi,2 Anasztázia Hetényi,1 Éva Bartus Kovács,1,2 Edit Wéber,1 Zsófia Hegedüs1, Gerda Szakonyi,3 Tamás A. Martinek1,2
Two anchor point-binding of the SSB C-terminal to DNA metabolizing proteins facilitates development of enhanced inhibitors
1 Department of Medical Chemistry, University of Szeged 2 MTA SZTE Biomimetic Systems Research Group, Eötvös Loránd Research network (ELKH), University of Szeged 3 Institute of Pharmaceutical Analysis, University of Szeged

15:00
Arijit Sarkar, Argha Mitra and **Attila Borics***
The role of correlated motions of conserved motifs and the binding modes of agonists in the activation mechanism of G protein-coupled receptors.
Laboratory of Chemical Biology, Institute of Biochemistry, ELRN Biological Research Centre, Szeged;

15:25 kávészünet

Elnök: Tömböly Csaba

16:00

Anna J. Kiss-Szemán*1, Pál Stráner2, Imre Jákli1,2, Veronika Harmat1,2, Dóra K. Menyhárd1,2 and András Perczel1,2

Cryo-EM structure of the mammalian acylpeptide hydrolase: selection by multimerization and a multi-state serine-protease triad

1 Laboratory of Structural Chemistry and Biology, Institute of Chemistry, Eötvös Loránd University, Budapest – 1117, Hungary. 2 MTA-ELTE Protein Modelling Research Group, Eötvös Loránd Research Network, Budapest – 1117, Hungary.

16:20

Veronika Harmat*1, Zoltán Attila Nagy2, Dávid Héja2, Dániel Bencze2, Bence Kiss2, Eszter Boros2, Dávid Szakács2, Krisztián Fodor2,3, Matthias Wilmanns3, Andrea Kocsis4, József Dobó4, Péter Gál4, Gábor Pál2

Structural background of inhibitory effect of ecotin on MASP enzymes

1 ELTE Institute of Chemistry, Laboratory of Structural Chemistry and Biology; MTA-ELTE Protein Modelling Research Group, ELKH, Budapest 2 ELTE Department of Biochemistry, Budapest 3 EMBL-Hamburg, Hamburg 4 Research Centre for Natural Sciences, Institute of Enzymology, Budapest

16:40

Kiss Dóra Judit (1), Varga Máté (3), Ferenczy György (2), Tory Kálmán (4), **Karancsiné Menyhárd Dóra*** (1)

Pseudouridinases: structure, mechanism and therapeutic potential

(1) MTA-ELTE Fehérjemodellezõ Kutatócsoport, Szerkezeti Kémia és Biológia Laboratórium, Kémia Intézet, ELTE (2) Gyógyszerkémiai Kutatócsoport, Szerves Kémiai Intézet, ELKH TTK (3) Genetika Tanszék, Biológia Intézet, ELTE (4) I. Sz. Gyermekgyógyászati Klinika, SE;

17:00

Botond Penke*, Ferenc Bogár, Gábor Paragi, Livia Fülöp

Physiological and pathophysiological role of amyloid proteins and the protein quality control system in health and diseases.

SZTE, Institute of Medical Chemistry;

18:00 vacsora

19:30 munkabizottsági ülés

Kedd

Elnök: Beke-Somfai Tamás

9:00

Keserû György Miklós

SpotXplorer fragments for maximal coverage of pharmacophore space

Research Centre for Natural Sciences, Medicinal Chemistry Research Group;

9:25

Szigyártó Imola Csilla*1, Farkas Viktor2, Kamal el Battioui1, Vignesh U. Nagaraj1, Ferentzi Kristóf2, Wacha András1, Juhász Tünde1, Kohut Gergely1, Románszki Loránd1, Varga Zoltán1, Beke-Somfai Tamás1

Membrane active foldamers: structure and morphology;1. ELKH, Természettudományi Kutatóközpont 2. ELKH-ELTE Fehérjemodellezõ Kutatócsoport;

9:45

Paragi Gábor

Computer-aided investigation of quadruplex systems in different media

SZTE Orvosi Vegytani Intézet;

10:05
Adina Borbély,1,* Kata Nóra Enyedi,2 Gitta Schlosser,1
Characterization of peptide disulfide isomers with cyclic ion mobility mass spectrometry;1. MTA-ELTE Lendület Ion Mobility Mass Spectrometry Research Group and Department of Analytical Chemistry, Eötvös Loránd University (ELTE), Pázmány P. sétány 1/A, H-1117 Budapest, Hungary 2. Department of Organic Chemistry, Eötvös Loránd University (ELTE), Pázmány P. sétány 1/A, H-1117 Budapest, Hungary

10:25 kávészünet

Elnök:Bõsze Szilvia

11:00
£ukasz Berlicki
Design and engineering of miniproteins - towards functional molecules
Wroc³aw University of Science and Technology

11:25
Stráner Pál*1, Tukács Vanda2,3, Tran Minh Hien1, Mátyás Dominik2,3, Kékesi Katalin3,4, Juhász Gábor3,4 Perczel András1
Viral capsid-like RNA transfer in the brain: structural biochemistry of molecular tools and functional perspectives
1 MTA-ELTE Protein Modeling Research Group, Eötvös Loránd Research Network (ELKH), Institute of Chemistry, Eötvös Loránd University, Pázmány P. stny.1/A, Budapest, H-1117, Hungary 2 ELTE NAP Neuroimmunology Research Group, Department of Biochemistry, Institute of Biology, ELTE Eötvös Loránd University, Budapest, Hungary 3Laboratory of Proteomics, Institute of Biology, ELTE Eötvös Loránd University, Budapest, Hungary 4 Department of Physiology and Neurobiology, Institute of Biology, ELTE Eötvös Loránd University, Budapest, Hungary

11:45
Darusi Judit*, Hunyadi-Gulyás Éva, Fehér Tamás, Kele Zoltán, Tömböly Csaba
Chemical modification of Interleukin-15
Szegedi Biológiai Kutatóközpont;

12:05
Beke-Somfai Tamás
Membrane sensitivity of short peptidic assemblies;Research Centre for Natural Sciences, Biomolecular Self-assembly Research Group;

12:30 ebéd

Elnök: Mezõ Gábor

14:00
Horváth Róbert
Novel biophysical tools for label-free single-cell monitoring and manipulation
Nanobiosensorics Laboratory, ELKH EK MFA;

14:25
Bernadett Pályi1, Zoltán Kis1, Kata Horváti2, Kovács M. Gábor3, Boldizsár Imre3, Gyula, Balka4, Kinga Fodor4, Elõd Méhes6, Júlia Tárnoki-Zách6, András Czirók6, and **Szilvia Bõsze**5, 1*
Collaborative SARS-CoV-2 studies in the Research Group of Peptide Chemistry: need and challenges

1National Public Health Center, Albert Flórián út 2-6, Budapest, 1097, Hungary 2 MTA-ELTE Lendület ""Momentum"" Peptide-Based Vaccines Research Group, Hungarian Academy of Sciences, Eötvös Loránd University, Pázmány Péter sétány 1/A, Budapest 1117, Hungary 3Institute of Biology, Eötvös Loránd University, Department of Plant Anatomy, Pázmány Péter sétány 1/C, Budapest 1117, Hungary 4University of Veterinary Medicine, Department of Pathology and Animal Breeding, Nutrition and Laboratory Animal Science Department, H-1078 István u. 2, Budapest, Hungary 5ELKH-ELTE Research Group of Peptide Chemistry, Eötvös Loránd Research Network, Eötvös Loránd University, Pázmány Péter sétány 1/A, H-1117, Budapest, Hungary 6Department of Biological Physics, Eötvös Loránd University, Pázmány Péter sétány 1/A, H-1117, Budapest, Hungary

14:45

Ildikó Szabó1*, Kata Horváti2, Lilla Borbála Horváth1,3, Laura Ilona Laboda3, Mo'ath Yousef2,3, Levente Lakatos4, Bence Stipsicz4, and Szilvia Bõsze1, 3

Optimizing peptide candidates as drug carriers to target SARS-CoV-2 infected host cells

1ELKH-ELTE Research Group of Peptide Chemistry, Eötvös Loránd Research Network, Eötvös Loránd University, Pázmány Péter sétány 1/A, H-1117, Budapest, Hungary 2 MTA-ELTE Lendület ""Momentum"" Peptide-Based Vaccines Research Group, Hungarian Academy of Sciences, Eötvös Loránd University, Pázmány Péter sétány 1/A, Budapest 1117, Hungary 3National Public Health Center, Albert Flórián út 2-6, Budapest, 1097, Hungary 4Institute of Biology, Eötvös Loránd University, Pázmány Péter sétány 1/C, H-1117, Budapest, Hungary

15:05

Kata Horváti1, Bernadett Pályi2, Zoltán Kis2, Ildikó Szabó3, Imre Boldizsár4, Gábor M. Kovács4, Berek-Nagy János4,2, Csíkos Sándor4,2, Imrefi Ildikó4,2, Varga Dóra4,2, Lilla Borbála Horváth3,2 and Szilvia Bõsze3,2

Peptides, peptide-conjugates and natural compounds against SARS-CoV-2

1 MTA-ELTE Lendület ""Momentum"" Peptide-Based Vaccines Research Group, Hungarian Academy of Sciences, Eötvös Loránd University, Budapest, Hungary; 2 National Public Health Center, Budapest, Hungary; 3 ELKH-ELTE Research Group of Peptide Chemistry, Eötvös Loránd Research Network, Eötvös Loránd University, Budapest, Hungary; 4 Department of Plant Anatomy, Institute of Biology, Eötvös Loránd University, Budapest, Hungary.

15:25 kávészünet

Elnök:Tóth Gábor

16:00

1Kata Enyedi, 1,2Gábor Mezõ, 3László Kõhidai, 3**Eszter Lajkó***

Comparing the effects of uPA derived peptides on uPAR positive melanoma cells with metastatic activity

1 Institute of Chemistry, Faculty of Sciences, Eötvös Loránd University, Budapest, Hungary 2 ELKH Research Group of Peptide Chemistry, Hungarian Academy of Sciences, Budapest, Hungary 3 Department of Genetics, Cell- and Immunobiology, Semmelweis University, Budapest, Hungary;

16:20

Dalma Czett 1, Katalin Böddi 1, Ildikó Szabó 1, Barbara Vörös-Horváth 2, Péter Szabó 3, Tibor Kurtán 4, Sándor Balázs Király 4, Anikó Takátsy 1, Paul Tone 5, József Deli 1,6, Attila Agócs 1, **Veronika Nagy** 1*

Conjugation of carotenoids with other antioxidants

1 University of Pécs, Medical School, Department of Biochemistry and Medical Chemistry, Szigeti út 12, H-7624 Pécs, Hungary 2 University of Pécs, Faculty of Pharmacy, Institute of Pharmaceutical Technology and Biopharmacy, Rókus u. 2, H-7624 Pécs, Hungary 3 University of Pécs, Szentágothai Research Centre, Environmental Analytical and Geoanalytical Research Group, Ifjúság útja 20. H-7624 Pécs, Hungary 4 University of Debrecen, Department of Organic Chemistry, POB 400, H-4002, Debrecen, Hungary 5 Richmond University Medical Center, Department of Medicine, Staten Island, New York, USA 6 Department of Pharmacognosy, Faculty of Pharmacy, University of Pécs, Rókus u. 2, H-7624 Pécs, Hungary ;

16:40
Uray Katalin*, Horváth Lilla, Bõsze Szilvia
Perspectives in the application of virus derived carrier peptides
ELKH-ELTE Peptidkémiai Kutatócsoport;

17:00
Agnes Simon*, Julianna Kardos, Laszlo Heja
Formation of gap junction proteins from hemichannels - the role of disulfide bonds
Természettudományi Kutatóközpont;

17:20 kávészünet

Elnök: Hegedüs Zsófia

Poszterszekció

19:00 vacsora

Szerda

Elnök: Harmat Veronika

9:00
Hannes Mikula
Exit the Cube: Next-Level Chemical Tools for Ultrafast Bioorthogonal Bond-Cleavage
Technische Universität Wien;

9:25
Petri László*, Egyed Attila, Bajusz Dávid, Imre Tímea, Ábrányi-Balogh Péter és Keserû György Miklós
Development of targeted covalent inhibitors applying target-specific warhead optimization
Gyógyszerkémiai Kutatócsoport, Természettudományi Kutatóközpont, Eötvös Lóránd Kutatói Hálózat ;

9:45
Szepesi Kovács Dénes*[1], Hajdu Imre[1], Wittner Lucia[2], Meszéna Domokos[2], Tóth Zsófia Estilla[2], Hegedûs Zita[3], Ivan Ranđeloviæ[3], Tóvári József[3], Szilágyi Bence[1], Keserû György Miklós[1], Ábrányi-Balogh Péter[1]
Synthesis and application of new boranyl fluorophores
[1] TTK Gyógyszerkémiai Kutatócsoport [2] TTK Integratív Idegtudományi Kutatócsoport [3] Országos Onkológiai Intézet, Onkológiai Kutató Központ, Kísérletes Farmakológiai Osztály;

10:05
Gabriel Fenteany
Chemical Biology Approaches to Studying Cell Signaling in Cancer Progression
Department of Medical Chemistry, Faculty of Medicine, University of Szeged

10:30 kávészünet

Elnök: Horváti Kata

11:00
Péter Kele
Bioorthogonally activated photoresponsive systems
Research Centre for Natural Sciences, Chemical Biology Research Group;

11:25
Attila Kormos,*1 Alexandra Egyed,1,2 Jasmine M. Olvany,1 Ágnes Szatmári,1 Adrienn Biró,1 Zsóka Csorba,1 Péter Kele,1 Krisztina Németh1
A Bioorthogonal Double Fluorogenic Probe to Visualize Protein–DNA Interaction
1. Chemical Biology Research Group, Institute of Organic Chemistry, ELKH Research Centre for Natural Sciences, Magyar Tudósok Krt 2, 1117 Budapest, Hungary 2. Hevesy György PhD School of Chemistry, Eötvös Loránd University, Pázmány Péter Sétány 1/a, 1117 Budapest, Hungary;

11:45
Dóra Kern* 1,2; Attila Kormos 1; Allegra Lövei 1; Péter Kele 1
Fluorogenic self-immobilizing quinone methide probes for bioorthogonal labelling schemes
(1) Chemical Biology Research Group, Institute of Organic Chemistry, ELKH Research Centre for Natural Sciences (2) Hevesy György PhD School of Chemistry, Eötvös Loránd University

12:05
Ágnes Szatmári 1,* , Gergely B. Cserép 1 , Tibor Á. Molnár 1, Bianka Söveges 1, Adrienn Biró 1, György Várady 2 , Edit Szabó 2 , Krisztina Németh 1,* and Péter Kele 1,*
A Genetically Encoded Isonitrile Lysine for Orthogonal Bioorthogonal Labeling Schemes
1 Chemical Biology Research Group, Institute of Organic Chemistry, ELKH Research Centre for Natural Sciences, Magyar Tudósok Krt 2, H-1117 Budapest, Hungary 2 Molecular Cell Biology Research Group, Institute of Enzymology, ELKH Research Centre for Natural Sciences, Magyar Tudósok Krt 2, H-1117 Budapest, Hungary;

12:25-12:35 *Medzihradszky Kálmán díj átadása*

12:35-12:45 *Zárszó*

12:45 ebéd

Poszterszekció

18:00
FP1 **Mayra Quemé-Peña***, Tünde Juhász, Tamás Beke-Somfai
Assembly formation and perturbation of function of selected cationic peptides by drugs and natural metabolites
Institute of Materials and Environmental Chemistry, Research Centre for Natural Sciences, Biomolecular Self-Assembly Research Group, Budapest H-1117, Magyar tudósok körútja 2, Hungary. ;

FP2 **Lilla Borbála Horváth** *1,2, Martin Krátký 3, Előd Méhes 4, Gergõ Gyulai 5, Gergely Kohut 6, Beáta Biri-Kovács 1, Jarmila Vinšová 3, Szilvia Bõsze 1
Host cell targeting of 4-aminosalicylic acid derivatives: design, synthesis, and evaluation on different in vitro platforms
1 ELKH-ELTE Peptidkémiai Kutatócsoport 2 Hevesy György Kémia Doktori Iskola, Eötvös Loránd Tudományegyetem 3 Department of Organic and Bioorganic Chemistry, Faculty of Pharmacy, Charles University 4 Biofizikai Tanszék, Eötvös Loránd Tudományegyetem 5 Hatérfelületi- és Nanoszerkezetek Laboratóriuma, Eötvös Loránd Tudományegyetem 6 Biomolekuláris Önrendezõdés Kutatócsoport, Anyag- és Környezetkémiai Intézet, ELKH Természettudományi Kutatóközpont

FP3 **Beáta Biri-Kovács***(1,2)#, Lilla Horváth (1)#, Zsuzsa Baranyai (1), Martin Krátký (3), Jarmila Vinšová (3) and Szilvia Bõsze (1) # equal contribution
In vitro evaluation of new salicylanilide derivatives on glioblastoma: compounds' role in autophagy
1 ELKH Research Group of Peptide Chemistry, Hungarian Academy of Sciences, Eötvös Loránd University (ELTE), Budapest, Hungary; 2 Eötvös Loránd University (ELTE), Institute of Chemistry, Budapest, Hungary 3 Department of Inorganic and Organic Chemistry, Faculty of Pharmacy, Charles University, Hradec Králové, Czech Republic

FP4 **Kaushik Nath Bhaumik**,1* Anasztázia Hetényi,1 Tamás A. Martinek1,2
Comparative ion channel forming ability of Host defense peptides (HDPs) at sub-inhibitory concentration
1 Department of Medical Chemistry, Faculty of Medicine, University of Szeged 2 MTA SZTE Biomimetic Systems Research Group, Eötvös Loránd Research network (ELKH), University of Szeged

FP5 **Tasvilla Sonallya** *, Tünde Juhász,Imola Csilla Szigyártó, Zoltán Varga, Tamás Beke-Somfai
Systematic investigation on the interactive mechanism of extracellular vesicles and membrane active peptides
Research Centre for Natural Sciences, Biomolecular Self-assembly Research Group;

FP6 **Taricska Nóra***, Horváth Dániel, Perczel András
Investigation of peptides amyloid formation, the effect of gate keeper amino acids.
ELTE TTK Szerkezeti Kémia és Biológia Laboratórium, MTA-ELTE Fehérjemodellezõ Kutatócsoport

FP7 **Chiara Bellini** 1,2*; István Puskás 3; Kata Horváti 2
Reducing the cytotoxicity while improving the cellular uptake of lipopeptides through cyclodextrin formulation
1 Hevesy György PhD School of Chemistry, Eötvös Loránd University, Budapest, Hungary; 2 MTA-ELTE Lendület ""Momentum"" Peptide-Based Vaccines Research Group, Budapest, Hungary; 3 CycloLab Cyclodextrin Research and Development Lab. Ltd., Budapest, Hungary.

FP8 **Orsolya Dömötör***(1), Anja Federa(2), Krisztina Molnár(1), Christian R. Kowol(2), Éva Anna Enyedy(1)
Comparative solution equilibrium studies on the serum protein binding of tyrosine kinase inhibitors
(1) MTA-SZTE Lendület Functional Metal Complexes Research Group, Department of Inorganic and Analytical Chemistry, Interdisciplinary Excellence Centre, University of Szeged, Hungary (2) Institute of Inorganic Chemistry, Faculty of Chemistry, University of Vienna, Austria;

P1 Pavela Olivér
NFAP2 antifungális peptid membrán kölcsönhatásainak számítógépes vizsgálata

P2 Stráner Pál1, Nagy-Fazekas Dóra1, Fazekas Zsolt1, Ecsédi Péter2, Nyitray László2, Perczel András1
A novel fusion protein system for rapid production of in silico designed nanobodies using bacterial expression for in vitro bioassays.
MTA-ELTE Protein Modeling Research Group, Eötvös Loránd Research Network (ELKH), Institute of Chemistry, Eötvös Loránd University, Pázmány P. stny.1/A, Budapest, H-1117, Hungary 2 4 Department of Biochemistry, Institute of Biology, ELTE Eötvös Loránd University, Budapest, Hungary

P3 Petrovicz Vencel László* Hegedûs Zsófia
Influence of backbone modifications of CITED2 on the allosteric regulation of the p300/HIF-1? inhibition
1 Department of Medical Chemistry, Faculty of Medicine, University of Szeged 2 MTA SZTE Biomimetic Systems Research Group, Eötvös Loránd Research network (ELKH), University of Szeged;

P4 **Sohini Chakraborty**
Phosphate mediated co-assembly of cationic non-natural peptides

Research Centre for Natural science

P5 Horváth Dániel*, Dürvanger Zsolt, Taricska Nóra, Perczel András
Polymorphic amyloid-like crystal structures of proglucagon derived hexapeptides demonstrate pH-dependent reversible amyloid formation
ELKH-ELTE Laboratory of Structural Chemistry and Biology

P6 Resch Vivien (1) Traj Péter (2) Mernyák Erzsébet (2) Paragi Gábor (1)
Módosított szteroidok kötõdésének számítógépes vizsgálata tubulin fehérjéhez.
1, SZTE Orvosi Vegytani Intézet 2, SZTE Szerves Kémiai Tanszék

P7 Pilhál Fruzsina
Investigation of the isomerization of NG peptides by NMR spectroscopy and molecular modeling
Eötvös Loránd University

<u>További résztvevők:</u>

Agócs Attila
Albitz Evelin
Bogár Ferenc
Bojtár Márton
Bozsó Zsolt
Cserép Gergely
Deli József
Egyed Alexandra
Ember Orsolya
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Hegedüs Zsófia
Héja László
Herner András
Hetényi Anasztázia
Howan Dian Herlinda Octorina
Janáky Tamás
Kovács-Bartus Éva
Mándity István
Martinek Tamás
Nagymihály Bence
Németh Krisztina
Papp Ibolya Zita
Sarkar, Arijit
Sawssen Bouali
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Szolomajer János
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