

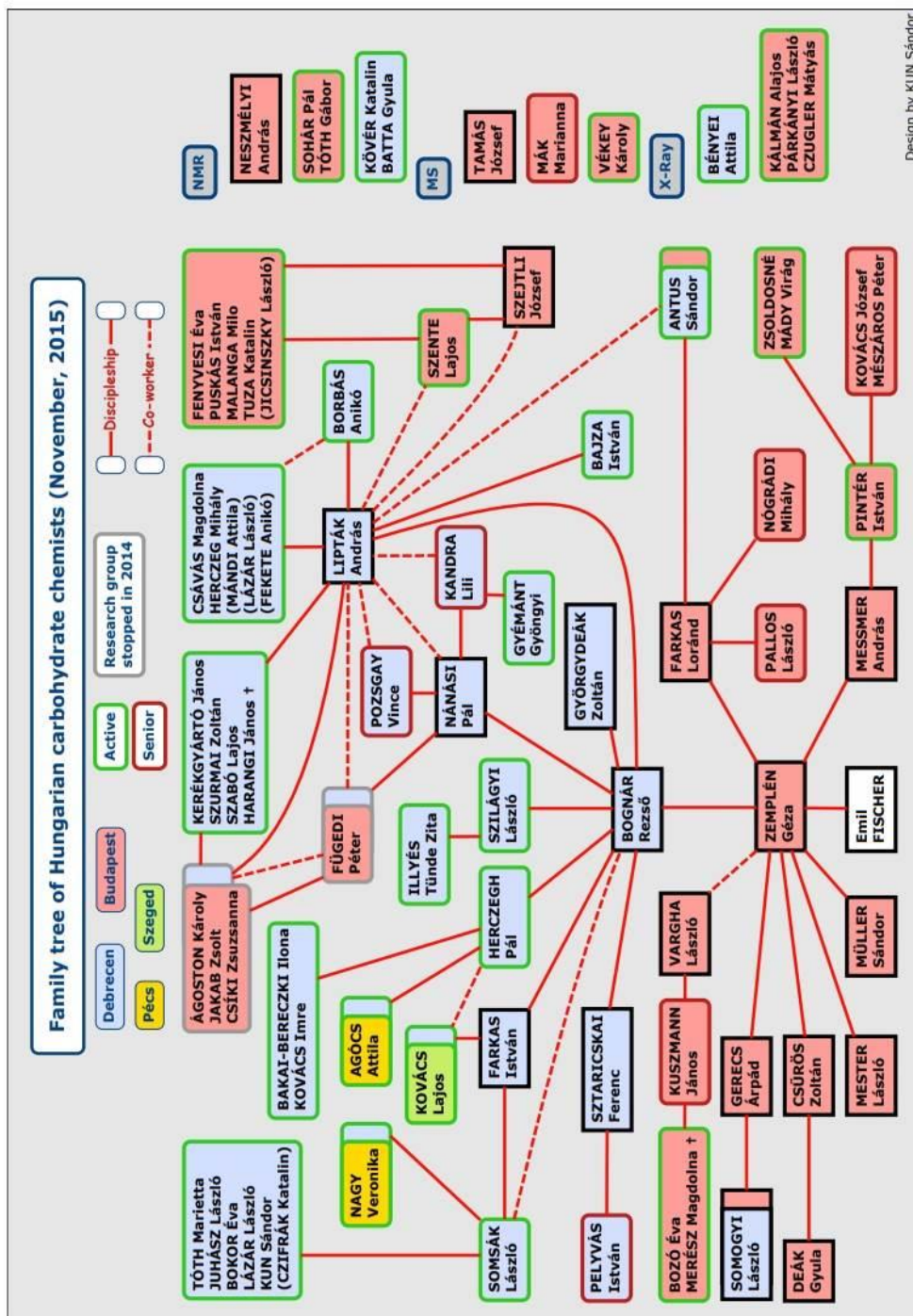
**Debrecen Colloquium  
on Carbohydrates 2020 in 2022**

*Rezső Bognár Memorial Conference  
on Glycomimetics*

**August 24-27, 2022  
Debrecen, Hungary**



**REZSŐ BOGNÁR**  
**(1913-1990)**



Design by KUN Sándor

Dear Colleagues,

The upcoming „Debrecen Colloquium on Carbohydrates 2020 in 2022” (DEBCARB2020/22) is one of the first in person scientific events in the glycoscience field after the COVID-19 pandemic. The conference has also been entitled to be part of the Debrecen University Symposia series.

The conference will host the 2<sup>nd</sup> Meeting of the COST ACTION 18132 GLYCONanoPROBES „Functional Glyconanomaterials for the Development of Diagnostics and Targeted Therapeutic Probes”.

As it transpires from the name of the conference, this meeting was intended to be organized in 2020 as the „Rezső Bognár Memorial Conference on Glycomimetics” on the occasion of the 30th anniversary of Professor Bognár’s (1913-1990) decease. He was a student of Géza Zemlén and became an internationally renowned organic and carbohydrate chemist. He founded carbohydrate chemistry in Debrecen, was member of the Hungarian Academy of Sciences, rector of the University of Debrecen (UD) and head of the Department of Organic Chemistry.

Along with the thematics of the COST Action the conference will be focused on glycomimetics which are at the forefront of current international research. Several drugs have already been approved with glycomimetic active ingredients and, in the near future, their widespread applications can be foreseen, thereby facilitating to achieve new therapeutics with up-to-now unknown targets and mechanism of action.

Beyond reminiscence and discussing cutting edge research topics, our meeting, like any other conference, aims at making acquaintances, exchanging ideas, and visiting new places. We sincerely hope that the blend of foreign scientists from Europe and other continents and the members of the Hungarian carbohydrate community, as well as the atmosphere of the University and the City of Debrecen with the aid of our generous sponsors will provide all of you with an enjoyable and memorable stay in Hungary.

**Dr. László Somsák**

full professor

UD Department of Organic Chemistry  
conference chair

**Dr. Magdolna Csávás**

senior research fellow

Eötvös Loránd Research  
Network

conference secretary  
DEBCARB

**Marietta Vágvolgyiné Dr. Tóth**

associate professor

UD Department of Organic  
Chemistry

conference secretary DEBCARB  
and COST

**Dr. Mihály Herczeg**

assistant professor

UD Department of  
Pharmaceutical  
Chemistry

conference secretary  
DEBCARB

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DEBCARB 2020 in 2022  
Rezső Bognár Memorial Conference on Glycomimetics

**EDITOR**

Mihály Herczeg

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## **ORGANIZING COMMITTEE**

László Somsák  
Marietta Vágvölgyné Tóth  
Magdolna Csávás  
Mihály Herczeg

**Organizing staff**      Campus Kht.

## **SCIENTIFIC COMMITTEE**

Anikó Borbás  
Attila Agócs  
Veronika Nagy  
Éva Bokor  
Lajos Kovács

## **DISTINGUISHED SPEAKERS AND PARTICIPANTS**

**Zbigniew J. WITCZAK**, Wilkes University, USA  
**Amélia Pilar RAUTER**, Universidade de Lisboa, Portugal  
**Beat ERNST**, University of Basel, Switzerland  
**Demetres D. LEONIDAS**, University of Thessaly, Greece  
**José M. GARCÍA FERNÁNDEZ**, Consejo Superior de Investigaciones Científicas (CSIC), Spain  
**Vladimír KŘEN**, Institute of Microbiology of the Czech Academy of Sciences, Czech Republic  
**Carmen ORTIZ MELLET**, University of Seville, Spain  
**Michaela WIMMEROVÁ**, Masaryk University, Czech Republic  
**Serge PEREZ**, Université Grenoble Alpes, Grenoble, France  
**Anne IMBERTY**, CERMAV-CNRS, Grenoble, France  
**M. Carmen GALAN**, University of Bristol, United Kingdom  
**Ulf J. NILSSON**, Lund University, Sweden  
**Philippe COMPAIN**, Université de Strasbourg, France  
**Tanja M. WRODNIGG**, Graz University of Technology, Austria  
**Joseph M. HAYES**, University of Central Lancashire, United Kingdom  
**Anikó BORBÁS**, University of Debrecen, Hungary

PROGRAM - DEBCARB 2020 in 2022				
Aug 24, Wednesday	Aug 25, Thursday	Aug 26, Friday	Aug 27, Saturday	
	9:00-9:30	COST WG1 PL-5 García Fernández		
	9:30-10:00	PL-6 Křen	9:00-9:30 9:30-10:00	COST WG3 PL-11 Imberty PL-12 Galán
	10:00-10:15	OL-1 Russo	10:00-10:15	OL-10 Velasco-Torrijos
	10:15-10:30	OL-2 Reis	10:15-10:30	OL-11 Kasemets
	10:30-11:00	Coffee break	10:30-11:00	Coffee break
	11:00-11:15	OL-3 Kelemen	11:00-11:30	PL-13 Nilsson
	11:15-11:30	OL-4 Turks	11:30-11:45	OL-12 Marcelo
	11:30-11:45	OL-5 Sodini	11:45-12:00	OL-13 Kacsir
	11:45-12:30	Guided tour at the main campus of UD	12:00-12:15 12:15-12:30	OL-14 Goldschmidt Gőz OL-15 Le
	12:30-14:00	Lunch	12:30-14:00	Lunch
	14:00-14:30	COST WG2 PL-7 Rauter	14:00-14:30	PL-14 Compain
14:00-15:30	14:30-15:00	PL-8 Wimmerová	14:30-15:00	PL-15 Wrodingg
	15:00-15:15	OL-6 Visnapuu	15:00-15:15	OL-16 Nicotra
15:30-15:45	15:15-15:30	OL-7 Christensen	15:15-15:30	OL-17 Weber
15:45-16:00	15:30-15:45	OL-8 Bokor	15:30-15:45	OL-18 Béni
16:00-16:30	15:45-15:55	Group photo	15:45-16:45	Poster session and coffee break
16:30-17:00	15:55-16:45	Poster session and coffee break	16:45-17:15	PL-16 Hayes
17:00-17:30	16:45-17:15	PL-9 Perez	17:15-17:30	OL-19 Jicsinsky
17:30-18:00	17:15-17:45	PL-10 Borbás	17:30-17:45	OL-20 Timári
	17:45-18:00	OL-9 Szakács	17:45-18:00	OL-21 Balogh
18:00-18:30		Commemoration to Rezső Bognár (laying a wreath at his memorial plaque in the Chemistry Building)		Closing
18:30-21:00	18:15-19:15	COST CG and MC Meeting	19:00-22:00	Conference dinner
		Welcome reception		Departure to Debrecen
				*Optional, self-financing
				Visit in Mád
				Visit in a wine cellar, wine tasting

**PROGRAM**

**WEDNESDAY, AUGUST 24, 2022**

**LEARNING CENTER  
LECTURE HALL**

**14:00-15:30 REGISTRATION**

**15:30-15:45 OPENING CEREMONY**

WELCOME ADDRESSES  
**LÁSZLÓ SOMSÁK**, CHAIR OF DEBCARB 2020 IN 2022  
**RECTOR OF THE UNIVERSITY OF DEBRECEN**  
**DEAN OF THE FACULTY OF SCIENCE AND TECHNOLOGY, UD**

**SESSION 1. CHAIRPERSON: LÁSZLÓ SOMSÁK**

**15:45-16:00 M-1**

**PÁL HERCZEGH**: REZSŐ BOGNÁR: A PIONEER OF ORGANIC CHEMISTRY  
RESEARCH IN DEBRECEN

*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

**16:00-16:30 PL-1**

**ZBIGNIEW J. WITCZAK**: PREPARATION AND REACTIVITY OF S-THIO AND N-  
ADDUCTS TO CONJUGATED SYSTEM OF LEVOGLUCOSE-5-ONE

*Cyclo Nesbitt School of Pharmacy, Department of Pharmaceutical Sciences, Wilkes  
University, Pennsylvania, USA*

**16:30-17:00 PL-2**

**CARMEN ORTIZ MELLET**: MIMICKING CARBOHYDRATE CHEMISTRY AND  
FUNCTIONALITY

*Faculty of Chemistry, University of Seville, Seville, Spain*

**17:00-17:30 COFFEE BREAK**

**SESSION 2. CHAIRPERSON: ANIKÓ BORBÁS**

**17:30-18:00 PL-3 (CANCELLED)**

**BEAT ERNST: FROM sLe<sup>x</sup> TO AN ORAL GLYCOMIMETIC**

*University of Basel, Department of Pharmaceutical Sciences, Basel, Switzerland*

**17:30-18:00 PL-4**

**DEMETRES D. LEONIDAS: STRUCTURE DRIVEN CARBOHYDRATE DESIGN AS  
POTENTIAL DRUGS FOR TYPE 2 DIABETES**

*Department of Biochemistry and Biotechnology, University of Thessaly, Larissa, Greece*

**18:30-21:00 WELCOME RECEPTION**

(LEARNING CENTER SMART BISTRO)

**THURSDAY, AUGUST 25, 2022**

**LEARNING CENTER**

**LECTURE HALL**

**SESSION 3. CHAIRPERSON: AMÉLIA PILAR RAUTER**

**9:00-9:30 PL-5**

**JOSÉ M. GARCÍA FERNÁNDEZ: CYCLOOLIGOSACCHARIDES FOR GENE DELIVERY**

*Instituto de Investigaciones Químicas, CSIC, Seville, Spain*

**9:30-10:00 PL-6**

**VLADIMÍR KŘEN: RUTINOSIDASE – NOVEL GLYCOSIDASE WITH UNIQUE SYNTHETIC POTENTIAL**

*Institute of Microbiology of the Czech Academy of Sciences, Laboratory of Biotransformation, Vídeňská, Prague, Czech Republic*

**10:00-10:15 OL-1**

**LAURA RUSSO: GLYCOCONJUGATE POLYMERS IN MEDICINE: FROM 3D BIOPRINTED *IN VITRO* MODELS TO TISSUE ENGINEERING APPLICATIONS**

*University of Milano-Bicocca, Department of Biotechnology & Biosciences, Milan, Italy*

**10:15-10:30 OL-2**

**CELSO A. REIS: ALTERED GLYCOSYLATION IN CANCER: TARGETING THE MOLECULAR MECHANISMS AND UNDERSTANDING THE CLINICAL IMPLICATIONS**

*Instituto de Investigação e Inovação em Saúde i3S, Universidade do Porto; Institute of Molecular Pathology and Immunology of the University of Porto; Institute of Biomedical Sciences Abel Salazar of the University of Porto; Faculty of Medicine of the University of Porto, Portugal*

**10:30-11:00 COFFEE BREAK**

**SESSION 4. CHAIRPERSON: ULF J. NILSSON**

**11:00-11:15 OL-3**

**VIKTOR KELEMEN:** STEREOSELECTIVE SYNTHESIS OF 1,2-CIS- $\alpha$ -THIOGLYCOSIDES BY TWO SEQUENTIAL PHOTOINITIATED THIOL-ENE ADDITIONS

*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

**11:15-11:30 OL-4**

**MĀRIS TURKS:** SO<sub>2</sub>-ASSISTED GLYCOSIDIC BOND FORMATION

*Riga Technical University, Riga, Latvia*

**11:30-11:45 OL-5**

**ANDREA SODINI:** MUC-1 TnThr MIMETIC ANTIGEN AS TEMPLATE FOR MOLECULARLY IMPRINTED POLYMERS (MIPS)

*Department of Chemistry, University of Florence, Sesto, Italy*

**11:45-12:30** GUIDED TOUR AT THE MAIN CAMPUS OF THE UNIVERSITY OF DEBRECEN

**12:30-14:00 LUNCH**

(LEARNING CENTER SMART BISTRO)

**SESSION 5. CHAIRPERSON: TANJA M. WRODNIGG**

**14:00-14:30 PL-7**

**AMÉLIA PILAR RAUTER:** C-GLUCOSYLATION TO INCREASE POLYPHENOL BIOACTIVITY, SELECTIVITY AND BIOAVAILABILITY

*Departamento de Química e Bioquímica, Centro de Química Estrutural, Institute of Molecular Sciences, Faculdade de Ciências, Universidade de Lisboa, Lisboa, Portugal*

**14:30-15:00 PL-8**

**MICHAELA WIMMEROVÁ:** LECTINS FROM PATHOGENS: FROM STRUCTURE TO FUNCTION AND THEIR INHIBITION

*NCBR, Faculty of Science, Masaryk University; CEITEC, Masaryk University; Department of Biochemistry, Faculty of Science, Masaryk University, Brno, Czech Republic*

**15:00-15:15 OL-6**

**TRIINU VISNAPUU:** ENDO-LEVANASE OF *BACTEROIDES THETA IOTAOMICRON* AS SUITABLE CATALYST FOR BIOACTIVE FRUCTOOLIGOSACCHARIDES PRODUCTION

*Institute of Molecular and Cell Biology, University of Tartu, Tartu, Estonia*

**15:15-15:30 OL-7**

**BJØRN E. CHRISTENSEN:** BLOCK POLYSACCHARIDES

*NOBIPOL, Department of Biotechnology and Food Science, NTNU-Norwegian University of Science and Technology, Norway*

**15:30-15:45 OL-8**

**ÉVA BOKOR:** FIRST SYNTHESIS OF C-GLYCOPYRANOSYL 1,2,4,5-TETRAZINES AND THEIR TRANSFORMATIONS IN IEDDA REACTIONS

*University of Debrecen, Department of Organic Chemistry, Debrecen, Hungary*

15:45 -16:45 POSTER SESSION AND COFFEE BREAK

SESSION 6. CHAIRPERSON: PHILIPPE COMPAIN

**16:45-17:15 PL-9**

**SERGE PEREZ:** THE ALGORITHMIC BEAUTY OF THE STARCH GRANULE

*CERMAV, CNRS, University Grenoble Alpes, Grenoble, France*

**17:15-17:45 PL-10**

**ANIKÓ BORBÁS:** PHOTOINITIATED THIOL-ENE REACTIONS OF ENOSES – SCOPE AND LIMITATIONS

*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

**17:45-18:00    OL-9**

**BENCE SZAKÁCS:** CATALYST-FREE COUPLING REACTIONS OF ANHYDRO-ALDOSE TOSYLHYDRAZONES WITH 1,2,3-*1H*-TRIAZOLES AND 5-BENZYL-2*H*-TETRAZOLES: SYNTHESIS OF C-( $\beta$ -D-GLYCOPYRANOSYL)METHYL-TRIAZOLES AND -TETRAZOLES

*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

**FRIDAY, AUGUST 26, 2022**  
**LEARNING CENTER**  
**LECTURE HALL**

**SESSION 7. CHAIRPERSON: DEMETRES D. LEONIDAS**

**9:00-9:30 PL-11**

**ANNE IMBERTY:** LECTINS FROM PATHOGENS: FROM STRUCTURAL GLYCOBIOLOGY TO ANTIADHESIVE STRATEGIES

*CERMAV, CNRS, University Grenoble Alpes, Grenoble, France*

**9:30-10:00 PL-12**

**M. CARMEN GALAN:** SYNTHETIC GLYCO-TOOLS FOR EXPLORING AND EXPLOITING THE GLYCOME

*School of Chemistry, Cantock's Close, University of Bristol, Bristol, United Kingdom.*

**10:00-10:15 OL-10**

**TRINIDAD VELASCO-TORRIJOS:** STRUCTURAL OPTIMIZATION OF GLYCOCONJUGATES AS INHIBITORS OF FUNGAL ADHESION

*Chemistry Department, Maynooth University, Maynooth, Ireland*

*The Kathleen Lonsdale Institute for Human Health Research, Maynooth University*

**10:15-10:30 OL-11**

**KAJA KASEMETS:** ANTIBACTERIAL ACTIVITY OF CHITOSAN-SILVER NANOCOMPOSITES

*National Institute of Chemical Physics and Biophysics, Tallinn, Estonia*

**10:30-11:00 COFFEE BREAK**

**SESSION 8. CHAIRPERSON: VLADIMIR KŘEN**

**11:00-11:30 PL-13**

**ULF J. NILSSON:** BIOPHYSICAL ASPECTS OF GLYCOMIMETIC-PROTEIN INTERACTIONS

*Department of Chemistry, Lund University, Lund, Sweden; Galecto Biotech, Gothenburg, Sweden*

**11:30-11:45 OL-12**

**FILIPA MARCELO:** UNLOCKING THE FINE SPECIFICITY OF THE ENIGMATIC IMMUNOMODULATORY HUMAN MACROPHAGE GALACTOSE C-TYPE LECTIN UCIBIO, Associate Laboratory i4HB, Department of Chemistry, NOVA School of Science and Technology, Caparica, Portugal

**11:45-12:00 OL-13**

**ISTVÁN KACSIR:** PREPARATION OF HETEROCYCLIC GLUCOSAMINE DERIVATIVES AND THEIR HALF-SANDWICH PLATINUM-GROUP METAL COMPLEXES

*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

**12:00-12:15 OL-14**

**VIKTÓRIA GOLDSCHMIDT GŐZ:** CONFORMER IDENTIFICATION VIA CYCLIC ION MOBILITY MASS SPECTROMETRY: HEXOSAMINE EPIMERS ASSIGNED ULTRA-STABLE RING STRUCTURES

*MTA-ELTE Protein Modeling Research Group, Eötvös Loránd Research Network, Budapest, Hungary*

**12:15-12:30 OL-15**

**SON THAI LE:** SYNTHESIS OF GLYCOCONJUGATES AND FLUOROQUINOLONE CARBOXYLIC ACID PRESENTING CHIMERAS

*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

**12:30-14:00 LUNCH**

(LEARNING CENTER SMART BISTRO)

**SESSION 9. CHAIRPERSON: CARMEN ORTIZ MELLET**

**14:00-14:30 PL-14**

**PHILIPPE COMPAIN:** EXPLORING THE LIMITS OF THE INHIBITORY MULTIVALENT EFFECT

*Equipe de Synthèse Organique et Molécules Bioactives (SYBIO), Univ. de Strasbourg, Strasbourg, France*

**14:30-15:00 PL-15**

**TANJA M. WRODNIGG:** GLYCOMIMETICS: USEFUL TOOLS AND POTENTIAL THERAPEUTICS

*Institute of Chemistry and Technology of Biobased Systems, Graz University of Technology, Graz, Austria*

**15:00-15:15 OL-16**

**FRANCESCO NICOTRA:** CHITOSAN BASED NANOPARTICLES FOR MULTIMODAL DETECTION OF PANCREATIC BETA-CELLS

*University of Milano-Bicocca, Department of Biotechnology & Biosciences, Milan, Italy*

**15:15-15:30 OL-17**

**PATRICK WEBER:** N-MODIFIED-DIAMINOCYCLOPENTANE SUGAR ANALOGUES AS POWERFUL AND SELECTIVE PROTEIN-O-GLCNACASE INHIBITORS

*Institute of Chemistry and Technology of Biobased Systems, Graz University of Technology, Graz, Austria*

**15:30-15:45 OL-18**

**SZABOLCS BÉNI:** CARBOHYDRATE-CARBOHYDRATE INTERACTION REVEALS THE PROTECTING EFFECT OF CATIONIC CYCLODEXTRINS ON THE DESULFATION OF FONDAPARINUX

*Semmelweis University, Department of Pharmacognosy, Budapest, Hungary*

**15:45 -16:45 POSTER SESSION AND COFFEE BREAK**

**SESSION 10. CHAIRPERSON: ZBIGNIEW J. WITCZAK**

**16:45-17:15 PL-16**

**JOSEPH M. HAYES:** RECENT DEVELOPMENTS IN THE DESIGN OF GLUCOSE ANALOGUE INHIBITORS OF GLYCOGEN PHOSPHORYLASE MOTIVATED BY COMPUTATION

*School of Pharmacy & Biomedical Sciences, University of Central Lancashire, Preston, United Kingdom*

**17:15-17:30 OL-19**

**LÁSZLÓ JICSINSZKY:** PROPERTIES OF MECHANOCHEMICALLY SYNTHESIZED INSOLUBLE CYCLODEXTRIN POLYMERS. A CHANCE FOR SCALABLE PREPARATION.

*Department of Drug Science and Technology, University of Turin, Turin, Italy*

**17:30-17:45 OL-20**

**ISTVÁN TIMÁRI:** ACCELERATING NMR STRUCTURE ELUCIDATION OF CARBOHYDRATES WITH NOVEL NMR METHODS

*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

**17:45-18:00 OL-21**

**ÁLEX KÁLMÁN BALOGH:** IN SILICO EXPLORATION OF BINDING OF NOVEL SULFUR AND SELENIUM CONTAINING HUMAN GALECTIN-3 LIGANDS

*University of Debrecen, Department of Inorganic and Analytical Chemistry, Debrecen, Hungary*

**CLOSING OF THE CONFERENCE**

**19:00-22:00 CONFERENCE DINNER**  
(LEARNING CENTER)

**SATURDAY, AUGUST 27, 2022**

**9:30-16:30**      **EXCURSION TO THE TOKAJ WINE REGION\***

VISIT IN MÁD

**13.30**            LUNCH

**14.30**            VISIT IN A WINE CELLAR, WINE TASTING

(\*OPTIONAL, SELF-FINANCING)

## POSTERS

(15:45-16:45 THURSDAY, AUGUST 25, 2022 AND  
15:45-16:45 FRIDAY, AUGUST 26, 2022)

### **P-1: INVESTIGATIONS ON CYTOTOXIC AND ANTIVIRAL EFFECTS OF 1,8-NAPHTHALIMIDE DERIVATIVES**

Radostina Alexandrova<sup>a</sup>, Hristo Hristov<sup>a</sup>, Abedulkadir Abudalleh<sup>a</sup>, Desislav Dinev<sup>a</sup>, Lora Dyakova<sup>b</sup>, Desislava Staneva<sup>c</sup>, Kalina Shishkova<sup>d</sup>, Awad I. Said<sup>e</sup>, Ivo Grabchev<sup>f</sup>

<sup>a</sup>*Institute of Experimental Morphology, Pathology and Anthropology with Museum, Bulgarian Academy of Sciences, Sofia, Bulgaria*

<sup>b</sup>*Institute of Neurobiology, Bulgarian Academy of Sciences, Sofia, Bulgaria*

<sup>c</sup>*University of Chemical Technology and Metallurgy, Sofia, Bulgaria*

<sup>d</sup>*Sofia University "St. Kliment Ohridski", Faculty of Biology, Sofia, Bulgaria*

<sup>e</sup>*Department of Chemistry, Faculty of Science, Assiut University, Assiut, Egypt*

<sup>f</sup>*Sofia University "St. Kliment Ohridski", Faculty of Medicine, Sofia, Bulgaria*

### **P-2: TRANSGLYCOSYLATION REACTIONS USING ENDO AND EXO GLYCOSIDASES**

Teréz Barna<sup>a</sup>, Erna Szabó<sup>a</sup>, Gyöngyi Gyémánt<sup>b</sup>

<sup>a</sup>*Department of Genetics and Applied Microbiology, University of Debrecen, Debrecen, Hungary*

<sup>b</sup>*Department of Inorganic and Analytical Chemistry, University of Debrecen, Debrecen, Hungary*

### **P-3: ORATION OF THE CARBOHYDRATE COMPOSITION OF SEEDS FOR THE EXTRACTION OF THERAPEUTIC OLIGOSACCHARIDES**

Teréz Barna<sup>a</sup>, Róbert Tupicza<sup>a</sup>, Miklós Ida<sup>a</sup>, Gyöngyi Gyémánt<sup>b</sup>

<sup>a</sup>*Department of Genetics and Applied Microbiology, University of Debrecen, Debrecen, Hungary*

<sup>b</sup>*Department of Inorganic and Analytical Chemistry, University of Debrecen, Debrecen, Hungary*

### **P-4: THIOL-ENE COUPLING REACTIONS OF NUCLEOSIDES**

Miklós Bege<sup>a,b,c</sup>, Ilona Bakai-Bereczki<sup>a</sup>, Pál Herczegh<sup>a</sup>, Anikó Borbás<sup>a</sup>

<sup>a</sup>*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

<sup>b</sup>*Institute of Healthcare Industry, University of Debrecen, Debrecen, Hungary*

<sup>c</sup>*MTA-DE Molecular Recognition and Interaction Research Group, University of Debrecen, Debrecen, Hungary*

### **P-5: AMPHIPHILIC SIALIC ACID DERIVATIVES AGAINST VIRUSES**

Ilona Bereczki<sup>a,b,c</sup>, Eszter Lőrincz<sup>a,d,e</sup>, Anikó Borbás<sup>a,b</sup>, Pál Herczegh<sup>a</sup>

<sup>a</sup>*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

<sup>b</sup>*National Laboratory of Virology, Szentágotthai Research Centre, Pécs, Hungary*

<sup>c</sup>*ELKH-DE Pharmamodul Research Team, Debrecen, Hungary*

<sup>d</sup>*Institute of Healthcare Industry, University of Debrecen, Debrecen, Hungary*

<sup>e</sup>*Doctoral School of Pharmaceutical Sciences, University of Debrecen, Debrecen, Hungary*

### **P-6: SYNTHESIS OF POTENTIAL GLYCOSYL TRANSFERASE INHIBITORS BY THIO-CLICK REACTIONS**

Nóra Debreczeni<sup>a,b,c</sup>, Mikós Bege<sup>a,c,d</sup>, Anikó Borbás<sup>a</sup>

<sup>a</sup>*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*

<sup>b</sup>*Doctoral School of Chemistry, University of Debrecen, Debrecen, Hungary*

<sup>c</sup>*Institute of Healthcare Industry, University of Debrecen, Debrecen, Hungary*

<sup>d</sup>*MTA-DE Molecular Recognition and Interaction Research Group, University of Debrecen, Debrecen, Hungary*

### **P-7: SYNTHESIS OF THE THREE MOST EXPENSIVE L-HEXOSE THIOGLYCOSIDES STARTING FROM D-GLUCOSE**

Fruzsina Demeter<sup>a</sup>, Attila Bényei<sup>b</sup>, Anikó Borbás<sup>a</sup>, Mihály Herczeg<sup>a,c</sup>

<sup>a</sup>*University of Debrecen, Department of Pharmaceutical Chemistry, Debrecen, Hungary*

<sup>b</sup>*University of Debrecen, Laboratory for X-ray Diffraction, Department of Physical Chemistry, Debrecen, Hungary*

<sup>c</sup>*Research Group for Oligosaccharide Chemistry of Hungarian Academy of Sciences, ELKH, Debrecen, Hungary*

### **P-8: STEREOCHEMISTRY OF SUGAR AMINO ACIDS: $\alpha/\beta$ -ANOMERS OF CHIMERA PEPTIDES AND THEIR INTERCONVERSION**

Kim Hoang Yen Duong<sup>a,b</sup>, Viktória Goldschmidt Gőz<sup>c</sup>, Gitta Schlosser<sup>d</sup>, István Pintér<sup>b</sup>, András Perczel<sup>b,c</sup>

<sup>a</sup>*Hevesy György PhD School of Chemistry, Institute of Chemistry, ELTE Eötvös Loránd University, Budapest, Hungary*

<sup>b</sup>*Laboratory of Structural Chemistry and Biology, Institute of Chemistry, ELTE Eötvös Loránd University, Budapest, Hungary*

<sup>c</sup>*MTA-ELTE Protein Modeling Research Group, Eötvös Loránd Research Network (ELKH) ELTE Eötvös Loránd University, Budapest, Hungary*

<sup>d</sup>*MTA-ELTE Lendület Ion Mobility Mass Spectrometry Research Group, ELTE Eötvös Loránd University, Budapest, Hungary*

**P-9: INVESTIGATION OF THE INTERACTION OF 3-FUCOSYL-LACTOSE DERIVATIVES WITH PSEUDOMONAS AERUGINOSA LECTINS (PA-IL AND PA-III) USING SATURATION TRANSFER DIFFERENCE (STD) NMR SPECTROSCOPY**

László Bence Farkas<sup>a,b</sup>, Magdolna Csávás<sup>b,c</sup>, Lenka Malinovská<sup>d</sup>, Katalin E. Kövér<sup>a,b</sup>  
<sup>a</sup>*Department of Inorganic and Analytical Chemistry, University of Debrecen, Debrecen, Hungary*  
<sup>b</sup>*Research Group for Molecular Recognition and Interaction, Eötvös Loránd Research Network, University of Debrecen, Debrecen, Hungary*  
<sup>c</sup>*Department of Pharmaceutical Chemistry, Faculty of Pharmacy, University of Debrecen, Debrecen, Hungary*  
<sup>d</sup>*Central European Institute of Technology, Masaryk University, Czech Republic*

**P-10: PEPTIDOGLYCAN MONOMER FUNCTIONALIZED GOLD NANOPARTICLES FOR L-DOPA TARGETED DELIVERY AND PROBING OF THEIR INTERACTION WITH WGA LECTIN**

Ruža Frkanec<sup>a</sup>, Marcela Šišić<sup>a</sup>, Nikolina Kalčec<sup>b</sup>, Ivana Vinković Vrček<sup>b</sup>, Leo Frkanec<sup>c</sup>  
<sup>a</sup>*Centre for Research and Knowledge Transfer in Biotechnology, University of Zagreb, Zagreb, Croatia*  
<sup>b</sup>*Institute for Medical Research and Occupational Health, Zagreb, Croatia*  
<sup>c</sup>*Rudjer Boskovic Institute, Zagreb, Croatia*

**P-11: PREPARATION AND ANTICOAGULANT ACTIVITY OF AN IDRAPARINUX ANALOGUE PENTASACCHARIDE CONTAINING L-GULURONIC ACID**

Mihály Herczeg<sup>a</sup>, Fruzsina Demeter<sup>a</sup>, István Timári<sup>b</sup>, Katalin E. Kövér<sup>c,d</sup> and Anikó Borbás<sup>a</sup>  
<sup>a</sup>*Department of Pharmaceutical Chemistry, University of Debrecen, Debrecen, Hungary*  
<sup>b</sup>*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*  
<sup>c</sup>*Department of Inorganic and Analytical Chemistry, University of Debrecen, Debrecen, Hungary*  
<sup>d</sup>*MTA-DE Molecular Recognition and Interaction Research Group, University of Debrecen, Hungary*

**P-12: FUNCTIONALIZATION OF 1-C-SUBSTITUTED GLYCAL DERIVATIVES BY ADDITION REACTIONS**

Ágnes Homolya, Zsófia Peleskei, Ivett Jedlóczi, László Somsák, Marietta Tóth, László Juhász  
*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

**P-13: SYNTHESSES OF 2-FLUORO-SELENOGALACTOSIDE DERIVATIVES**

László Szilágyi, Fanni Hőgye, Zita Tünde Illyés  
*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

**P-14: [2 + 2] TYPE CYCLOADDITION REACTIONS OF PER-O-ACYLATED EXO-GLYCAL DERIVATIVES WITH CHLOROSULFONYL ISOCYANATE AND DICHLOROKETENE**

János József<sup>a</sup>, Tünde Zita Illyés<sup>a</sup>, Katalin E. Kövér<sup>b</sup>, Marietta Tóth<sup>a</sup>, László Somsák<sup>a</sup>, László Juhász<sup>a</sup>

<sup>a</sup>*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

<sup>b</sup>*Department of Inorganic and Analytical Chemistry, University of Debrecen, Debrecen, Hungary*

**P-15: PALLADIUM CATALYSED CROSS-COUPPLING REACTIONS OF 2-IODO 1-C-SUBSTITUTED GLYCAL: HECK AND SONOGASHIRA REACTIONS**

Ágnes Homolya, Eszter Csomay, Éva Juhász-Tóth, László Somsák, Marietta Tóth, László Juhász

*University of Debrecen, Department of Organic Chemistry, Debrecen, Hungary*

**P-16: “NORMAL” AND CARBOXYLATIVE SUZUKI-MIYAUURA COUPLING REACTIONS OF 2-IODO 1-C-SUBSTITUTED GLYCAL**

Éva Juhász-Tóth, Ferenc Dániel Petróczi, Ádám Szilárd Malecz, Marietta Tóth, László Somsák, László Juhász

*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

**P-17: UNIQUE TRANSGLYCOSYLATION OF C-3 FUNCTIONALIZED GALACTOSE YIELDS POTENT GLYCOMIMETICS FOR GALECTIN-3 INHIBITION**

Pavla Bojarová<sup>a</sup>, Michaela Hovorková<sup>a</sup>, Viktoria Heine<sup>a,b</sup>, Miluše Vlachová<sup>a</sup>, Marcela Filipová<sup>c</sup>, Lothar Elling<sup>b</sup>, Vladimír Křen<sup>a</sup>

<sup>a</sup>*Institute of Microbiology of the Czech Academy of Sciences, Prague, Czech Republic*

<sup>b</sup>*Institute for Biotechnology and Helmholtz-Institute for Biomedical Engineering, RWTH Aachen University, Aachen, Germany*

<sup>c</sup>*Institute of Macromolecular Chemistry of the Czech Academy of Sciences, Prague, Czech Republic*

**P-18: SYNTHETIC STUDIES TOWARD SPIROCYCLIC BIS-C,C-GLYCOSYL DERIVATIVES OF ULOSONIC ACIDS**

Sándor Kun, Nándor Kánya, László Somsák

*Department of Organic Chemistry, University of Debrecen, 4032, Debrecen, Hungary*

**P-19: SYNTHESIS OF ANOMERIC SPIRO-MORPHOLINONES FROM GLYCULOSONAMIDES**

Nándor Kánya, Sándor Kun, László Somsák

*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

**P-20: QUINIC ACID-GALACTOSE CONJUGATES EQUIPPED WITH LIPOPHILIC SIDE CHAINS AGAINST INFLUENZA VIRUSES**

Eszter Boglárka Lőrincz<sup>a,b</sup>, Pál Herczegh<sup>a</sup>, Anikó Borbás<sup>a</sup>, Ilona Bakai-Bereczki<sup>a</sup>  
<sup>a</sup>*University of Debrecen, Department of Pharmaceutical Chemistry, Debrecen, Hungary*  
<sup>b</sup>*University of Debrecen, Pharmaceutical Sciences Doctoral School, Debrecen, Hungary*

**P-21: SEARCHING FOR NEW LECTINS IN MUSHROOMS**

Lenka Malinovská<sup>a,b</sup>, Kamila Zimová<sup>c</sup>, Dominika Pončáková<sup>c</sup>, Vojtěch Juza<sup>d</sup>, Michaela Wimmerová<sup>a,b,c</sup>  
<sup>a</sup>*NCBR, Faculty of Science, Masaryk University, Brno, Czech Republic*  
<sup>b</sup>*CEITEC, Masaryk University, Brno, Czech Republic*  
<sup>c</sup>*Department of Biochemistry, Faculty of Science, Masaryk University, Brno, Czech Republic*  
<sup>d</sup>*Gymnázium Aloise Jiráska v Litomyšli, Litomyšl, Czech Republic*

**P-22: SYNTHESIS AND HYDROGENOLYSIS OF DIOXOLANE-TYPE 2,3-O-HALOBENZYLIDENE ACETALS OF GLYCOSIDES**

Erika Mező, Bayar Boldtumur, Anikó Borbás  
*University of Debrecen, Department of Pharmaceutical Chemistry, Debrecen, Hungary*

**P-23: UNEXPECTED REACTIONS OF N-(2,3,4,6-TETRA-O-ACYL-β-D-GLYCOPYRANOSYL-CARBONYL)-N'-TOSYLHYDRAZINES WITH N-, O-NUCLEOPHILES**

Éva Juhász-Tóth, Mariann Kiss, Imre Ignáth, Zwivhuya Phoebe Mudau, László Somsák, Marietta Tóth  
*Department of Organic Chemistry, University of Debrecen, Debrecen, Hungary*

**P-24: FIRST SYNTHESIS OF 3-GLYCOPYRANOSYL-1,2,4-TRIAZINES**

Éva Bokor, Attila Ferenczi, Mahir Hashimov, Alshimaa Ibrahim Zaki, Éva Juhászné Tóth, László Somsák  
*University of Debrecen, Department of Organic Chemistry, Debrecen, Hungary*

**P-25: LECTIN-BASED GLYCOPROTEIN MICROARRAY: HIGH-THROUGHPUT GLYCOMICS TOOL**

Jaroslav Katrlík, Lucia Pažitná, Paras Kundalia, Kristína Kianičková  
*Institute of Chemistry, Slovak Academy of Sciences, Bratislava, Slovakia*

**P-26: APPLICATION OF ACETYL-GROUP ON PYRANOID β-SAAs TO SYNTHESISE CHIMERA PEPTIDES WITH VARIABLE HYDROFILICITY**

István Varga<sup>a</sup>, Viktória Goldschmidt Gőz<sup>b</sup>, András Perczel<sup>b,c</sup>  
<sup>a</sup>*György Hevesy Doctoral School of Chemistry, Eötvös University, Budapest, Hungary*  
<sup>b</sup>*MTA-ELTE Protein Modeling Research Group, Eötvös Loránd Research Network (ELKH), Budapest, Hungary*  
<sup>c</sup>*Laboratory of Structural Chemistry and Biology, Institute of Chemistry, Eötvös University, Budapest, Hungary*

**P-27: *IN SILICO* EXPLORATION OF ANTITROMBIN BINDING OF  
NOVEL HEPARIN PENTASACCHARIDE DERIVATIVES**

Samar Alnukari, Krisztina Fehér

*Molecular Recognition and Interaction Research Group, Hungarian  
Academy of Science, University of Debrecen, Hungary*

## DEBCARB - GUIDE AND FAQs

### VENUE

Learning Center at the main campus of the University of Debrecen (UD).

Visit the interactive campus map (<https://debrecen.hostexp.com/?locale=en>). The Learning Center is a triangle shaped building near the sport center.



Public transport: You can reach the UD main campus using Tram 1 (stop is signed by Red **X**). From the tram stop the Learning Center can be reached by a 5 min walk passing by the Main Building and the Chemistry Building.

Taxi service: +3652444444 or you can use BOLT application.

## REGISTRATION

August 24, 14:00-15:30

The registration desk is open:

24/08 14:00-18:30

25/08 8:30-13:00

Your conference bag will contain the certification of attendance.

## COMMEMORATION TO REZSŐ BOGNÁR

24/08 18:45 Chemistry Building, ground floor, laying a wreath at his memorial plaque.  
(Chemistry Building can be found between the Learning Center and the Main Building)

## WELCOME PARTY

24/08 19:00-21:00

Learning Center Smart Bistro, buffet style.

## LUNCHES

25/08 and 26/08 12:30-14:00 Learning Center Smart Bistro, buffet style.

## CONFERENCE DINNER

26/08 19:00 Learning Center park, self-service grill party with piano music.

## COFFEE BREAKS

Sweet and salty snacks, coffee, beverages.

## LECTURES

Lectures will be held in the main lecture hall in the Learning Center. There will be no parallel sessions. Speakers are requested to upload their presentation in the lecture hall during the break preceding the given scientific session.

## POSTER SESSION

25/08 and 26/08 15:45-16:45, in the lobby of the Learning Center. The presenting persons are requested to be at their posters in both days. Poster size: A0 portrait (90 cm wide 120 cm high).

## POSTER PRIZES

There will be three poster prizes: two Springer e-book vouchers and a Biosynth Carbosynth Prize (150 EUR each), which will be awarded by the decision of the poster jury. The winners will be announced during the Closing session.

## GUIDED TOUR AT THE MAIN CAMPUS

25/08 11:45, free guided tour in the Main Building and surroundings.

## DEBRECEN SIGHTSEEING AND MUSEUMS

The sightseeing was cancelled due to minimal interest; cost will be reimbursed.

## TRIP TO TOKAJ WINE REGION – SOCIAL PROGRAM

Departure: 27/08 9:30 Leaning Center

Arrival to Mád: 11:00, Program: visiting of Borsay Castle and Jewish Synagogue

13:30 Lunch with wine tasting

14:30 Wine cellar tour with wine tasting

Departure to Debrecen: 16:30 Estimated arrival: 18:00

## IN CASE OF EMERGENCY

Call 112

## CONTACT

[debcarb@unideb.hu](mailto:debcarb@unideb.hu) (general)

[somsak.laszlo@science.unideb.hu](mailto:somsak.laszlo@science.unideb.hu) (scientific issues)

[csavas.magdolna@science.unideb.hu](mailto:csavas.magdolna@science.unideb.hu) (DEBCARB)

[toth.marietta@science.unideb.hu](mailto:toth.marietta@science.unideb.hu) (COST)

[herczeg.mihaly@pharm.unideb.hu](mailto:herczeg.mihaly@pharm.unideb.hu) (DEBCARB)

## INTERNET ACCESS

Wifi connection:           SSID: **DEBCARB**  
  Password: **DEBCARB2022**

and the eduroam network is also available

**NOTES**

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DEBCARB 2020 in 2022

Rezső Bognár Memorial Conference on Glycomimetics

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