



17th International Symposium and Summer School on Bionalysis



**Congress Centre, Ohrid,
Republic of Macedonia
July 02-08, 2017**

17th International Symposium and Summer School on Bionalysis, Ohrid, July 02-08, 2017



**17th International Symposium and Summer School on
Bionalysis**

SCIENTIFIC PROGRAM

Congress Centre, Ohrid, Republic of Macedonia

July 02-08, 2017

**University “Ss Cyril and Methodius”,
Skopje, Republic of Macedonia
Institute of Chemistry, Faculty of
Natural Sciences and Mathematics**

**University “Goce Delčev”,
Štip, Republic of Macedonia,
Faculty of Agriculture**



Organizers and sponsors:

University “Ss Cyril and Methodius”, Skopje, Republic of Macedonia

University “Goce Delčev”, Štip, Republic of Macedonia

Ministry of Education and Science of the Republic of Macedonia

Symposium supported by:

TIKVEŠ winery, Kavadarci

GAMA winery, Demir Kapija

MOVINO winery, Rosoman



WELCOME

Dear Colleagues and partners in the CEEPUS network,

It is my pleasure and honor to welcome you and your co-workers to the 17th International Symposium and Summer School on Bionalysis (17th ISSSB) that is held in Ohrid, Republic Macedonia, between 2nd to 08th of July 2017.

The event is organized in the framework of CEEPUS CIII-RO-0010-11-1617 network. The aim of the Symposium and Summer School is to enable students and young researchers to learn and share knowledge, information and ideas about the current progress in the analytical techniques.

The symposium focuses on the recent achievements in the mainstream fields of application of analytical supranational techniques and bioanalytical methods in chemical and pharmaceutical research, and related topics.

The scientific program included plenary, oral and poster presentations. Special attention will be paid on the young generation with a session of podium poster communications.

I hope you will enjoy your stay in Ohrid.

Trajce Stafilov

Symposium Chair, 17th ISSSB



SCIENTIFIC PROGRAM

SUNDAY, 02.07.2017

15:00 – 19:00 Registration of participants, Congress Center, Ohrid

19:00 – 00:00 Welcome party, Congress Center, Ohrid

MONDAY, 03.07.2017

SESSION 1

Chairman: Trajce Stafilov (Ss Cyril and Methodius University, Skopje)

9:00–9:30	OC	<p>OPENING CEREMONY</p> <p>Rector of Ss Cyril and Methodius University; Rector of Goce Delčev University; Ministry of Education and Science of the Republic of Macedonia; Dean of the Faculty of Natural Sciences and Mathematics, Dean of the Faculty of Agriculture, CEEPUS network coordinator</p>
9:30–10:00	PL-01	<p>NOVEL CE-MS METHOD TO PROFILE THE TOXIC PHOSPHOGLYCOLIPID PART OF BACTERIAL ENDOTOXINS</p> <p><u>Ferenc Kilar</u>, <u>Anikó Kilar</u>, <u>Szandra Péter</u>, <u>Viktor Sándor</u>, <u>Ágnes Dörnyei</u>, <u>Béla Kocsis</u></p>
10:00–10:20	O-01	<p>ENHANCED BIOAVAILABILITY OF DRUGS BY NANOFIBERS</p> <p><u>Gabriella Donáth-Nagy</u>, <u>Emese Sipos</u>, <u>Zoltán István Szabó</u>, <u>Emőke Rédei</u>, <u>Robert Vincze</u>, <u>Mónika Zsombori</u></p>
10:20–10:40	O-02	<p>MICROCHIP ELECTROPHORESIS IN BIOANALYSIS</p> <p><u>Marián Masár</u>, <u>Jasna Hradski</u>, <u>Peter Troška</u>, <u>Róbert Bodor</u></p>
10:40–11:10	CB	Coffee break

SESSION 2

Chairman/Chairwoman: Marián Masár (Comenius University in Bratislava)

11:10–11:40	PL-02	<p>COMPLEXATION PROPERTIES OF AROYLHYDRAZONES</p> <p><u>Nives Galić</u></p>
11:40–12:10	PL-03	<p>SURFACE CHARACTERISTICS OF PDMS AND THEIR EFFECTS ON ELECTROPHORETIC SEPARATIONS</p> <p><u>Attila Gaspar</u></p>
12:10–12:30	O-03	<p>MICROCHIP ELECTROPHORESIS OF NONSTEROIDAL ANTI-INFLAMMATORY DRUGS</p>



		<u>Peter Troška</u> , Lucia Chropeňová, Marián Masár
12:30–12:50	O-04	SWEEPING OF CHARGED ANALYTES BY NEUTRAL CYCLODEXTRIN IN CAPILLARY ELECTROPHORESIS <u>Milan Boublík</u> , Martina Riesová, Pavel Dubský, Bohuslav Gaš
13:00–14:00	L	Lunch
SESSION 3		
Chairman/Chairwoman: Ferenc Kílár (University of Pécs)		
14:00–14:30	PL-04	NEUROTENSIN ANALOGUES: POTENTIAL TOOLS FOR THERAPY AND IMAGING <u>Tamara Pajpanova</u>
14:30–15:00	PL-05	BRAIN CHEMISTRY PROTEOMIC AND MRI/MRS ANALYSIS TOOLS <u>Kiro Stojanovski</u> , Milena S. Kolevska, Vladimir Rendevski, Vasko Aleksovski
15:00–15:20	O-05	1H MRS METABOLITE QUANTITATION METHODS IN BRAIN CHEMISTRY <u>Milena Spasovska Kolevska</u> , Vasko Aleksovski, Vladimir Rendevski, Kiro Stojanoski
15:20–15:40	O-06	ASSESSMENT OF CHANGES IN FREEZE-DRIED PROTEIN PHARMACEUTICALS <u>Katarina Smilkov</u> , Darinka Gjorgieva Ackova, Emilija Janevik-Ivanovska, Trajče Stafilov, Zorica Arsova-Sarafinovska, Petre Makreski, Icko Gjorgoski
15:40–16:10	CB+PS	Coffee break + Poster session
16:10–17:20	PPP-01	Podium poster presentation (Chairwoman: Andrea Molnar and Chairman: Leon Stojanov)
19:00–21:00	D	Dinner

THUESDAY, 04.07.2017

9:00–10:30		Visit to Hydrobiological institute – Ohrid
10:30–14:00		Ohrid city tour
14:30–15:30	L	Lunch
SESSION 4		



Chairwoman: Nives Galić (University of Zagreb)		
15:30–16:00	PL-06	ADAPTING NATURAL ENZYMES TO UN-NATURAL SUBSTRATES <u>Florin Dan Irimie</u> , Csaba Paizs, Monica Ioana Tosa
16:00–16:30	PL-07	POLYMERIC NANOPARTICLES WITH AGRICULTURAL AND BIOMEDICAL APPLICATIONS <u>Ede Bodoki</u>
16:30–16:40	O-07	DEGRADATION PROFILE OF ZEIN NANOPARTICLES AS TARGETED DELIVERY SYSTEMS <u>Kacsó Tímea</u> , Ioan O. Neaga, Arnold Erincz, Carlos E. Astete, Cristina M. Sabliov, Radu Oprean, Ede Bodoki
16:40–17:00	O-08	CHARACTERIZATION OF A POLY(DIMETHYLSILOXANE) MICROFLUIDIC CHIP CONTAINING IMMOBILIZED TRYPSIN FOR RAPID PROTEIN DIGESTION <u>Adam Kecskemeti</u> , Cynthia Nora Nagy, Attila Gaspar
17:00–17:20	O-09	CHEMICAL CHARACTERIZATION OF STATIONARY PHASES FOR FAST LIQUID CHROMATOGRAPHY <u>Dóra Zelenyánszki</u> , Nándor Lambert, Nobuo Tanaka ³ , Attila Felinger
17:20–20:00		Swimming

WEDNESDAY, 05.07.2017

SESSION 6

Chairwoman: Marina Stefova (Ss Cyril and Methodius University, Skopje)

9:30–10:00	PL-08	PHENOLIC, VOLATILE AND ELEMENTAL COMPOSITION OF MACEDONIAN WINES <u>Violeta Ivanova-Petropulos</u> , Trajče Stafilov, Marina Stefova, Ernst Lankmayr, Ferenc Kilar
10:00–10:20	O-10	SIMPLE AND RAPID DETERMINATION OF BIOGENIC AMINES IN WINE BY ULTRA-PERFORMANCE LIQUID CHROMATOGRAPHY-TRIPLE QUADRUPLE MASS SPECTROMETRY (UPLC TQ/MS) <u>Krste Tašev</u> , Violeta Ivanova-Petropulos, Marina Stefova
10:20–10:40	O-11	MALDI-TOF CHARACTERISATION OF BOTANICAL EXTRACTS FOR ENOLOGICAL APPLICATIONS <u>Arianna Ricci</u> , Giuseppina Paola Parpinello, A. Pizzi, Andrea Versari
10:40–11:00	CB	Coffee break



SESSION 7		
Chairman/Chairwoman: Violeta Ivanova-Petropulos (Goce Delčev University, Štip)		
11:00–11:30	PL-09	MEASURING POLYMERIC PIGMENTS AND TANNINS USING SELECTED ANALYTICAL METHODS <u>Andrea Versari</u> , Arianna Ricci, Giuseppina Paola Parpinello
11:30–11:50	O-12	INFRARED SPECTROSCOPY FOR THE PREDICTION OF PHENOLICS IN WINE <u>Giuseppina Paola Parpinello</u> , Arianna Ricci, Andrea Versari
11:50–12:10	O-13	<i>IN VITRO</i> PROFILING OF MICROBIAL METABOLISM OF PHENOLIC ACIDS USING LC-MS/MS <u>Malgorzata Gwiazdon</u> , Joanna Gasik, Dorota Korsak, Magdalena Biesaga
12:10–12:30	O-14	OPTIMIZATION OF SAMPLE PRETREATMENT PHASES IN GC-MS ANALYSIS OF FATTY ACIDS Katalin Nagy, <u>Ioana Tiuca</u> , Radu Oprean
12:30–14:00	L	Lunch
SESSION 8		
Chairwoman: Margit Cichna-Markl (University of Vienna)		
14:00–14:30	PL-10	STABILITY OF POLYPHENOLS DURING EXTRACTION METHODS <u>Magdalena Biesaga</u>
14:30–14:50	O-15	EXTRACTS OF FOREST HERBS AND FRUITS – THE ANTIOXIDANT ACTIVITY AND THE CONTENT OF BIOPHENOLS <u>Paulina Drózdź</u> , Krystyna Pyrzyńska
14:50–15:10	O-16	DETERMINATION OF THE POLYPHENOLIC PROFILE OF SELECTED APPLE CULTIVARS FROM MACEDONIA WITH LC-MS" <u>Ana Petkovska</u> , Jasmina Petreska Stanoeva, Marina Stefova
15:10–15:30	O-17	COMPARISON OF DIFFERENT TYPE REVERSED PHASE STATIONARY PHASES BY MANUAL AND AUTOMATIZED COLUMN-REVERSAL METHOD Adrienn Mester, Dóra Zekeányászki, Atiila Felinger
15:30:16:00	CB+PS	Coffee break + Poster seccion
16:00-17:00	PPP-02	Podium poster presentation (Chairwoman: Jasna Hradski and Chairman: Darko Kontrec)
17:00–20:00		Swimming
20:00–00:00	CM	Dinner/Coordination meeting



THURSDAY, 06.07.2017		
SESSION 9		
Chairwoman: Magdalena Biesaga (University of Warsaw)		
9:00–09:30	PL-11	IDENTIFICATION OF BERRY SPECIES AND CULTIVARS BY DNA BARCODING Iva Nikolikj, Milena Stojkovska, Jasmina Petreska Stanoeva, Marina Stefova, <u>Margit Cichna-Markl</u>
09:30–09:50	O-18	CHARACTERIZATION OF LACTIC ACID PRODUCTION USING <i>LACTOBACILLUS CASEI B-26</i> STRAIN IN DIFFERENT GROWTH CONDITIONS <u>Csilla Albert</u> , Zsolt Bodor, Hunor Bartos, Gyöngyvér Mara
09:50–10:10	O-19	POPPY SEED TEA, A POSSIBLE SOURCE OF MORPHINE ADDICTION OR OVERDOSE <u>Croitoru Mircea Dumitru</u> , Fülöp Ibolya, Fogarasi Erysébet, Irimia-Constrantin Maria-Raluca
10:10–10:30	O-20	ISATIS TINCTORIA OR INDIGOFERA TINCTORIA? <u>Monika Ganeczko</u> , Bartłomiej Witkowski, Magdalena Biesaga, Marcin Grzybowski, Magdalena Woźniak, Tomasz Gierczak
10:30–10:50	O-21	STUDY OF CYTOTOXIC EFFECT OF NOVEL AVPI-RGD HYBRID PEPTIDES <u>Maya Georgieva</u> , R. Detcheva, Tamara Pajpanova
11:30–20:00		Boat trip to Monastery Saint Naum of Ohrid and Ohrid springs
20:00–00:00	D	Dinner

FRIDAY, 07.07.2017		
SESSION 10		
Chairwoman: Tamara Pajpanova (Bulgarian Academy of Sciences)		
9:30–10:00	PL-12	GEOCHEMICAL ATLAS OF THE REPUBLIC OF MACEDONIA <u>Trajče Stafilov</u> , Robert Šajn
10:00–10:30	P-13	INDUCTIVELY COUPLED PLASMA SPECTROMETRY FOR THE ANALYSIS OF ENGINEERED IRON NANOPARTICLES <u>Sanda Rončević</u> , Ivan Nemet



10:30–10:50	O-22	EFFICACY OF A BIOMONITORING (MOSS) TECHNIQUE FOR DETERMINING HEAVY METALS DEPOSITION TRENDS. CASE STUDY BREGALNICA RIVER BASIN, REPUBLIC OF MACEDONIA <u>Biljana Balabanova</u> , Trajče Stafilov, Robert Šajin
10:50–11:20	CB	Coffee break
SESSION 11		
Chairman: Irimie Florin Dan (“Babes Bolyai” University of Cluj Napoca)		
11:20–11:40	O-23	THE EFFECT OF PGP BACTERIAL INOCULATION ON THE ACCUMULATION OF HEAVY METALS IN CROP PLANTS <u>Gyöngyvér Mara</u> , Éva Boglárka Vincze, Annamária Becze, Csilla Albert
11:40–12:10	O-24	THE INFLUENCE OF UV-VIS IRRADIATION AND OXIDATION ON ARSENIC AND CHROMIUM SPECIATION IN WATER <u>Ewa Biaduń</u> , Beata Krasnodębska-Ostreęa, Krzysztof Miecznikowski
12:10–12:30	O-25	SORPTION OF Sc(III) ON SOLID CARBON NANOMATERIALS <u>Mateusz L. Pegier</u> , Krzysztof Kilian, Krystyna Pyrżyńska
13:00–14:00	L	Lunch
SESSION 12		
Chairwoman: Livia Uncu (State University of Medicine and Pharmacy "Nicolae Testemitanu")		
14:00–14:30	PL-14	CHEMISTRY, ENVIRONMENTAL FATE AND TRANSFORMATION OF HEXACHLOROCYCLOHEXANES INTO ECOLOGICALLY ACCEPTABLE DERIVATIVES Jane Bogdanov
14:30–14:50	O-26	APPLICATION OF 2-D ELECTROPHORESIS AND MALDI TOF MS ANALYSIS FOR THE QUALITY STUDY OF BIOLOGICS <u>Dashnor Nebija</u> , Christian Noe, Christina Mladenovska and Bodo Lachmann
14:50–16:10	O-27	STUDY OF THE OXIDATIVE METABOLIZATION PATTERN OF BETA-BLOCKERS Ruxandra Chira, Ede Bodoki, Viktor Sáandor, Ferenc Kiláar, Radu Oprean



16:10–17:00	CB+PS	Coffee break + Poster session
17:00–18:10	PPP-03	Podium poster presentation (Chairwoman: Cynthia Nora Nagy and Chairman: Georg Clemens Pretsch)
18:10–20:00	CB-02	Swimming
20:00–21:00	D	Dinner

SATURDAY, 08.072016

SESSION 13

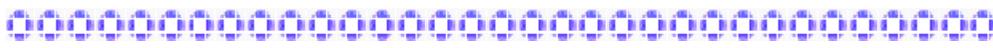
Chairman/Chairwoman: Gabriella Donáth-Nagy (University of Medicine and Pharmacy of Tg. Mureș)

9:30–10:00	PL-15	THE USE OF HPLC METHOD IN ANALYSIS OF MULTICOMPONENT DRUGS <u>Livia Uncu</u>
10:00-10:20	O-28	THE OPTIMIZATION OF THE BIOAVAILABILITY OF THE PROPYLTHIOCIKINOTHIADIAZOLE <u>Andrei Uncu</u> , Ana Podgornii, Anastasia Smetanscaia, Fliur Macaev, Vladimir Valica, Eva Tesarova
10:20–10:40	O-29	NOVEL APPROACH FOR DNA METHYLATION ANALYSIS IN REGULATORY REGIONS OF <i>MGMT</i> IN GLIOBLASTOMA <u>Katja Zappe</u> , Ru Wang Qiu, Andreas Böhm, Sabine Spiegl-Kreinecker, Margit Cichna-Markl
10:40–11:00	O-30	DETERMINATION OF MIDAZOLAM AND ITS MAIN METABOLITES IN URINE AND SERUM SAMPLES BY LC-UV AND LC-MS <u>Mariusz Procaak</u> , Sebastian Rojek, Michael Hiesmayr, Margit Cichna-Markl
11:00–11:30	CB	Coffee break

SESSION 14

Chairman/Chairwoman: Attila Gaspar (University of Debrecen)

11:30–12:00	PL-16	<u>Radu Oprean</u>
12:00–12:30	O-31	GUEST – HOST INTERACTION STUDIES BETWEEN PROPRANOLOL AND B-CYCLODEXRIN AT SOLID/LIQUID INTERFACE <u>Ioan – Adrian Stoian</u> , Bogdan-Cezar Iacob, Ede Bodoki, Radu Oprean
13:00-14:00	L	Lunch
14:00-14:30		Closing remarks





GENERAL INFORMATION

Symposium location:

The symposium is held in the Congress Centre in Ohrid, s Konjsko (near Lagadin). The Congress Centre is located only 6 km away from the centre of Ohrid and 17 km from the Ohrid airport. Tel: +389 (0)46 277 421.

Info Desk:

The symposium Info Desk is located at the Symposium location. For any additional information in regards to the event, please contact as the following cell phones: +389 70 350 756 (Trajce Stafilov); +389 75 250 155 (Violeta Ivanova-Petropulos).

Accommodation:

All participants are accommodated in the Congress Centre.

Transport in Ohrid:

Information about the public transport will be given at the Info Desk.

Information for speakers:

Presentations have to be dropped at least 2 hours before the time scheduled for the presentation.

Information for poster presentations:

Poster boards have dimensions around 1 m high and 1 m wide.

Mounting of the poster:

PP1 – *Monday* from 8-9h till Tuesday

PP2 – *Wednes* from 8-9h till Thursday

PP3 – *Friday* from 8-9h till Saturday

Details about the posters location will be given by the Info Desk.

Official language

English

Internet access:

Internet access will be available by wireless connection in the symposium location.



Health problems and emergency:

A wide range of non-prescription drugs are available at the local pharmacies.

In case of emergency, please contact us the Info Desk or at the phone numbers given above.

Currency:

Macedonian official currency is DENAR (MKD). Coins used are 1, 2, 5, 10, 50. Notes are 10, 50, 100, 200, 500, 1000, 2000 and 5000. You can change money in banks or private exchange bureaux in the city. You can also find Bankomat machines in the city. Credit cards are accepted in the Congress Centre and almost all places in Ohrid.

FX rate list: 1 Denar (MKD) equals 61.6 Euro.

SOCIAL ACTIVITIES

Visit to Hydrobiological institute – Ohrid

Ohrid city tour

Boat trip

Swimming