

THE MINISTRY OF EDUCATION, RESEARCH AND YOUTH
UNIVERSITY "AUREL VLAICU" OF ARAD

310130 Arad, B-dul Revolutiei no. 77, P.O. BOX 2/158 AR
tel / fax : 0040-257- 280070; tel. 0040-257- 283010
<http://www.uav.ro> e-mail: rectorat@uav.ro



**International Symposium
Research and Education in
Innovation Era
4th Edition**

November 8th – 9th, 2012, Arad



**SOCIETATEA DE
CHIMIE
DIN ROMÂNIA
Filiala Arad**



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CHEMISTRY AND APPLICATION FIELDS

PROGRAM

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Arad

CHEMISTRY AND APPLICATION FIELDS

THURSDAY, 8TH OF NOVEMBER 2012

CHEMISTRY

14.00 – 15.00 Room C0 - PLENARY SESSION

Chair: Prof. Alina Diana Zamfir, PhD

14.00–14.20 PL 1 **EFFICIENT METHODOLOGIES IN HETEROCYCLIC SYNTHESIS – OPEN DOORS TO NEW PHARMACOLOGICAL ENTITIES**

Gérald GUILLAUMET

Université d'Orléans, Institut de Chimie Organique et Analytique (ICOA)

UMR CNRS 7311 – BP 6759 – 45067 ORLEANS Cedex 2 (France)

14.20-14.40 PL 2 **COMPOSITIONAL AND STRUCTURAL ANALYSIS OF GANGLIOSIDES IN HUMAN FETAL CEREBELLUM BY CHIP ELECTROSPRAY MASS SPECTROMETRY**

Florina CAPITAN^{1,2}, Catalin SCHIOPU^{1,2}, Cristina MOSOARCA^{3,4}, Corina FLANGEA^{2,3}, Constantin ILIE¹, Iulian VELEA¹, Eugen SISU^{1,5}, Alina D. ZAMFIR^{2,3}

¹ "Victor Babes" University of Medicine and Pharmacy Timisoara, Romania, ² Department of Chemical and Biological Sciences, „Aurel Vlaicu” University of Arad, Romania, ³ Mass Spectrometry Laboratory, National Institute for Research and Development in Electrochemistry and Condensed Matter, Timisoara, Romania, ⁴ Physics department, West University Timisoara, Romania, ⁵ Chemistry Institute of Romanian Academy, Timisoara, Romania

14.40-15.00 PL 3 **EMISSION OF VOLATILES ORGANIC COMPOUNDS FROM STRESSED PLANTS**

Andrea PAG¹, Daniel TOMESCU¹, Adina BODESCU¹, Astrid KÄNNASTE², Trinu REMMEL², Ülo NIINEMETS² and Lucian COPOLOVICI¹

¹Institute of Technical and Natural Sciences Research-Development of Aurel Vlaicu University, Romania, ²Elena Dragoi St., 310330, Arad, Romania

²Institute of Agricultural and Environmental Sciences, Estonian University of Life Sciences, Kreutzwaldi, 51014, Tartu, Estonia

15.00 – 15.30 Coffee break

15.30 – 16.30 Room C0 – ORAL PRESENTATIONS

Chair: Prof. Florentina Daniela Munteanu, PhD

15.30-15.45 OC 1 **DETERMINATION OF DECORIN CHONDROITIN/DERMATAN SULFATE EXPRESSION IN HUMAN EMBRYONIC KIDNEY CELLS BY FULLY AUTOMATED CHIP-BASED NANO-ELECTROSPRAY MASS SPECTROMETRY**

Corina FLANGEA^{1,2}, Catalin SCHIOPU¹, Florina CAPITAN¹, Daniela SEIDLER³, Eugen SISU^{1,4} and Alina D. ZAMFIR^{1,2}

¹Department of Chemical and Biological Sciences, "Aurel Vlaicu" University of Arad, Romania; ²Mass Spectrometry Laboratory, National Institute for Research and Development in Electrochemistry and Condensed Matter, Timisoara, Romania; ³Institute for Physiological Chemistry and Pathobiochemistry, University of Münster, Germany; ⁴Chemistry Institute of the Romanian Academy, Timisoara, Romania

- 15.45-16.00
OC 2 **CELL-PENETRATING PEPTIDES:
FROM DESIGN TO *IN VITRO* AND *IN VIVO* APPLICATIONS**
Dana-Maria COPOLOVICI,¹ Julia SUHORUTSENKO,¹ Nikita OSKOLKOV,¹ Elo ERISTE,¹ Kaido KURRIKOFF¹, and Ülo LANGEL^{1,2}
¹Tartu University, Institute of Technology, Laboratory of Molecular Biotechnology, 50411 Tartu, Estonia, E-mail: dana.copolovici@ut.ee
²Stockholm University, Department of Neurochemistry, 10692 Stockholm, Sweden
- 16.00-16.15
OC 3 **CHIP-BASED ELECTROSPRAY IONIZATION TANDEM MASS
SPECTROMETRY A NOVEL TOOL FOR RAPID DIAGNOSTIC OF FABRY
DISEASE**
GALUSCA Mirela¹, FLANGEA Corina¹, MOSOARCA Cristina^{1,2}, COZMA Claudia³, ZAMFIR Alina D.¹
¹Aurel Vlaicu University, Arad, Romania, ²Physics Department, West University Timisoara, Vasile Parvan Blvd. 4, 300223, Timisoara, Romania, ³Laboratory of Analytical Chemistry and Biopolymer Structure Analysis, Department of Chemistry, University of Konstanz, 78457 Konstanz, Germany
- 16.15-16.30
OC 4 **ATOMIC FORCE MICROSCOPY AND CONFOCAL RAMAN
SPECTROSCOPY: TOOLS IN APPLIED TECHNOLOGIES**
Dana-Maria COPOLOVICI, Cecilia SIRGHIE, Alexandru BOTAR, Ioan VIFOR ISTOC, Mihaela DOCHIA
Technical and Natural Sciences Research-Development-Innovation Institute of UAV, "Aurel Vlaicu" University, Elena Dragoi St., Nr. 2, Arad, Romania,

16.30 – 17.30 – CHEMISTRY – poster session

- PC1. **FOLATE-BASED NANOBIODEVICES FOR INTEGRATED DIAGNOSIS/THERAPY TARGETING CHRONIC INFLAMMATORY DISEASES**
Florentina MUNTENU, Artur CAVACO-PAULO
¹University "Aurel Vlaicu" Arad, Str. Elena Drăgoi No.2, Arad, RO-310330, Romania:
²Universidade do Minho, Portugal
- PC2. **STUDY OF THERMALLY INDUCED INTERACTIONS BETWEEN BENZOIC ACID AND THE MAIN COMPOUNDS OF WHEAT FLOUR**
Iolanda TOLAN¹, Gabriela VLASE², Carmen Alexandra GRIGORIE², Titus VLASE², Nicolae DOCA²
¹University "Aurel Vlaicu" Arad, Str. Elena Drăgoi No.2, Arad, RO-310330, ROMANIA ,
²West University of Timișoara, Research Center for Thermal Analysis in Environmental Problems, Str. Pestalozzi No.16, Timișoara,RO-300115, ROMANIA
- PC.3 **THE INFLUENCE OF THE NATURE AND FATTY ACIDS CONTENT ON THE THERMAL STABILITY OF THE OILS FROM TECHNICAL PLANTS SEEDS**
Dorina-Rodica CHAMBRÉ, Cecilia SÎRGHIE
Research Development Innovation in Natural and Technical Sciences Institute of "Aurel Vlaicu" University. Arad, Elena Drăgoi 2, Arad, 310330, Romania
- PC4. **QUANTITATIVE DETERMINATION OF KAMPFEROL FROM APIUM GRAVEOLENS AND PETROSELINUM CRISPUM SPECIES USING HIGH PERFORMANCE LIQUID CHROMATOGRAPHY**
Dumitru CONDRAT^{1,*}, Ionel POPESCU MITROI¹, Florin CRIȘAN²
¹ Universitatea „Aurel Vlaicu”, Blvd. Revolutiei nr. 77, RO-310130, Arad, România., ² Oficiul pentru Agricultură și Dezvoltare Rurală, Laboratorul pentru Controlul Calității Pesticidelor, Str. Bodrogului, Nr. 3, 310059, Arad, România
- PC5. **THERMALLY INDUCED INTERACTION BETWEEN SIMULATED FLOUR AND AMMONIUM DIHYDROGENPHOSPHATE**
Iolanda TOLAN¹, Gabriela VLASE², T. VLASE², Carmen Alexandra GRIGORIE², N. DOCA²
¹ University "Aurel Vlaicu" Arad, Str. Elena Dragoi No.2, Arad, RO-310330, ROMANIA
² West University of Timișoara, Research Center for Thermal Analysis in Environmental Problems, Str. Pestalozzi No.16, Timișoara, RO-300115, ROMANIA,
- PC6. **DETERMINATION OF MOLECULAR EXPRESSION AND STRUCTURE OF GANGLIOSIDES IN BRAIN METASTASIS OF LUNG ADENOCARCINOMA BY NANOMATE-QTOF MS AND MS/MS**
Catalin SCHIOPU^{1,2}, Florina CAPITAN^{1,2}, Alina SERB², Željka VUKELIĆ³, Eugen SISu^{2,4}, Alina D. ZAMFIR^{1,5}
¹ Department of Chemical and Biological Sciences, Aurel Vlaicu University of Arad, Revolutiei Blvd. 77, RO-310130, Arad, Romania, ²Victor Babes University of Medicine and Pharmacy, Eftimie Murgu Sq. 2, Timisoara, Romania ³Department of Chemistry and Biochemistry, Faculty of Medicine, University of Zagreb, Zagreb, Croatia, ⁴Chemistry Institute of the Romanian Academy, Timisoara, Romania, ⁵ Romania Mass Spectrometry Laboratory, National Institute for Research and Development in Electrochemistry and Condensed Matter, Timisoara, Romania

- PC7. **HIGH RESOLUTION MASS SPECTROMETRIC CHARACTERIZATION OF MALTOSE DERIVATIVES**
Roxana M. GHIULAI^{1,2}, Mirela GALUSCA³, Eugen SISU², and Alina D. ZAMFIR^{1,3*}
¹Mass Spectrometry Laboratory, National Institute for Research and Development in Electrochemistry and Condensed Matter, Plautius Andronescu 1, 300224 Timisoara, Romania; ²Department of Biochemistry, University of Medicine and Pharmacy "Victor Babes", Eftimie Murgu Square 2, 300041 Timisoara, Romania; ³Department of Chemistry and Biology, 'Aurel Vlaicu' University of Arad, Revolutiei Blvd. 77, 310130 Arad, Romania
- PC8. **CHIP-BASED NANO-ELECTROSPRAY MASS SPECTROMETRY OF FRUCTOOLIGOSACCHARIDES PRODUCED BY LEVANSUCRASES FROM PSEUDOMONAS SYRINGAE PV. TOMATO AND P. CHLORORAPHIS SUBSP. AURANTIACA**
MOSOARCA C. ^{1,2,3}, MALAESCU I. ², VISNAPUU T. ⁴, ALAMÄE T. ⁴, ZAMFIR A. D.^{1,3}
¹Department of Chemistry and Biology, Aurel Vlaicu University of Arad, Romania; ²Physics department, West University of Timisoara, Romania; ³Mass Spectrometry Laboratory, National Institute for Research and Development in Electrochemistry and Condensed Matter, Timisoara, Romania; ⁴Institute of Molecular and Cell Biology, University of Tartu, Estonia
- PC9. **SYNTHESIS AND PHYSICO-CHEMICAL STUDY OF SOME COMPLEXES WITH CATALYTIC PROPERTIES**
Adina BODESCU, Titus VLASE, Cecilia SÎRGIE, Alexndru BOTAR
Research Development Innovation in Natural and Technical Sciences Institute of "Aurel Vlaicu" University. Arad, Elena Drăgoi 2, Arad, 310330, Romania
- PC10. **SYNTHESES OF IMMOBILIZED ENZYMES IN/ON CRYOGEL POLYMERS**
GAVRILAȘ Simona,¹ DOCHIA Mihaela², SANISLAV Andreia³, FOGORASI Magdalena², LOZINSKY Vladimir I.⁴ and STANESCU Michaela Dina¹
¹ Department of Chemical and Natural Sciences, "Aurel Vlaicu" University of Arad, Elena Dragoi str. 3-5, 310330 Arad, Romania
²Department of Automation, Industrial Engineering, Textiles and Transport "Aurel Vlaicu" University of Arad, Elena Dragoi str. 3-5, Arad, Romania
³ Department of Organic Chemistry, University "Politehnica" of Bucharest, Polizu 1, Bucharest, Romania
⁴ A.N. Nesmeyanov Institute of Organoelement Compounds, Russian Academy of Sciences, Vavilov 28, 119991 Moscow, Russian Federation
- PC11. **ANALYTICAL METHOD FOR DETERMINATION OF BIOGENIC VOLATILE ORGANIC COMPOUNDS**
BODESCU Adina, PAG Andreea, TOMESCU Daniel, COPOLOLOVICI Lucian
Institute of Technical and Natural Sciences Research-Development of Aurel Vlaicu University, Romania, 2 Elena Dragoi St., 310330, Arad, Romania

FRIDAY, 9TH OF NOVEMBER 2012

ENVIRONMENTAL PROTECTION

9.00 – 10.30 Room C0 – ORAL PRESENTATIONS

Chair: Assoc. Prof. Oana Brînzan, PhD.

- 9.00-9.15 **RESEARCHES CONCERNING GRANULOMETRIC COMPOSITION OF THE SOIL IN ARAD AREA**
OE1
CALINOVICI Ioan, URSACHI Claudiu, CHIȘ Sabin
"Aurel Vlaicu" University of Arad, Faculty of Food Engineering, Tourism and Environmental Protection, Elena Dragoi, No 2, 310330, Arad, Romania
- 9.15-9.30 **BIOFERTILIZERS – A CHEAP AND SAFE ALTERNATIVE TO CHEMICAL FERTILIZERS IN FARMING PRACTICE**
OE2
HĂLMĂGEAN Lucian, CIUTINĂ Virgil, BALINT Maria Mihaela, DIACONESCU Daniela
"Aurel Vlaicu" University of Arad, Faculty of Food Engineering, Tourism and Environmental Protection, Elena Drăgoi street, No. 2, 310330, Romania
- 9.30-9.45 **STIMULATING THE MORPHO-PRODUCTIVE CHARACTERISTICS AT MOMORDICA CHARANTIA L. UNDER THE INFLUENCE OF BIOSTIMULATORS ACCEPTED BY ORGANIC FARMING**
OE3
BALINT Maria Mihaela, CIUTINĂ Virgil, HĂLMĂGEAN Lucian, ZDREMȚAN Monica
Department of Chemistry and Biology, 'Aurel Vlaicu' University of Arad, Revolutiei Blvd. 77, 310130 Arad, Romania
- 9.45-10.00 **THE USE OF FERROMONAL BAIT IN THE SUPERVISION OF THE LOBESIA BOTRANA POPULATION (DEN ET SCHIFF)**
OE4
PODRUMAR Teodor, HĂLMĂGEAN Lucian, ZDREMȚAN Monica
"Aurel Vlaicu" University of Arad, Faculty of Food Engineering, Tourism and Environmental Protection, Elena Drăgoi street, No. 2, 310330, Romania
- 10.00-10.15 **GREEN FERTILIZERS – FIXING NITROGEN PLANTS, THE ENERGY REQUIRED FOR MICROORGANISMS IN VINEYARD SOIL**
OE5
HĂLMĂGEAN Lucian, PORDUMAR Teodor, TETULEA Radu, CHIȘ Sabin
"Aurel Vlaicu" University of Arad, Faculty of Food Engineering, Tourism and Environmental Protection, Elena Drăgoi street, No. 2, 310330, Romania
- 10.15-10.30 **PREVENT AND REDUCE THE DAMAGE CAUSED BY PHYLLOXERA THROUGH A TECHNOLOGY MANAGEMENT RESPECTFUL TOWARDS THE ENVIRONMENT**
OE6
PORDUMAR T.¹, CIUTINA V.², TETULEA R.¹.
¹SCDVV Miniș, ²"Aurel Vlaicu" University of Arad, Faculty of Food Engineering, Tourism and Environmental Protection, Elena Drăgoi street, No. 2, 310330, Romania

10.30 – 11.00 Coffee break

11.00 – 11.45 FOOD ENGINEERING – ORAL PRESENTATION

Chair Assoc.prof. Dorina Chambree, PhD

- 11.00-11.15 **OBTAINING AND CHARACTERIZATION OF FLAX SEED LIGNANS**
OF1
PAG Andreea, RADU Dana, DRĂGĂNESCU Dan, POPA Marcel I., SÎRGHIE Cecilia
Technical and Natural Sciences Research-Development-Innovation Institute of UAV,
"Aurel Vlaicu" University, Elena Dragoi St., Nr. 2, Arad, Romania

- 11.15-11.30 **VALORISING LINSEED, HEMP AND RAPESEED EXTRACTS THROUGH FUNCTIONAL FOOD**
OF2
RADU Dana, PAG Andreea, SIRGHIE Cecilia
Technical and Natural Sciences Research-Development-Innovation Institute of UAV, "Aurel Vlaicu" University, Elena Dragoi St., Nr. 2, Arad, Romania
- 11.30-11.45 **ASCORBIC ACID STABILITY IN VACUUM IMPREGNATED APPLE**
OF3
URSACHI Claudiu , CHIȘ Sabin, CALINOVICI Ioan
Department of Technical and Natural Science "Aurel Vlaicu" University of Arad, Romania, Str. Elena Drăgoi nr. 2, cod 310330
- 11.45-12.00 **DEXTRAN PRODUCTION FROM LACTIC FERMENTATION OF WATERMELON**
OF4
ZDREMȚAN Monica, DIACONESCU Daniela, MEȘTER Mihaela, MIHUȚA Maria
"Aurel Vlaicu" University in Arad, Revoluției Blv, no. 77, 310130, Arad, Romania;

12.00 – 13.00 – ENVIRONMENTAL PROTECTION - poster session

- PE1. **REUSE OF WASTE WATERS FROM TEXTILE INDUSTRY**
Florentina Daniela MUNTEANU, Cecilia ȘÎRGIE
Research Development Innovation in Natural and Technical Sciences Institute of "Aurel Vlaicu" University. Arad, Elena Drăgoi 2, Arad, 310330, Romania
- PE2. **THE USE OF BIOSENSORS FOR DETERMINING A PHENOLIC POLLUTANT FROM WASTEWATERS**
Florentina Daniela MUNTEANU, Cecilia ȘÎRGIE
Research Development Innovation in Natural and Technical Sciences Institute of "Aurel Vlaicu" University. Arad, Elena Drăgoi 2, Arad, 310330, Romania
- PE3. **FT-IR STUDY OF RAPE SEED OIL TRASESTERIFICATION REACTION IN ORDER TO OBTAIN BIODISEL**
CHAMBREE Dorina, LEUCUTA Gabriel
Research Development Innovation in Natural and Technical Sciences Institute of "Aurel Vlaicu" University. Arad, Elena Drăgoi 2, Arad, 310330, Romania
- PE4. **SUPPORT SUSTAINABLE DEVELOPMENT AT LOCAL LEVEL, BY CONSUMING ORGANIC AND ECO-LABELED PRODUCTS**
ȚIGAN Eugenia, BRÎNZAN Oana
Department of Chemistry and Biology, 'Aurel Vlaicu' University of Arad, Revolutiei Blvd. 77, 310130 Arad, Romania
- PE5. **RESOURCE EFFICIENCY UTILISATION, SUSTAINABILITY OF PRODUCTION AND CONSUME**
BRÎNZAN Oana, ȚIGAN Eugenia, CHIȘ Sabin
Department of Chemistry and Biology, 'Aurel Vlaicu' University of Arad, Revolutiei Blvd. 77, 310130 Arad, Romania

12.00 – 13.00 – FOOD ENGINEERING - poster session

PF1. CHARACTERISATION OF α -AMYLASE EXTRACT FROM MALT

MIHAELA MEȘTER, DANA RADU

Department of Chemistry and Biology, 'Aurel Vlaicu' University of Arad, Revolutiei Blvd. 77, 310130 Arad, Romania

PF2. EXTRACTION AND CHARACTERIZATION OF FLAX SEED LIGNANS

Ioana IGNAT, Dana RADU, Andreea PAG, Dan DRĂGĂNESCU

Research Development Innovation in Natural and Technical Sciences Institute of "Aurel Vlaicu" University. Arad, Elena Drăgoi 2, Arad, 310330, Romania

PF3. EMBEDDING ACTIVE PRINCIPLES FROM FLAX SEEDS EXTRACT IN XANTHAN-CHITOSAN MATRIX

Ionel Marcel POPA, Ioana IGNAT, Dan DRĂGĂNESCU, Andreea PAG, Cecilia SIRGHIE

Research Development Innovation in Natural and Technical Sciences Institute of "Aurel Vlaicu" University. Arad, Elena Drăgoi 2, Arad, 310330, Romania

PF4. OBTAINED RESULTS FOR *PISUM SATIVUM* CULTURE FERTILISATION IN ORDER TO IMPROVE SOME MORPHO-PHYSIOLOGICAL AND PRODUCTION PARAMETERS IN ARAD VEGETABLE AREA

PALCU S., MURESAN Claudia, BALINT Maria

Aurel Vlaicu University of Arad, Faculty of Food Engineering, Tourism and Environmental Protection, Str. Elena Dragoi, Nr. 3, Micalaca, Arad, Romania, Postal code 310330

PF5. RESEARCH REGARDING THE USE OF STARTER CULTURES IN VEGETABLE PICKLES INDUSTRY

ZDREMȚAN Monica, HĂLMĂGEAN Lucian, MIHUȚA Maria

"Aurel Vlaicu" University in Arad, Revoluției Bly, no. 77, 310130, Arad, Romania;

