

*IC-ANMBES 2012 – May 24-27, 2012
Braşov, Romania*



TRANSILVANIA UNIVERSITY OF BRAŞOV

Second International Conference
Analytical and Nanoanalytical Methods
for
Biomedical and Environmental Sciences

IC-ANMBES 2012

BOOK OF ABSTRACTS

Braşov, May 24th-27th, 2012

*Editors: Monica Florescu
Mihaela Badea
Jean-Louis Marty
Valerică Raicu*

*Transilvania University Press
2012*

Conference Chairpersons

Monica FLORESCU, Mihaela BADEA, Transilvania University of Brasov, Romania
Jean-Louis MARTY, University of Perpignan via Domitia, France
Valerică RAICU, University of Wisconsin-Milwaukee, USA

International Scientific Committee

Mihaela BADEA, Transilvania University of Brasov, Romania;
Doina Paula BALABAN, Universitatea Ovidius Constanta, Romania;
Alexandru BĂLESCU, Transilvania University of Brasov, Romania;
David J. BUTCHER, Western Carolina University, USA;
Ana Maria Oliveira BRETT, Universidade de Coimbra, Portugal;
Christopher M.A. BRETT, Universidade de Coimbra, Portugal;
Simona Codruța COBZAC, Universitatea Babeş-Bolyai din Cluj-Napoca, Romania;
Gheorghe COMAN, Transilvania University of Brasov, Romania;
Monica FLORESCU, Transilvania University of Brasov, Romania;
Mladen FRANKO, University of Nova Gorica, Slovenia;
Kurt KALCHER, University of Graz, Austria;
Tamas KOSZEGI, University of Pecs, Hungary;
Nicole JAFFREZIC-RENAULT, University of Lyon, France;
Roger LEBLANC, University of Miami, USA;
Jean-Louis MARTY, University of Perpignan via Domitia, France;
Maria Cruz MORENO-BONDI, Universidad Complutense de Madrid, Spain;
Codruța NEMET, Transilvania University of Brasov, Romania;
Gilvanda Silva NUNES, Universidade Federal do Maranhão, Brazil;
Lazăr ONISĂI, Transilvania University of Brasov, Romania;
Guillermo ORELLANA, Universidad Complutense de Madrid, Spain;
Lea POGACNIK, University of Ljubljana, Slovenia;
Aurel POPESCU, University of Bucharest, Romania;
Valerică RAICU, University of Wisconsin-Milwaukee, USA;
Patrizia RESTANI, Università degli Studi di Milano, Italy;
Liliana ROGOZEA, Transilvania University of Brasov, Romania;
Claudia STIHI, Valahia University of Targoviste, Romania;
Laura ȚUGULEA, University of Bucharest, Romania;
Ioan TURCU, INCDTIM Cluj-Napoca, Romania;

Local Organizing Committee

Alexandru BĂLESCU, Nicușor BÎGIU, Antonella CHEȘCĂ Cerasela CURESCIUC, Lorena DIMA, Laura FLOROIAN, Mihaela IDOMIR, Alexandru KERESZTES, Florin LEAȘU, Ioana MANEA, Dorina POPA, Elena POZNA, Elena PRUTEANU, Mioara Lăcramioara ȘTEFAN, Gabriela RADU, Adrian ROTARU, Nicoleta TAUS, Mihaela Cristina TOADER, Sebastian TOMA, Andreea VÂLCEANU

CONTENTS

Oral communications

Time	Section	Number	Title	Authors
May 24th,	2012			
8,00-9,00			Registration	
8,00-9,00			Welcome Coffee	
9,00-9,30			Opening Ceremony	
Chairmans: Federico Bordi, Ioan Turcu,				
9.30-10,10	Biomedical App. Keynote Lecture	KB1	Nanostructures and Nanoparticles for Biotechnological Applications: The Importance of an Accurate Physico-Chemical Characterization	Federico Bordi,
10.10-10.45	Biomedical App Invited Talk	OB1	Engineering Nanopores for Single-Molecule Detection of Proteins	Liviu Movileanu,
10.45-11.20		OB2	Using 1H NMR Spectroscopy and Isothermal Titration Calorimetry to Investigate Molecular Self-Association	<u>Ioan Turcu</u> , Mihaela Mic, Mircea Bogdan,
11.20-11.35	Coffee Break			
11.35-12.10	Biomedical App. Invited Talk	OB3	The Approach of the Protein-Ligand Interactions by Isothermal Titration Calorimetry	Claudia Chilom, Gabriel Baranga, Doina Găzdaru, <u>Aurel Popescu</u> ,
12.10-12.30	Biomedical App. Contributed Talks	OB4	Enzyme-based biosensors as analytical tools	Monica Florescu,
12.30-12.50		OB5	Early Bacteria Detection Using Functionalized Nanoporous Silica Xerogels	Sabine Crunaire, <u>Thu-Hoa Tran-Thi</u> , Pierre Marcoux, Frédéric Mallard,
12.50-13.10		OB6	NADH Electrochemical Sensors Based on Modified Graphene and Carbon Nanotubes	<u>Antonio Radoi</u> , Adina Bragaru, Sandra A.V. Eremia, Mihaela Kusko, Simona-Carmen Litescu,
13.10-14.30	Lunch			
Chairmans: Jean Louis Marty, Mihaela Badea				
14.30-15.10	Food Analysis Keynote Lecture	KF1	Innovating tool for ochratoxin A detection	<u>Jean Louis Marty</u> , Akhtar Hayat, Cheng Yang, Lise Barthelmebs, Xiurong Yang,
15.10-15.45	Food Analysis Invited Talk	OF1	Detection of the Marine Toxin Okadaic Acid: Assessing Seafood Safety	<u>Audrey Sassolas</u> , Gaele Catanante, Akhtar Hayat, Lise Barthelmebs, Monica Campas, Jean-Louis Marty,

15.45-16.05	Food Analysis Contributed Talks	OF2	A Novel Rapid and Simple Electrochemical Aptasensor Coupled to an Automated Flow System for Ochratoxin A Detection	<u>Amina Rhouati</u> , Akhtar Hayat, Zahia Meraihi, Jean-Louis Marty,
16.05-16.25		OF3	Biosensors Based on Immobilisation Of Acetylcholinesterase on Magnetic Microbeads And Sol Gel for Detection of Organophosphates Used for the Treatment of Olive Trees.	<u>Ben Ouji Najwa</u> , Idriss Bakas, Georges Istamboulie, Ihya Ait-Ichou, Elhabib Ait-Addi, Regis Rouillon, Thierry Noguier,
16.25-16.40	Coffee Break			
16.40-17.00	Food Analysis Contributed Talks	OF4	Towards Development of Biosensors for Allergen Proteins Using SPR and Electrochemical Methods	<u>Alina Vasilescu</u> , Cristina Polonschii, Sorin David,
17.00-17.20		OF5	A Novel Amperometric Method for Linoleic Acid Hydroxides Determination	<u>Sandra A.V. Eremia</u> , Ioana Vasilescu, Simona-Carmen Litescu, Antonio Radoi, Gabriel-Lucian Radu,
17.20-17.50		OF6	The Use of Hemoglobin for the Detection of Toxic Molecules from Aqueous Solutions	Sorina Garabagiu,
May 25th,	2012			-
Time	Section	Number	Title	Authors
Chairmans: Alberto Diaspro, Tamas Koszegi				
9.00-9.40	Biomedical App Keynote Lecture	KB2	Fluorescence optical super resolution towards 3D imaging of thick samples: IML-SPIM and STED cases	<u>Alberto Diaspro</u> , Paolo Bianchini, Cella Zancchi, Benjamin Harke, Giuseppe Vicidomini, Zeno Lavagnino, Silvia Galiani, Jenu Chacko, Ivan Coto,
9.40-10.00	Biomedical App. Contributed Talks	OB7	Electrochemiluminescence in the assessment of non-ST segment elevation acute coronary syndrome (NSTE-ACS)	<u>Alina Mihaela Pascu</u> , Mariana Rădoi, Alina Bisoc, Mariana Anghel,
10.00-10.20		OB8	Luminescent Viability Methods Using Tissue Culture Models	Nikolett Sali, <u>Tamas Koszegi</u> ,
10.20-10.40		OB9	Study of Protein Aggregation with Both Conventional and Nonconventional Analytical Methods	<u>Alina Vasilescu</u> , Andreia Tache, Szilveszter Gaspar, Simona, Carmen Litescu,
10.40-11.00		OB10	Microscopic analysis of edible substances influence upon the structural changes developed in the dental prosthesis elements	Loredana Buzea (Ungureanu), <u>Mihaela Baritz</u> , Ramona Pradais, Diana Cotoros, Barbu Braun
11.00-11.20		OB11	The Programming Of The Pulsatoryvesicle Working	Dumitru Popescu, Romania
11.20-11.35	Coffee Break			

Chairmans: Jean Louis Marty, Valerică Raicu				
11.35-11.55	Environmental Prot. Contributed Talks	OE1	Development of Systems For Early Detection Of Emerging Micropolluants In Surface Water	Hussein Kanso, Lise Barthelmebs, Nicolas Inguibert, Thierry Noguier,
11.55-12.15		OE2	The modeling of spacial-temporal evolution of fluoride dispersion in “river-type” systems	<u>Marusic Galina</u> , Sandu Ion, Filote Constantin, Moraru Vasile, Beşliu, Victor, Şevcenco Nina, Ştefănescu Beatrice Vasilache, Violeta Creţu, Ana-Monica,
12.15-12.35		OE3	Purification and Characterization Of Partially Purified Extracellular Cold-Active a-Amylase By Psychrotrophic Streptomyces 4 Alga	<u>Mihaela Cotârlet</u> ,
12.35-12.55		OE4	Characterisation of Biomass Used For Fischer-Tropsch Biofuels Synthesis	<u>Anca Sauciuc</u> , Lucia Dumitrescu, Ileana Manciualea, Claudia Zaha, Gerald Weber, Reinhard Rauch, Hermann Hofbauer,
13.00-14.30	Lunch			
Chairmans: Rifat Çapan, Monica Florescu				
14.30-14.50	Environmental Prot. Contributed Talks	OE5	The comparison between the gas sensing properties of spin and LB films of porphyrin thin films in the frame of their surface properties	<u>Inci Çapan</u> , Matem Erdogan, Berna Ilhan, Burcu Güner, Stefan Stanciu, Radu Hristu, George Stanciu,
14.50-15.10		OE6	Preparation of calixarene thin film for environmental protection against volatile organic vapours	Zikriye Özbek, Hilal Gökteş, <u>Rifat Çapan</u> , Frank Davis, Fatmagül İnce,
15.10-15.30		OE7	Automatic electronic tongue for on-line detection and quantification of organophosphorus and carbamate pesticides using enzymatic screen printed biosensors	<u>Gustavo A. Alonso-Silverio</u> , Roberto Muñoz-Guerrero, Jean-Louis Marty,
15.30-15.50		OE8	Correlations between composting conditions and characteristics of compost as biofertilizer	Claudia Zaha, Lucia Dumitrescu, Ileana Manciualea, Anca Sauciuc
15.50-16.10		OF7	Vitaltitration used for predicting fermentation performance of ethanol stressed brewing yeast	Iulia Bleoanca
16.10-16.30		OF8	Plant Food Supplements: Levels of Intake, Benefit and Risk Assessment	<u>Mihaela Badea</u> , Marinella Trovato, Jenny Plumb, Paul Finglas, Elisabetta Sanzini, Patrizia Restani,
16.30-16.45	Coffee Break			
16.45-18.00	Poster session			
May 26th,	2012			-

OF8
**PLANT FOOD SUPPLEMENTS: LEVELS OF INTAKE, BENEFIT AND
RISK ASSESSMENT**

**Mihaela Badea¹, Marinella Trovato², Jenny Plumb³, Paul Finglas³,
Elisabetta Sanzini⁴, Patrizia Restani⁵**

*¹ Transilvania University of Brasov, Faculty of Medicine, Nicolae Balcescu 56, Brasov, 500019, Romania; ² Società Italiana Scienze e Tecniche Erboristiche, Via Francesco Ferrucci 22, 20145 Milano, Italy; ³ Institute of Food Research, Food Databanks, Norwich Research Park, Colney, Norwich NR4 7UA, United Kingdom; ⁴ Istituto Superiore di Sanità, Viale Regina Elena 299 -00161 Rome, Italy; ⁵ Università degli Studi di Milano, Dept. Pharmacological Sciences, via Balzaretti 9, 20133 Milan, Italy
badeamihaela@yahoo.com*

The PlantLIBRA (PLANT food supplements: Levels of Intake, Benefit and Risk Assessment) is an European Commission co-funded project within the Seventh Framework Programme's Theme 2 - Food, Agriculture and Fisheries, and Biotechnology and its funding scheme for Collaborative Projects for Specific Cooperation Actions Dedicated to International Cooperation (SICA).

PlantLIBRA aims to foster the safe use of food supplements containing plants or botanical preparations, in order to increase science-based decision-making by regulatory authorities. The project is working to develop, validate and disseminate data and methodologies for risk and benefit assessment of plant food supplements (PFS) and implement sustainable international cooperation, necessary to ensure the quality of botanicals imported in the EU.

The project consortium spans 4 continents and includes 25 partners in 15 countries, comprising representatives of leading academic and public research institutions, small- and medium-sized enterprises (SMEs), industry and non-profit organizations. The work plan of PlantLIBRA is organized in 11 work packages, coordinated by Prof. Patrizia Restani of the Università degli Studi di Milano and managed in cooperation with Hylobates Consulting Srl in Rome, Italy.

One of the main outputs of PlantLIBRA is a database, which will include information on composition and biological activity of compounds, safety information, data on residues and contaminants of plants used in PFS. It will address the needs of regulators and industry, who need to know more about plants used in supplements. The PlantLIBRA database system combines information on plant compounds, extracts, analytical methods, case-reports of adverse events, literature on benefits and risks, alerts produced by authorities, and potential contaminants, into a single platform to allow risk and benefit assessment. Additionally, within the PlantLIBRA project, selected methods will be evaluated and validated to provide new experimental data and consensus on the best methods for the determination of main classes of botanical bioactive compounds, contaminants, residues and biomarkers occurring in PFS which are useful for the identification of plant material and to evaluate exposure, physiological activity, adverse effects and/or misidentification of plants.

Acknowledgments: The writing of this summary has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 245199. It has been carried out within the PlantLIBRA project (website: www.plantlibra.eu). This report does not necessarily reflect the Commission views or its future policy on these areas.