

PHYSICAL CHEMISTRY 2018
14th International Conference on Fundamental and Applied Aspects of Physical Chemistry

**6th WORKSHOP: SPECIFIC METHODS FOR FOOD SAFETY AND
QUALITY**

organized by
VINČA INSTITUTE OF NUCLEAR SCIENCES
Vinča – Belgrade, Serbia



in co-operation with
THE SOCIETY OF PHYSICAL
CHEMISTS OF SERBIA



Held under the auspices of the
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGICAL DEVELOPMENT



September 27th, 2018, Belgrade, Serbia

Supported by
Faculty of Physical Chemistry
University of Belgrade, Serbia



FINAL PROGRAM

CONFERENCE VENUE

Kolarac building (Ilija Kolarac Foundation) Studentski trg 5, Belgrade

8:30-9:00 Registration

Registration desk will be located in the Entrance Hall of the Kolarac building

9:00-9:10 Open ceremony – **JOSIF PANČIĆ HALL** (1ST FLOOR)

A - SESSION

Chairperson: Milovan Stoiljković

09:10-09:45 **PL A1**

J. Dahlmann

Ensuring food safety using LC/MS/MS workflows to identify and quantify target and unknown compounds

09:45-10:05 **IL A4**

H. Wischmann, H. König and K. Schmidt

Glyphosate residues in honey and hive products

10:05-10:25 **IL A1**

S. Dimović, V. Stanić, M. Šlivić-Ivanović and D. Milojkov

Food sterilization by ionizing radiation

10:25-10:55 *Coffee break and Poster session – the 1st floor hall*

Posters should be placed at 08:30 and removed between 15:30 and 15:45

10:55-11:15 **IL A2**

C. Nunes

Relation between pleiotropic activity of natural compounds and lipid membrane interactions

11:15-11:35 **IL A3**

S. Reiss

New dietary supplements based on natural compounds loaded in lipid delivery systems

B - SESSION

Chairperson: Milovan Stoiljković

11:35-11:55 **IL B2**

G. Marrazza, O. Hosu and G. Selvolini

Conducting polymer-based platform for electrochemical sensors

11:55-12:15 **IL B3**

O. Hosu, L. Fritea, M. Tertiş, C. Cristea and R. Săndulescu

Biomedical applications of carbon-based electrochemical biosensors

12:15-12:35 **IL B1**

B. Ciui, M. Tertis, A. Cernat, I. Gandouzi, R. Sandulescu and C. Cristea

Rational identification of pathogenic bacteria markers by electrochemical methods

12:35-12:55 **OP B1**

J. Spasojević, I. Sredović Ignjatović, M. Rajković, P. Vukosavljević and Lj. Ignjatović

Liquid chromatographic determination of ascorbic acid in fruits and juices

13:00-14:00 **Lunch break**

14:00-14:30 **Poster session – the 1st floor hall**

C - SESSION

Chairperson: Tatjana Momić

14:30-14:50 **IL C5**

P. Trebše and M. Baycon Kralj

Determination of surfactant residues on different containers after manual cleaning

14:50-15:10 **IL C1**

K. Bohinc, M. Jevšnik and P. Raspor

Bacterial adhesion and food safety

15:10- 15:30

I. Nastasijević IL C3

Whole genome sequencing: a food safety management tool in meat industry

15:30-15:45 **Coffee break**

15:45-16:05 IL C4

V. Stanić, K. Kalić, S. Dimović, D. Milojkov, S. Tanasković and V. Živković-Radovanović
Preparation and antimicrobial activity of polyethylene composite with silver-doped fluorapatite

16:05-16:35 IL C2

U. Čakar, A. Petrović, N. Grozdanić, B. Pejin and B. Đorđević
Phenolic profile, antioxidant properties and α -glucosidase inhibitory activity of blackberry wine made in different kind of microvinifications

16:35-16:45 Closing ceremony

POSTER PRESENTATIONS

P A1. THE INFLUENCE OF SOUR CHERRY WINE ON THE FIRST LINE DEFENSE ANTIOXIDANTS DURING HYDROGEN PEROXIDE INDUCED OXIDATIVE STRESS IN RAT SYNAPTOSOMS

M. Čolović, U. Čakar, D. Krstić, B. Pejin and B. Đorđević

P A2. EXTRACTION KINETICS OF SOME PHENOLIC COMPOUNDS DURING VINIFICATION OF GRAPE VARIETY CABERNET SAUVIGNON AND ITS ANTIOXIDANT PROPERTIES

N. Lisov, U. Čakar, A. Petrović, V. Madžgalj and Lj. Bukarica-Gojković

P A3. EXTRACTION AND HPLC DETERMINATION OF β -CAROTENE FROM DARK HONEY SAMPLES

S. Sunarić, M. Denić, J. Lalić, J. Živković, A. Spasić and T. Jovanović

P A4. HPLC DETERMINATION OF RETINOL CONTENT IN COMMERCIAL CULTURED DIARY PRODUCT

M. Denić, S. Sunarić, J. Lalić, J. Živković, T. Jovanović, N. Trutić and G. Kocić

P A5. LEVAN AND LEVAN/PULLULAN BLEND FILMS: AFM AND FTIR SPECTROSCOPY CHARACTERIZATION

B. Lončarević, V. Nikolić, N. Lugonja, D. Randjelović, G. Gojgić-Cvijović, D. Jakovljević and V. Beškoski

P A6. CRUDE EXTRACTS OF CINNAMON AND OREGANO SPICES AS COMPONENTS OF PULLULAN BASED EDIBLE FILMS

D. Jakovljević, B. Lončarević, G. Gojgić-Cvijović, A. Žeradjanin, K. Joksimović and V. P. Beškoski

P A7. DETERMINATION OF TOTAL ANTIOXIDANT CAPACITY IN HUMAN MILK AND INFANT FORMULA

N. Lugonja, D. Stanković, J. Milić, S Spasić and M. M. Vrvic

P A8. LACTOSE AND D-GALACTOSE CONTENT IN INFANT FORMULAS AND MOTHER'S MILK

N. Lugonja, D. Jakovljević, S. Miletić, B. Lončarević, J. Milić, S. Spasić and M. M. Vrvic

P A9. THERMAL ANALYSIS OF WATER EXTRACTS OF BLACKBERRY AND RASPBERRY SEEDS

D. Micić, S. Ostojić, M. Simonović and B.R. Simonović

P A10. THERMAL BEHAVIOR OF APPLE JAM FOLLOWED BY DIFFERENTIAL SCANNING CALORIMETRY AND MODULATED DIFFERENTIAL SCANNING CALORIMETRY

S. Ostojić, D. Micić, S. Zlatanović, M. B. Simonović and B. R. Simonović

P A11. ASSESSMENT OF THE ANTIOXIDANT ACTIVITY OF FRUITS ORIGINATED FROM THE SOUTHERN BANAT USING BRIGGS-RAUSCHER REACTION

M. Ritopečki, B. Jereminov, A. Ritopečki, J. Maksimović, N. Sarap and M. C. Pagnacco

P A12. MEASUREMENT OF RADIONUCLIDES AND ANTIOXIDATIVE PROPERTIES IN SOME SELECTED TRADITIONAL TEAS

N. B. Sarap, J. D. Krneta Nikolić, J. P. Maksimović, M. C. Pagnacco, M. M. Rajačić and M. M. Janković

P A13. SURFACE-ENHANCED RAMAN SPECTROSCOPY FOR DETECTION OF ORGANOPHOSPHATES IN SOLUTION

L. Mikac, B. Laban, M. Ivanda and V. Vasić

P B1. LIQUID CHROMATOGRAPHIC DETERMINATION OF ORGANIC ACIDS IN FRUITS AND JUICES

E. Tordjman, I. Sredović Ignjatović, M. Spasojević, M. Veljović and Lj. Ignjatović

P B2. LASER INDUCED BREAKDOWN SPECTROSCOPY FOR QUANTITATIVE ANALYSIS OF PEPPERMINT TEA

J. Petrović, S. Živković, J. Savović and M. Momčilović

P B3. TOXIC ELEMENTS CONTENT IN GROWN AND WILD FUNGI: THE APPLICATION OF INDUCTIVELY COUPLED PLASMA–OPTICAL EMISSION SPECTROMETRY

I. Miljković, T. Adžić, A. Ž. Kostić, N. Gršić, B. Popović and J. B. Popović–Djordjević

P B4. INSIGHT INTO FATTY ACIDS PROFILE OF VARIETY 'DESIREE' POTTATO TUBERS

J. B. Popović-Djordjević, Z. Bročić, R. Petronijević and A. Ž. Kostić

P B5. COMBINING THE BEST OF FLEXIBLE, PORTABLE, AND PLASMONIC NANOSTRUCTURES WITH GRAPHENE-OXIDE FOR FOOD QUALITY AND SAFETY APPLICATIONS

R.D. Rodriguez, A. Khalelov, V. Prakash, G. Mustarov, A. Lipovka, M. Fatkullin, M. Bing, A. Ilchuk, A. Ruban, S. Pavlov, A. Al-Hamry, O. Kanoun, S.K. Mehta and E. Sheremet

P B6. THE CONTENT OF As, Cd, Cr, Ni and Pb IN ORGANIC COCOA POWDER

S. Skeledžija, M.B. Rajković, A.Ž. Kostić, S. Popov and J.B. Popović-Djordjević

P B7. CHARACTERISATION OF A COMPOSITE OF APPLE POMACE WITH ROSE HIP TEA FOLLOWED BY DSC, TGA AND IR

S.Zlatanović, S.Ostojić, O.Kovačević, B.Kovačević, D.Micić and S. Gorjanović

P C1. IMPROVEMENT OF Fe, Zn AND Mn BIO-AVAIALBILITY BY FERTILIZATION

V. Dragičević, M. Smić, S. Oljača, M. Stoiljković, B. Kresović and M. Brankov

P C2. GRAPHENE-BASED MATERIALS FOR REMOVAL OF ORGANOPHOSPHATE PESTICIDES FROM DRINKING WATER

T. Lazarević-Pašti, S. Gutić and I. Pašti

P C3. BIOLOGICAL EFFECTS OF RED WINE POLYPHENOLS

A. Leskovic, S. Petrović, B. Stanimirović, B. Pejin and Ž. Tešić

P C4. SYNTHESIS AND CHARACTERIZATION OF LUMINESCENT FLUORAPATITE NANORODS FOR LABELLING OF *Saccharomyces cerevisiae* CELLS

D. V. Milojkov, B. J. Nastasijević, V. Živković-Radovanović, G. V. Janjić, S. D. Dimović, D. R. Mutavdžić and V. Dj. Stanić

P C5. ETHANOLIC SPICE EXTRACTS AND WINE AS NATURAL ANTIFUNGALS IN RAW PORK MEAT

D. Mitić Ćulafić, S. Brnjos, T. Stević, B. Nikolić, J. Knežević-Vukčević and M. D. Pavlović

P C6. RED WINE MARINADES AS A VEHICLE TO CONTROL BACTERIAL CONTAMINATION ON BEEF

B. Nikolić, B. Vasiljević, J. Knežević-Vukčević, M. Pavlović and D. Mitić-Ćulafić

P C7. ANTIBACTERIAL AND CYTOTOXIC POTENTIAL OF *Gentiana lutea* ROOT AND LEAF EXTRACTS

S. Cvetković, B. Nastasijević, S. Đukanović, D. Mitić-Ćulafić, J. Knežević-Vukčević, T. Marković, D. Radanović and B. Nikolić

P C8. FOOD FORENSICS

E. Omanović-Miklićanin

P C9. PHENOLIC CONTENT AND RADICAL SCAVENGING ACTIVITY OF SERBIAN HONEYS

N. O. Đorđević, N. Todorović, B. J. Nastasijević, V. M. Vasić and S. B. Pajović

P C10. NATURAL PRODUCTS IN TREATMENT OF NEURODEGENERATION

S. Petrović, A. Leskovac, T. Lazarević-Pašti and T. Momić