

**Summer School and International Symposium
„Smart Sample Preparation: The Heart of Green Analytical,
Food and Environmental Chemistry” within the CEEPUS
network RS-1816-03-2526**



BOOK OF ABSTRACTS



**South-West University „Neofit Rilski“
Bachinovo education center, Blagoevgrad, Bulgaria
15-18.07.2026**

**Patronized by
Prof. Dr. Nikolay Marin
Rector of the South-West University “Neofit Rilski”**

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Participance:



**Summer School and International Symposium
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Conference Program**

15.07.2026

12:00-14:00

Arrival and accommodation of participants

13:00 – 16:00

Registration

16:30-18:30

Workshop 1 Environmental sampling and analysis

18:45 – 19:00

Opening Ceremony

Central Auditorium of Conference Center
Chairman: Assoc. Prof Radoslav Chayrov, PhD

19:00-21:00

Welcome cocktail

16.07.2026

08:00-09:00

Breakfast

09:30-11:00

Workshop 2 Environmental sampling and analysis

11:30-13:00

Workshop 3 Environmental sampling and analysis

13:00-14:00

Lunch

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14:00-14:30

Plenary Lecture 1

**Green Analytical Chemistry Principles 1,
V.Stankov Jovanović**

14:30-15:00

Plenary Lecture 2

**Green Analytical Chemistry Principles 2,
Elma Omeragić**

15:00-15:30

Plenary Lecture 3

**Smart Sample-Preparation Strategies 1,
Violeta Ivanova Petropulos**

15:30-16:00

Plenary Lecture 4

**Smart Sample-Preparation Strategies 2,
Katarzyna Kalinowska-Wichrowska**

16:00-16:30

Coffee break

16:30-17:00

Plenary Lecture 5

**Sample preparation can make or break sensory panel
Malgorzata Korzeniowska**

17:00-18:00

Discussion

18:00-19:00

Coordination meeting

20:00-22:00

Official dinner

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17.07.2026

08:00-09:00

Breakfast

09:00-09:30

Plenary Lecture 6

**Food Safety and Quality Assessment 2,
Simona Vicas**

09:30-11:00

Students' presentations

11:30-12:00

Coffee break

12:00-13:00

Discussion

13:00-14:00

Lunch

14:00-14:30

Plenary Lecture 7

**Environmental Monitoring and Pollution Control 1,
Jelena Nikolić**

14:30-15:00

Plenary Lecture 8

**Environmental Monitoring and Pollution Control 2,
Mihaela Badea**

15:00-15:30

Plenary Lecture 9

**Instrumental Analysis & Data Interpretation 1,
Violeta Ivanova**

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15:30-16:00

Plenary Lecture 10

**Instrumental Analysis & Data Interpretation 2,
Nicoleta Cioatera**

16:00-16:30

Discussion

16:30-17:00

Coffee break

17:00-19:00

Students’ presentations

19:00-20:00

Dinner

18.07.2026

08:00-09:00

Breakfast

09:00-10:00

Discussion

10:00-10:30

Coffee break

10:30-12:30

Round table

12:30-13:00

Lunch

13:30-14:30

Closing ceremony

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Plenary Lectures

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will rely on the ongoing development of environmentally friendly analytical methods and the education of researchers and students to apply green principles in both research and routine laboratory contexts.

Keywords: Green Analytical Chemistry, Sustainability, Green Chemistry, Analytical Methods, Miniaturization, Chemometrics

**Smart Sample-Preparation Strategies 1
Innovative sample preparation techniques**

Violeta Ivanova-Petropulos

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ABSTRACT

Analysis of different chemical compounds present in various types of samples, such as food, beverages, biological tissues and fluids, environmental matrices, natural waters, wastewater, medicinal plants, etc. is highly challenging. Usually, target compounds in these samples including proteins, lipids, vitamins, fatty acids, carbohydrates, polyphenols, amino acids, aroma compounds, biogenic amines, organic acids, various metabolites, elements, pesticides, etc. are present in low concentrations ($\mu\text{g/L}$) or in trace amounts (ng/L), and therefore highly selective methods for sample preparation are required for their identification as well as quantification. The mostly applied sample preparation techniques include liquid-liquid extraction (LLE), solid-phase extraction (SPE), solid-phase micro extraction (SPME), QuEChERS (quick, easy, cheap, effective, rugged, and safe), ultrasound assisted extraction (UAE), microwave-assisted extraction (MAE), supercritical fluid extraction (SFE), etc. Recent advances in analytical chemistry highlight a clear trend toward miniaturized and simplified sample preparation, aimed at reducing sample volumes and solvent waste. The smart and innovative sample preparation strategies are expected to be fast, sensitive and cheap, and to present an excellent accuracy and precision. Moreover, replacing the traditional and hazardous organic solvents with other friendly and green

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solvents, these techniques protect the environment as well as the laboratory personnel involved in the experiments.

Keywords: sample preparation methods, extraction techniques, green solvents.

Sample preparation can make or break sensory panel

Malgorzata Korzeniowska

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ABSTRACT

Sensory evaluation is a powerful tool widely used in food science as well as in the food production sector. Nowadays, align with the growing consumer awareness and expectations sensory analysis is reaching new dimension becoming a necessary requirement for the industry before launching products on the market. However, the validity of the sensory analysis data relies heavily on what happens before the product ever reaches the panelist. Preparation of the sensory samples is often treated as a daily routine, however it is a highly responsible step for the proper results feedback and it should be critically controlled. Even the most highly trained sensory panels cannot overcome the biases introduced by inconsistent serving temperatures, poor and uneven portion control, cross-contamination, or visual cues. That is why the sample preparation is such a crucial moment in this type of analyses. Together with the conditions of place and environment combined with the hidden operational factors connected with panelists they can directly impact panel performance and data integrity. The work presents common pitfalls, such as sensory fatigue and psychological bias, and contrast them with best practices for standardization and masking. By treating sample preparation not just as a logistical step, but as a rigorous scientific protocol, researchers can eliminate confounding variables, ensure reproducibility, and unlock the true sensory profile of food products.

Keywords: sensory analysis, sample preparation, sensory standards