





### 7<sup>th</sup> EuroVariety

#### **European Variety in University Chemistry Education**

## **BOOK OF ABSTRACTS**

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#### **PREFACE**

The conference entitled 7<sup>th</sup> EuroVariety – European Variety in University Chemistry Education has been organized by the University of Belgrade – the Faculty of Chemistry, the Serbian Chemical Society and the EUCheMS Division of Chemical Education. The main aim of the Conference is to provide an opportunity to share knowledge and experience relating to the important issues concerning university chemistry and chemical technology education in order to prepare future students to better respond to their personal needs and the needs of the contemporary society and to meet the labour market requirements. Therefore, the conference theme "University Chemistry Education for the Challenges of Contemporary Society" points out the need for continuous reconsideration of the connections between BSc, MSc and PhD chemistry studies and the contemporary professional, social and scientific challenges.

Over 70 participants from 29 countries have shared their experiences in their presentations offering their insights, pointing up the challenges and suggesting new solutions regarding the following Conference topics:

- Development of the university curricula for BSc, MSc and PhD chemistry studies
- Competency-based university chemistry education
- Chemistry education through university-industry partnerships
- Laboratory work as an element of problem solving and inquiry-based chemistry education
- Ethical guidelines and university chemistry education for sustainable development
- The use of ICT in chemistry education at the 3rd level
- The role of history of chemistry and philosophy of science in university education
- · Cultural heritage and chemistry education
- Development of educational competencies of academic chemistry teachers
- Evaluation of learning outcomes and problems relating to assessment in HEIs
- The contemporary chemistry teachers' education and the long-term professional development of chemistry teachers.

Summaries in this Book of Abstracts deal with the practical aspects of teaching chemistry and research into chemistry education at both undergraduate and postgraduate levels with the aim of enabling students to build key professional and transferable skills needed in order to be successful in a highly competitive labour market and life in the rapidly changing world.

I wish all participants a successful conference and fruitful discussion. I hope you will all enjoy your stay in Belgrade.

Dragica Trivic

Head of the Local Organizing Committee

# FORMATIVE AND SUMMATIVE ASSESSMENT IN THE PROGRAMME FOR PROFESSIONAL DEVELOPMENT OF CHEMISTRY TEACHERS

Dragica D. Trivic<sup>1</sup>, Biljana I. Tomasevic<sup>1</sup> and Vesna D. Milanovic<sup>1</sup>

Assessment as the important part of process of teaching and learning was the central theme of the two-day programme for professional development of chemistry teachers that was realized by the Serbian Chemical Society and the Faculty of Chemistry University of Belgrade. In 2016 the programme encompassed 30 chemistry teachers from primary and secondary schools. At the beginning we collected the data from the participants about their attitudes towards assessment and their usual practice by the questionnaire and group interviews (focus group interviews).

During the two days four workshops were organized. The structure of each workshop was the same and they included the introduction, group work and discussion of results of the work in groups. The first workshop was dedicated to the assessment as a support for chemistry learning. The second workshop was dedicated to the issue of how to harmonize the teaching and learning activities, formative and summative assessment, feedback from formative assessment and the criteria by which students are evaluated in the summative assessment. In the framework of the third workshop participants in groups estimated the validity of certain tasks for formative and summative assessment according to the curricula aims and the educational standards. In the fourth workshop the participants developed the tasks for monitoring students' progress towards certain educational standards.

The results of questionnaire and group interviews and the products of chemistry teachers' work in groups will be presented at the Conference.

**Keywords**: Professional development of chemistry teachers, Formative assessment, Summative assessment

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