



ECRICE 2016

European Conference
on Research in
Chemical Education

BARCELONA
7-10 September

BOOK OF ABSTRACTS

EuCheMS 
European Chemical Sciences



On behalf of the Catalan Chemical Society, we are pleased to invite you to Barcelona in September 2016 on the occasion of the 13th ECRICE conference.

The delegates of the Division of Education of EuCheMS of this society (SCQ) will lead this event in collaboration with the other delegates of EuCheMS Division of Education.

ECRICE is the forum for researchers and teachers to exchange research experiences in chemistry education and about teaching and learning chemistry at all levels. The conference has always attracted a significant number of participants from all over the world to discuss and to exchange ideas on chemistry education. We hope that the current conference in Barcelona will be able to follow in the footsteps of the last highly interesting conferences in Jyväskylä (2014), Rome (2012), Cracow (2010).

The title of the 13th ECRICE in Barcelona is "Inspiring Science Education through Research" The main ideas behind the topic 2016 are:

Research achievements and conclusions should inspire innovative teaching methods to teach new generations with new challenges.

There is often a gap between chemistry education and research in chemistry. We need to improve and inspire chemistry education by taking into account research data in this field.

The results of research in teaching and education should be adapted to the needs of teachers, and should be transferred and disseminated effectively to the teaching community.

We look forward to seeing all our chemistry education friends in Barcelona.

With best regards,

Carles Bo

President of the Catalan Chemical Society and Cochair of the Conference

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Delegate of the Catalan Chemical Society at the Division of Chemical Education of the EuCheMS and Cochair of the Conference

WELCOME

History of chemistry and nature of science: what do these mean to chemistry teachers

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The need of every person to understand the nature of science (NOS) in order to make decisions in a society highly influenced by developments in science and technology has been stressed in recent years. [1] The involving history and philosophy of science in the science classes is characterized as a good way for learning NOS and improving scientific literacy of students. Efforts for implementing history and philosophy of science in teaching practice cannot ignore: the perspectives of teachers, their beliefs, understanding of the main ideas and goals of teaching/learning and epistemological understanding. [2] The survey with 272 chemistry teachers from primary schools in Serbia was conducted during the realization of one in-service teacher training programme. The questionnaire used for the purpose of conducting this study contained four main parts: (I) questions related to the personal data of teachers (gender, age, years of service in education, the level of previous education, the presence of the courses of history of chemistry and philosophy of science in their previous education); (II) questions related to the views of the teachers on some features of NOS (for example: creativity in science, tentative nature of science) and about the importance of history and philosophy of science in science education; (III) questions related to the views of the teachers about the importance of history of chemistry in chemistry teaching for student's better understanding of chemistry; (IV) questions related to the ways in which teachers present science to students and the types and frequency of students' activities in classroom with potential to improve the level of their understanding of NOS. The questionnaire comprised closed-type questions (multiple choice questions and those with a Likert scale) and open-type questions, requiring the respondents to give appropriate information. The teachers answered to the questions anonymously. The obtained results showed that teachers recognize the potential of the history of chemistry contents to contribute to better student's understanding of chemistry. The teachers' answers showed that they are familiar with some features of NOS but they do not carry out a lot of the activities which provide possibilities to students to perceive NOS and learn about it. The results indicate the lack of courses from the history and philosophy of science during initial education of chemistry teachers. The difference in the acquired knowledge from the history of chemistry and philosophy of science during teachers' initial education do not make significant difference among their teaching practice. Regardless of whether teachers had these courses or not, they rarely use contents associated with the history of chemistry in the classroom.

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References

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- [2] D. Hottecke and C.C. Silva, *Sci & Educ*, 20 (2011) 293