



Chemical Society Annual Report to the EuCheMS Division of Chemical Education for 2014-2015

1. Abstract

The Division of the Chemical Education (Divisione di Didattica Chimica) is one of the 11 Divisions of the Italian Chemical Society (SCI).

<http://www.soc.chim.it/>

This Division was founded in 1977 and since the beginning is including teachers of primary and secondary schools as well as university researchers, lecturers and professors. Since 2002 it is acknowledged by the Italian Ministry of University, Research and Education, to be qualified for the continuous education of in-service teachers.

Its mission is the promotion of the continuous improvement of teaching and dissemination of chemical science at all levels; the strengthening of research in chemistry education both in the schools and in the Universities; the developments of tools to provide a correct image of chemistry and of the work of chemists in a modern society.

SCI offers seminars, national conferences, and workshops for chemists working at all educational levels and aims to maintain the cooperation between teachers (School and University) and chemists employed in public and private laboratories, research institutions and in industries.

The division has about 300 members all over Italy.

2. National educational policy

In the following urls it is possible to access to the most recent documents of the Ministry of Education, Research and University (MIUR) for primary schools and for the secondary education:

http://www.indicazioninazionali.it/documenti_Indicazioni_nazionali/indicazioni_nazionali_infanzia_primo_ciclo.pdf

La presentazione del MIUR

http://hubmiur.pubblica.istruzione.it/web/istruzione/prot7734_12

Secondary Education

Indicazioni nazionali nuovi licei e assi culturali

http://nuovilicei.indire.it/content/index.php?action=lettura_paginata&id_m=7782&id_cnt=10497

http://archivio.pubblica.istruzione.it/normativa/2007/allegati/all1_dm139new.pdf

Tertiary Education

University teaching qualification is under scrutiny.

3. Events in chemical education

A session on Chemical Education was included in the **XXV Congresso Nazionale della Società Chimica Italiana - SCI 2014** held at Università della Calabria in Rende (Cosenza) 7 - 12 Settembre 2014. It was organized by the Chemistry Education Division of the Italian Chemistry Society (DDSCI – Divisione di Didattica Chimica della Società Chimica Italiana). [Dr. Eric Scerri](#) who is full-time lecturer at University of California, Los Angeles (UCLA), gave one of the plenary lectures of the conference on: *"The Periodic System as paradigm for modern chemistry"*.

Number of Participants: 50 Oral contributions 11 Poster contributions 8

The 6th edition of the **National School on Chemical Education Research at University "Ulderico Segre"** was held at Università della Calabria in Rende (Cs) from September 12th to September 15th. It was organized by DDSCI and was dedicated to: *"The teaching of electronic configurations, aufbau principle and electronic structure"*. Professor Eric Scerri (UCLA) was invited for the introductory lecture of the national school. Number of participants: 40

During the opening ceremony Professor [Margherita Venturi](#) of Università di Bologna, was honored with the Medaglia Gabriello Illuminati, which is presented for contributions to the development of chemical sciences with particular reference to education and teaching. Venturi's research involves the design, construction, and characterization of molecular-level devices and machines in the context of the bottom-up approach to nano-technology.

VIII Scuola Permanente per l'Aggiornamento degli Insegnanti di Scienze Sperimentali "Quali conoscenze di base per comprendere l'innovazione?" Hotel Torre Artale Trabia (Pa) from July 2nd to 26st of 2014 on "Nanodevices and Molecular Engines. From Material Science to Life Sciences". The event is organized by Università di Palermo since 2009 and it is organized in the frame of a collaboration between: Ufficio Scolastico Regionale of Sicily, Chemistry teachers Association (AIC), Association for the Teaching of Physics (AIF), the National Association of Natural Sciences Teachers (ANISN) and the Division of Chemistry Education of the Società Chimica Italiana (DDSCI).

4. Publications

DDSCI publishes five issues per year of a journal called **Chimica nella Scuola** with didactical and pedagogical discussions, publication of tested demonstrations and hands-on experiments for students.

It also publishes the Book of Abstracts of DDSCI's National Conferences and Special Editions dedicated to specific topics.

5. Liaison with the chemical industry

Piano Lauree Scientifiche is a national priority program started in 2005 and still on-going. The project aimed at establishing a cooperation among Schools, University and Industries for increasing the interest and enrolments in scientific disciplines and for maintaining and improving the high quality standards of science teaching at high schools and technical schools. It supports teacher training, school-based projects in chemistry and cooperation between schools, research institutions, universities and chemical industry. Teachers of high schools together with researchers of the Universities envisioned laboratory experiments designed so that the students learn chemistry through a so-called working knowledge. Teachers participated in the first phases of the project by designing and executing the experiments together with the researchers on topics that represent the state-of-the-art in science. They also provided an adequate support to the preparation of the students during their lessons. Industries collaborated so far to a minor extent but whenever possible they offered visiting possibilities for classes and /or seminars in the schools.

In collaboration with Consiglio Nazionale dei Chimici, the national association of chemists, a permanent committee named SCI-CNC dedicated to the training of the new teachers and to continuous education of all chemists, both from research institutions and from industry, has been promoted.

6. International and European initiatives

The following research units are collaborating to various projects:

Chemistry is all around us – Marilena Carnasciali – Università di Genova

<http://chemistrynetwork.pixel-online.org/index.php>

7° programma quadro - Irresistibile (Floriano - UniPa and Venturi - UniBo)

PROFILES (Camerino)

7. Other events and activities

The Italian Chemical Society has organized "I Giochi della Chimica" for the selection of the candidates to the Chemistry Olympiads to be held in Baku'.

http://www.soc.chim.it/it/divisioni/didattica/giochi_chimica

http://www.pianetachimica.it/giochi/test_giochi.htm

8. Brief resume or CV of the delegate

Antonella Rossi is tenure professor of analytical chemistry at the Università di Cagliari (Italy). Since the 1st of January of 2014 was nominated as delegate of the

DDSCI at the Division of Chemical Education. She studied Chemistry at the University of Cagliari and she graduated in 1981. She is co-author of 148 papers (130 being in Scopus and WoS databases). Main research interest is Surface Functionalization and Characterization by XPS, AES and ToF-SIMS. She is involved in the ISO SC 201 and in the accreditation of Chemistry Bs, Master and Doctoral courses as Coordinator of the Italian committee for ECTN certification. Since 2015 she is also representing Italy in the IUPAC Chemical Education Committee.