

Catalan Society of Chemistry Annual Report to the EuChemS Division of Chemical Education for 2021-2022

1. Abstract

This report presents the activities related to Chemistry Education and the publications of the Catalan Society of Chemistry for the academic year 2021-22.

Webpage of Catalan Society of Chemistry: <https://scq.iec.cat/>

2. National Educational Policy

The Catalan Society of Chemistry is not involved in issues related to national education policy.

3. Events in Chemistry Education

The events described in sections 4, 5 and 7 are related to Chemistry Education.

4. Activities of the Catalan Chemistry Society

4.1. SCQ Award for students April 22th, 2022 .

On 22 April, at the Sant Jordi Awards Ceremony, the Prize of the Catalan Society of Chemistry for students was awarded to Andrea Suárez Herrera, of the University of Barcelona, for his final degree project «Synthesis of biocompatible metal-organic frameworks and their immobilization on surfaces», carried out under the direction of Drs. Eva Carolina Sañudo and Aránzazu González.

4.2. Youth Section of the Catalan Society of Chemistry (SCQ Young Chemists) . May 23th, 2022 .



On May 23, the founding meeting of the youth section of the Catalan Society of Chemistry (SCQ Jove) was held. About twenty researchers, including doctoral students, master's students and postdoctoral researchers met at the Institut d'Estudis Catalans to start the new project. In this founding meeting, each participant presented their research or professional activity and ideas were shared to form the section and organize activities. The president and the young member of the SCQ attended the meeting on behalf of the board to support the formation of the new section. With this meeting, the SCQ Young Chemists consolidates a stable core of members who will organize activities to facilitate the interaction between scientists working in areas related to chemistry in the Catalan Countries and to disseminate science in Catalan language.

4.3 Debate on Chemistry at the Institute of Catalan Studies (Debats de Química a l'IEC) XXXIV Debate of Chemistry at the IEC and the delivery of the 16th edition of the Awards for High School Research Papers in the Field of Chemistry

<https://blogs.iec.cat/scq/2019/05/09/xxxi-debat-de-quimica-a-liec-programa/>

https://blogs.iec.cat/scq/wp-content/uploads/sites/23/2019/05/XXXI_Debat_quimica_IEC-horari.pdf

This debate was aimed at physics and chemistry teachers at secondary and university levels.

365 tables for 365 days. We celebrate 2019 with #1TPdia

Elements in a box. A periodic table to experiment with.

Debate: How we can contribute to the International Year of the Periodic Table (AITP2019) in the dissemination and teaching of Chemistry?

Exhibition: Elements in a box. A periodic tale to experiment with.

Exhibition of posters from upper high-school research projects presented at the 13th prize ceremony.

Students received “Awards for High School Research projects in Chemistry” and presented their winning research projects.



As in the last editions, poster presentations of selected works that took part in the awards were also included.

4.4. “Awards for High School Research projects in Chemistry” This competition was open to students in upper-secondary school who had finished the research project in the field of chemistry in the academic year 2021-22 and who achieved a good mark. Assessment criteria includes: quality of content, presentation, innovative ideas, experimental work, good research approach, degree of difficulty, development, originality, and creativity of students.

The aim of these awards is to encouraging students and teachers to develop a research question related to chemistry while increasing interest in Chemistry among students. 16th edition, with the collaboration of the Chemistry Departments or the Faculty of Chemistry of all the Catalan Universities (UB, UAB, IQS-URL, UPC, URV, UdG, UdL and UVic-UCC) and some of the most important research institutions (ICMAB-CSIC, IQAC-CSIC, IDAEA-CSIC and ICIQ).

The 1st Prize (ex aequo) for the works: Title: *A touch of blue. The science of blue pigment in pictorial art*, made by Bruna Crossas Martínez, and *The*

4. 5 Exhibition Molecules that have transform our lives. (Molècules que ens han canviat la vida).

<https://expo-molecules.iec.cat/portada/>



The exhibition includes posters devoted to molecules that have marked a before and an after, molecules that have opened new paths to live more and better and that have helped to

solve endemic problems. Drinking water, fertilizers, anesthetics, detergents, antibiotics... are good examples.



4.6. Online Science Activity for the finalists of Awards for High School Research projects in Chemistry .

The best students who took part in the Awards have the opportunity to take part in a scientific online event with researchers of Catalan Universities and Research Centers. The centers that collaborate in this online activity are:

- Institute of Advanced Chemistry of Catalonia (CSIC-IQAC),
- Institute of Environmental Assessment and Water Research of Catalonia (CSIC-IDAEA),
- Institute of Materials Science of Barcelona (CSIC-ICMAB),
- Faculty of Pharmacy and the Faculty of Chemistry at the University of Barcelona (UB),
- Chemical Institute of Sarrià. University Ramon Llull (URL-IQS),
- Department of Chemistry at the Autonomous University of Barcelona (UAB),
- Institute of Energy Technology at the Technical University of Catalonia (UPC),
- Department of Chemistry at the University of Girona (UdG),
- Department of Chemistry at the University of Lleida (UdL),
- Faculty of Chemistry at the Rovira i Virgili University (URV),
- Institute of Chemical Research of Catalonia (ICIQ) and the Faculty of Sciences and Technology
- Technological Center BETA at University of Vic–Central University of Catalonia(UVic-UCC).

These placements help students gain scientific vocation and generate enthusiasm and interest in chemistry.

4.7. Young Catalan Researchers conference



This is a biennial event where postgraduates meet and have the opportunity to discuss research topics.

The last **Young Catalan Researchers conference** (XII Edition) took place in the University of Girona the end of January 20202. More than one hundred participants took part.

<https://scq.iec.cat/?p=10015>

4.8. Act of Recognition of new PhDs, and celebration of Chemistry Nobel Prize

December, 2021

The Catalan Chemical Society celebrated its annual Chemistry Doctorate Ceremony to confer recognition of the new Chemistry doctorates of the academic year.

The ceremony was held jointly with a scientific event for the occasion of the commemoration of the 2021 Nobel Prize in Chemistry.

<https://scq.iec.cat/?p=10129>

4.6. XVIII Conferència Enric Casassas: Els avenços en la mesura analítica [Advances in the analytical measure]

December 18, 2019

<http://blogs.iec.cat/scq/wp-content/uploads/sites/23/2018/12/XVIIIconferenciaECasassas1digital.pdf>

The XVIII Conference (Enric Casassas) aimed to be a fascinating and diverse walk through the advances and challenges that the analytical measure has been able to solve in the last decades.

5. Publications

5.1 Revista *Societat Catalana de Química* (Journal of the Catalan Society of Chemistry)

<http://revistes.iec.cat/index.php/RSCQ/index>

https://scq.iec.cat/?page_id=79

The first issue was published in 2000. It aims to be a focal point of communication between the fellows of the Catalan Chemistry Society: to inform its members about the activities and events organized by the Society, and to disseminate scientific research on any area of chemistry. The basis of the Journal is articles written by recognized professionals. This is an annual publication.

From volume 14/2015 it is only published in electronic version.

PDFs of articles of issue n. 17 (2018) can be found at:

<http://revistes.iec.cat/index.php/RSCQ/issue/view/9748/showToc>



5.2. The journal *Educació Química EduQ* (in English, *Chemistry Education EduQ*)

Educació Química
EduQ



<http://revistes.iec.cat/index.php/EduQ/index>

EduQ aims to be a means of dissemination of information and the exchange of ideas for teaching chemistry at all levels, with an emphasis on Secondary level education. The journal is a tool to facilitate innovative teaching strategies and resources to improve the teaching of chemistry.

The Sections of the journal are: Content Update, Learning of Concepts and Models, Curriculum, Projects and Units, Chemistry Disclosure, Didactic Strategies; Teacher Training; History and Nature of Chemistry, Innovation in the Classroom; Language, Terminology and Communication; New Technologies; Chemistry in Context; Chemistry, Environmental Education and Sustainability; Research in Teaching Chemistry; Didactic Resources; Practical Laboratory; High School Research Projects.

The journal has 64 pages and an average of 8-10 all-color articles. Most of the articles are written in Catalan, but also some of them are published in Spanish, French, Portuguese, Italian and English. In the last 3 years there has only been one issue published per year.

In 2021-22 EduQ n. 27 Chemical Substance and EduQ n.28 Chemical reactions were published. PDFs of all the articles can be found for free on the website.

<http://revistes.iec.cat/index.php/EduQ/index>

5.3 Collection: The classics of chemistry (Els clàssics de la química)

https://scq.iec.cat/?page_id=43

The aim of the collection of books “The classics of Chemistry” is to present to Catalan-speaking chemists a host of published texts (particularly in scientific journals)



addressing key ideas that have revolutionized chemistry and have become vital to the understanding of this field.

Organic synthesis of complex molecules / Elias James Corey; translation, introduction and comments by Àngel Messeguer.

The ninth volume of the collection Classics of Chemistry: "Compendium of a course in chemical philosophy" by Stanislao Cannizzaro, by Mercè Izquierdo.

6. Liaison with the chemical industry

There is no information about this topic in this report.

7. International and European initiatives

In January 2008, the Catalan Society of Chemistry became a member of the European Association for Chemical and Molecular Sciences.

Since then the Society has joined the following divisions and working parties:

- Division of Analytical Chemistry. Delegate: Dr. Romà Tauler
- Division of Chemical Education. Delegate and Deputy: Dr. Josefina Guitart and Dr. Aureli Caamaño
- Division of Chemistry and Energy. Delegate: Dr. Jordi Llorca.
- Division of Chemistry and the Environment. Delegate: Dr. Sílvia Lacorte
- Division of Chemistry in Life Sciences. Delegate: Antoni Planas
- Division of Computational and Theoretical Chemistry. Delegate: Dr. Mercè Deumal
- Division of Green and Sustainable Chemistry: Dr. Nora Ventosa
- Division of Inorganic Chemistry. Delegate: Dr. Guillem Aromí.
- Division of Organic Chemistry. Delegate: Dr. Anton Vidal.
- Division of Organometallic Chemistry. Delegate: Dr. Montse Diéguez.
- Division of Physical Chemistry. Delegate: Dr. Laura Masgrau.

Working groups

- Working Party on Chemistry for Cultural Heritage. Dr. Ana Vila
- Working Party on Formulation in Chemistry: Dr. Jordi Esquena
- Working Party on History of Chemistry: Dr. Pere Grapí
- European Young Chemists' Network (EYCN): Dr. Benjamí Oller