

**IUPAC**  
*International Union of Pure and Applied Chemistry*  
**Activity Report 2021 - Lidia Armelao**

## 1. Introduction

During 2021 all initiatives (conferences, schools, dissemination events, division meetings) related to IUPAC - *International Union of Pure and Applied Chemistry* were virtual, including the 48<sup>th</sup> IUPAC World Chemistry Congress, which took place in Montreal (Canada), 13<sup>rd</sup> – 20<sup>th</sup> August, along with the 51<sup>st</sup> IUPAC General Assembly (9<sup>th</sup> – 15<sup>th</sup> August). Ten Italian Young Observers (YOs) attended the meetings of divisions and standing committees at the 51<sup>st</sup> GA. Such activity is essential for growing future generations of chemists interested to IUPAC. During the WCC a special memory was dedicated by the IUPAC President, Prof. Christopher Brett, and the whole chemistry community to dr. Mario Malinconico, a CNR colleague who served in leadership roles in IUPAC and greatly contributed to the Union, but suddenly passed away in August 2021.

## 2. Main activities carried on by IUPAC during 2021 relevant for Italy and for CNR

IUPAC sponsorship to international high-quality conferences, workshops and schools organized by national institutions:

44<sup>th</sup> International Conference on Coordination Chemistry (ICCC2020)  
*Conference Chairman:* Dr. Maurizio Peruzzini (CNR)  
Postponed to 2022, 28<sup>th</sup> August – 2<sup>nd</sup> September in Rimini.

31<sup>st</sup> International Symposium on the Chemistry of Natural Products and 11<sup>th</sup> International Conference on Biodiversity (ISCNP31 & ICOB11)  
*Conference Chairman:* Prof. Raffaello Riccio (Università di Salerno)  
Postponed to 2022, 23<sup>rd</sup> – 26<sup>th</sup> October in Napoli.

Italian French International Conference on Magnetic Resonance  
*Conference Chairpersons:* Prof. Marco Geppi (Università di Pisa), Dr. Isabelle Landrieu (CNRS)  
*Conference Secretariat:* Dr. Silvia Borsacchi (CNR ICCOM)  
Postponed to 2022, 27<sup>th</sup> – 30<sup>th</sup> September in Milano.

XIII Postgraduate Summer School in Green Chemistry  
*School Chairpersons:* Mirabbos Hojamberdiev, Fabio Aricó, Aurelia Visa, Pietro Tundo  
The school was held in Venice, July 2021, 4<sup>th</sup> – 10<sup>th</sup> July (live and online).  
Topics included: exploitation of renewable resources, new reaction pathways, energy saving, food safety, climate change damages mitigation, education and health.

### Election of Italian representatives and officers in IUPAC divisions and committees for biennium 2022 – 2023.

During the 2021 IUPAC ballot, many Italian candidates proposed from CNR and academia were elected as new representatives in IUPAC divisions and standing committees for the term 2022 – 2023. New elected members are Alessandra Sanson (CNR, Division II, AM), Paolo Maria Scrimin

(Padova University, Division III, TM), Guido Raos (Politecnico di Milano, Division IV, NR), Matteo Guidotti (CNR, Division VI, AM), Michele Saviano (CNR, Division VII, NR), Silvia Borsacchi (CNR, CHEMRAWN, AM), Maurizio Peruzzini (CNR, CHEMRAWN, AM), Elisa Carignani (CNR, CHEMRAWN, invited member).

### **3. Activities carried on by the national representative Lidia Armelao within the Union during 2021 and impact on the Italian scientific community**

#### Participation to IUPAC Projects.

*Toward a comprehensive definition of valence* (Project No.: 2018-030-2-200)

Division of Inorganic Chemistry (Division II)

Task group chair: Pavel Karen

Group members: L. Armelao, I. S. Butler, D. Rabinovich, V. Tomisic, M. Yamashita

Start date: 21/01/2019 – in progress

IUPAC Technical Report in preparation

*Gold book update of terms for inorganic chemistry* (Project No.:2020-022-1-200)

Division of Inorganic Chemistry (Division II)

Task group chair: Milan Drábik

Group members: L. Armelao, S. Chalk, L. Krivosudský, R. Laitinen, R. Macaluso, M. Rancan, K. Sakai, T. Walczyk

Start date: 14/12/2020 – in progress

IUPAC Technical Report in preparation

#### Scientific divulgation

The IUPAC Periodic Table Challenge 2.0 (IUPAC Project 2020-004-1-050) was translated into Italian by the Italian NAO, in order to promote of an educational tool for the knowledge and diffusion of chemistry and make it available to the wider public (<https://iupac.org/periodic-table-challenge/>). Published on-line in May 2021. PTC is now available in English, Spanish, Italian, Russian, Arabic, Chinese.

A special issue has been proposed by Division II on *Pure and Applied Chemistry* (PAC) dedicated to the memory of dr. Mary Good. Guest editors are L. Armelao, L. Öhrström, D. Rabinovich, M. Hasegawa. Dr. Mary L. Good (1931 – 2019) was a leader and pioneer in the field of inorganic chemistry. In addition to a distinguished career in academia, industry, and government, she was the first woman to be elected as head of an IUPAC technical division, serving as President of Division II (Inorganic Chemistry) from 1981 to 1985, and a member of IUPAC Bureau and its Executive Committee for eight years (1985 – 1993).

### **4. Evaluation of the participation in terms of benefits and membership cost**

Participation to the IUPAC Union has as main advantage a wider international visibility and involvement of the Italian scientific community, in particular of CNR. The presence of Italian members in apical positions of IUPAC divisions is increased in 2022 – 2023 thus leading to a higher commitment, especially of young researchers, in IUPAC activities, and to improve IUPAC endorsement and financial support to Italian initiatives.

## 5. Evaluation of Italians' attendance and how to improve interest and involvement

An Italian delegation attended the IUPAC World Chemistry Congress (13<sup>rd</sup> – 20<sup>th</sup> August) and the 51<sup>st</sup> IUPAC General Assembly (9<sup>th</sup> – 15<sup>th</sup> August). Ten Young Observers have represented Italy in the IUPAC General Assembly in Montreal, 2021. The IUPAC YOs program aims at promoting international cooperation of young scientists within IUPAC, and a better knowledge of IUPAC activities and organization. The YOs have attended the meetings of IUPAC divisions and committees during the General Assembly. Italian YOs and their foreign colleagues have already started collaborations for the preparation and submission of joint IUPAC projects.

## 6. Italian experts with important roles within the Union or within related Commissions and Programs (if known)

Division Presidents from Italy elected for the term 2022 – 2023:

- ARMELAO Lidia, President Inorganic Chemistry (Division II).
- METRANGOLO Pierangelo, President Physical and Biophysical Chemistry (Division I).
- TERZANO Roberto, President Chemistry and the Environment (Division VI).

Division Secretary from Italy elected for the term 2022 – 2023:

- TORSI Luisa, Secretary of the Analytical Chemistry Division (Division V).
- TUNDO Pietro, Secretary of the Interdivisional Standing Committee on *Green Chemistry for Sustainable Development* (ICGCSD).

## 7. If Union with CNR Commission, short summary about the 2021 CNR Commission activities

In 2021, the CNR Commission met virtually eight times to plan initiatives and discuss the progress of activities. Meetings were held on January 20<sup>th</sup> (6<sup>th</sup> meeting), March 3<sup>rd</sup> (7<sup>th</sup> meeting), April 7<sup>th</sup> (8<sup>th</sup> meeting), April 23<sup>rd</sup> (9<sup>th</sup> meeting), June 1<sup>st</sup> (10<sup>th</sup> meeting), July 5<sup>th</sup> (11<sup>st</sup> meeting), August 3<sup>rd</sup> (12<sup>nd</sup> meeting), October 19<sup>th</sup> (13<sup>th</sup> meeting). A special logo for the NAO CNR has been created by the students at the Higher Institute for Artistic Industries (ISIA) of Faenza.

The CNR-IUPAC commission *website* is regularly updated with news, initiatives, activities and publications ([www.iupac.cnr.it](http://www.iupac.cnr.it)).

To highlight the great impact of chemistry in the technological progress, the Italian YOs have published a critical contribution where the Top Ten Emerging Technologies 2021 in Chemistry are presented and discussed. The Top Ten Emerging Technologies are 10 technologies that have brought and will bring innovative answers to the greatest global challenges and are selected annually by IUPAC. The contribution appeared in the issue 2-2022 of *La Chimica & L'industria*, magazine of the Italian Chemical Society.

### Dissemination/publications

*Un gioco globale per conoscere la Chimica*. S. Borsacchi, F. Bella, A. Ienco, A. Paci, M. Peruzzini. *La Chimica e l'Industria* - ISSN 2532-182X - 2021, 8(4).  
([https://www.iupac.cnr.it/images/CI\\_News\\_Borsacchi\\_2021.pdf](https://www.iupac.cnr.it/images/CI_News_Borsacchi_2021.pdf)).

## **8. Conclusions**

The activities organized and carried out by the national representative Lidia Armelao and the members of the CNR NAO Commission have significantly increased the Italian participation to IUPAC as well as the IUPAC initiatives in Italy. The continuous CNR action to support the Commission as well as the participation of young researchers to IUPAC projects and to national and international events organized by IUPAC will lead to strengthening the role of Italy in the Union.

Firma

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