

**IUPAC**  
**Activity Report 2020**  
**Lidia Armelao**

**1. Introduction**

All initiatives scheduled in 2020 (conferences, schools, dissemination events, division meetings) related to IUPAC - *International Union of Pure and Applied Chemistry* have been suspended or postponed due to coronavirus disease COVID-19 pandemic.

Most events scheduled in 2021 will be virtual, including the 48<sup>o</sup> IUPAC World Congress, which will take place *virtually* in Montreal (Canada), 13<sup>rd</sup> – 20<sup>th</sup> August, along with the *Canadian Chemistry Conference and Exhibition (CCCE 2021)*.

**2. Main activities carried on by IUPAC during 2020 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)

Scheduled initially in July 2020, 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)

Scheduled initially in October 2020, 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)

Scheduled initially in September 2020, postponed to September 2021 in Milano.

Green Chemistry Postgraduate Summer School

*School Chairmen:* Prof. Pietro Tundo, Prof. Fabio Aricò (University Ca' Foscari Venezia).

The School was held *virtually* in July 2020, 6<sup>th</sup> – 10<sup>th</sup> July.

Topics included: exploitation of renewable resources, new reaction pathways, energy saving, food safety, green Chemistry for cultural heritage, climate change damages mitigation.

Nominations of Italian representatives in IUPAC divisions and committees for biennium 2022 – 2023.

The national representatives in IUPAC bodies, jointly with the CNR Commission, have proposed the Italian candidatures for the elections of new members in IUPAC divisions and standing committees for the term 2022 – 2023. Nominations have been proposed from academia, the Italian

Chemical Society and CNR, with particular attention to scientific areas, gender issues and geographical distribution.

### **3. Activities carried on by the national representative Lidia Armelao within the Union during 2020 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

*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

#### Scientific divulgation

Andrea Marchionni, Lidia Armelao

*Vecchi e nuovi elementi: passato, presente e futuro*

Symposium Proceedings “Il sistema periodico da Mandeleev a Levi” **2020**, pp. 73 – 93.

Società Nazionale di Scienze, Lettere e Arti

DOI: 10.32092/1014

ISBN: 978-88-6906-129-5

Silvia Borsacchi (ICCOM CNR), member of the NAO CNR Commission

Virtual seminar: *ChimicAmaTerra*

European Researchers Night 2020, promoted by the European Commission

(<https://nottedeiricercatori.pisa.it/seminari-2020/>

<https://www.youtube.com/watch?v=-7hbVYsxyJ4>)

The presence of Italy in IUPAC and the role of CNR as National Adhering Organization, NAO, has been highlighted in every scientific activity.

### **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 will increase 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

The CNR Commission has emanated a call for the selection of IUPAC Young Observers who will represent Italy in the forthcoming Union General Assembly in Montreal, 2021. The IUPAC YO program aims at promoting international cooperation of young scientists within IUPAC, and a better knowledge of IUPAC activities and organization. YO will attend the meetings of IUPAC divisions and committees during the General Assembly.

The Italian chemical community is highly encouraged to promote and organize thematic sessions during the next IUPAC World Congress.

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

Division Vice Presidents from Italy elected for the term 2020-2021, will become Division Presidents for the term 2022 – 2023:

- Lidia Armelao, President Inorganic Chemistry Division (Division II);
- Pierangelo Metrangolo, President Physical and Biophysical Chemistry Division (Division I);
- Roberto Terzano, President Chemistry and the Environment Division (Division VI).

Pietro Tundo will continue as Chair of the Interdivisional Committee on *Green Chemistry for Sustainable Development* (ICGCSD).

## 7. If Union with CNR Commission, short summary about the 2019 CNR Commission activities

In 2020 the CNR Commission met virtually four times to plan initiatives and discuss the progress of activities. Meetings were held on July 6<sup>th</sup>, 2020 (2<sup>nd</sup> meeting), September 24<sup>th</sup>, 2020 (3<sup>rd</sup> meeting, extended to no NAO experts), December 3<sup>rd</sup>, 2020 (4<sup>th</sup> meeting, extended to no NAO experts), December 17<sup>th</sup>, 2020 (5<sup>th</sup> meeting).

### Activities of NAO CNR Working Groups (WG)

The activities of CNR IUPAC Commission are listed below, and they are still in progress in 2021.

#### 1. *WG Periodic Table Challenge.*

Components: F. Bella, S. Borsacchi, A. Ienco, A. Paci.

IUPAC Periodic Table Challenge is an initiative based on interactive questions aimed at the dissemination of the chemical culture. The WG will translate into Italian language the IUPAC Periodic Table Challenge 2.0.

#### 2. *WG Emerging Technologies.*

Components: A. Agostiano, M. Guidotti, A. Ienco, A. Paci

The *Sustainable Development Goals* of the United Nations (2015) will be revised at the end of 2020. The WG has the task to prepare a dissemination event of the CNR Commission in occasion of the SDGs updating.

3. *WG Website.*

Component: S. Borsacchi

The WG is aimed at the updating and the renovation of the CNR-IUPAC Commission *website*.

4. *Gold Book IUPAC*

Component: P. Metrangolo

The *Gold Book* will be revised (about 10.000 terms, *post* 2006).

The contribution of the CNR Commission to the reviewing process will be desirable.

5. Translation of the *Emergency Response Guidebook* (ERG) (by M. Guidotti).

Scope of the project is the Russian translation of a *first responder handbook* for accidents due to chemical, biological and radioactive substances. The booklet will also be translated into Italian as required by MAECI.

Nominations for IUPAC election of divisions and committees members

The national representatives in IUPAC bodies, jointly with the CNR Commission, have proposed the Italian candidatures for the elections of new members in IUPAC divisions and standing committees for the term 2022 – 2023. Nominations proposed from academia, the Italian Chemical Society and CNR have been considered, with particular attention to scientific areas, gender issues and geographical distribution. Submission of candidatures is required by February 1<sup>st</sup>, 2021.

Dissemination/publications

M. Peruzzini, M. Guidotti, A. Paci have published an article in the special issue of *La Chimica e l'industria* dedicated to the IUPAC centenary (n. 4, 2020). The paper is entitled *CNR NAO: La voce italiana presso la IUPAC* and describes the programmatic actions of the NAO CNR.

([https://www.soc.chim.it/riviste/chimica\\_industria/rivista/2020/4](https://www.soc.chim.it/riviste/chimica_industria/rivista/2020/4))

**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

Roma, 3 maggio 2021