
Less than a century ago, IUPAC was born, with the main purpose of enabling communication between chemists worldwide. A hundred years later, IUPAC and chemistry are jointly facing world challenges such as globalization, energy crisis, climate change and environmental issues, and it is timely to have a critical and thorough look back with the purpose of equipping the community for the future.

2019 is also the 150th anniversary of Mendeleev’s successful attempt to arrange the chemical elements according to their atomic weights, into what we call the Periodic Table (PT), and the UN has proclaimed 2019 as the International Year of the Periodic Table of Chemical Elements. The three sessions of Symposium 6 will bring together historians of chemistry, and chemists, to tackle the interwoven evolution of IUPAC and chemistry, with a special session devoted to the specific role of IUPAC in respect with the filling of the PT.

Keywords:
IUPAC Centenary, History of IUPAC, History of Chemistry, Periodic Table, Standardization, Heritage, Archives, Oral History, Sites of Chemistry, Chemical Landmarks, Universal Language of Chemistry

Organizers:
➢ Danielle FAUQUE (Université Paris Sud/Paris Saclay, FR)
➢ Brigitte Van TIGGELEN (UCL, Louvain-la-Neuve, BE; Science History Institute, Philadelphia, USA)

Symposium Honorary Lecture:
➢ THL: Carsten REINHARDT (U-Bielefeld, DE)

Session 6.1: IUPAC’s Legacy to Chemistry

Abstract:
This Symposium wishes to address the manifold aspects of the great plasticity of chemistry as a discipline, and the resilience and adaptability of IUPAC to crystallize or promote these mutations. While other historical perspectives can be contemplated (journals, gender issues... etc.), Symposium 6.1 wishes to tackle the following topics:

a. Evolution of the organization of IUPAC in connection to the evolution of chemistry.
IUPAC has undergone several major and minor reorganizations through the century, with the appearance and the disappearance of commissions, following the reshaping of chemical sciences, and the interaction with society and the general public.
b. Instrumental revolution and the role of standards.
One of the main features of modern chemistry is the constant development of analytical methods and the ever-growing number of substances created by chemists, for which IUPAC has secured standards and terminology through the active work of its international commissions and divisions.

c. Education and training in chemistry.
The need for a global perspective on teaching at all levels, especially in non-Western countries with a different scientific tradition, was raised in the 70’s. The fact that the very language of chemistry is created and regulated by IUPAC also contributes to the construction of a universal language to “speak chemistry” across the world.

d. Manpower: the individuals behind the collective enterprise.
In the end, the work is achieved by individuals. This topic wishes to put forward the action of a selected number of strong personalities and active groups involved both in IUPAC and in their own research field, who have served the purpose and shaped the international organization.

For this Symposium 6.1, we welcome papers on all areas of the intertwined development of chemistry and IUPAC during the last 100 years.

Keywords:
History of chemistry, history of IUPAC, standardization, terminology, education, universal language of chemistry

Speakers:
- KN: Yoshiyuki KIKUCHI (Nagoya U. of Economics, JP)
- IL1: Evan HEPLER-SMITH (History Dpt, Boston College, USA)
- IL2: Roberto MARQUARDT (UNISTRA, Strasbourg, FR)

Session 6.2: IUPAC and the heritage of Chemistry

Abstract:
As Chemistry and IUPAC both develop, they leave a rich heritage behind that is at the risk of disappearance. Of course we think of former sites and laboratories, both in academic and industrial settings, or out of date instruments, or teaching and educative collections, personal and institutional papers, books, journals and entire libraries that are deleted because everything is supposedly accessed through the web. This process of disappearance is exacerbated by the emergence of internet and the large use of email and cloud storage, and in the specific case of IUPAC, because of the delocalization of the IUPAC commissions and committees across the world. Correspondence and drafts, and even documents that are not readable by the last generation of software, are thus progressively but surely lost. And yet, this heritage, if preserved, and efficiently brought out to the public, can serve to consolidate the identity of the discipline and IUPAC.
For this Symposium 6.2, we welcome papers that showcase examples of preservation of the heritage of chemistry, be it industrial or academic, with a special emphasis on IUPAC’s legacy and role.

Keywords:
History of IUPAC, history of chemistry, heritage, archives, oral history, sites of chemistry, chemical landmarks

Speakers:
➢ KN: Ana-Maria ALFONSO-GOLDFARB (CESIMA PUC, Sao Paulo, BR)
➢ IL1: Marta C. LOURENÇO (CIUHCT, U-Lisbon, PT)
➢ IL2: Alexander BIERI (F. Hoffmann-La Roche AG, Histor. Archiv Roche, Basel, CH)

Session 6.3: The Periodic Table at 150

Abstract:

In 1869, Dmitri Mendeleev proposed a system to arrange the 63 known chemical elements. 150 years later, with almost twice the number of elements, the elucidation of the atomic structure and the explanation of how atomic weights/numbers relate to chemical behaviour, the Periodic Table remains an icon of the sciences. Since Mendeleev’s first sketches and discussions, many different representations and interpretation have followed, and this symposium will explore the development and history of the PT from the forerunners and competitors, to our days, as well as key moment of the filling of the PT. While IUPAC is not concerned with the format of the table, the organization plays indeed a decisive role in acknowledging the claims, resolving the controversies, bestowing the names of the elements and establishing their characteristics.

For this Symposium 6.3, we welcome papers that deal with the historical development and use of the PT, with an emphasis on the role of IUPAC.

Keywords:
Periodic Table, history of chemistry, history of IUPAC

Speakers:
➢ KN: Michael D. GORDIN (Princeton University, USA)
➢ IL1: Ann E. ROBINSON (Harvard Library, USA)
➢ IL2: Juris MEIJA (NRC, CA)