

## THEME 4: CHEMISTRY AND SOCIETY

### *Symposium 4: Chemistry and Society*

Chemistry, both a science and an industry, achieved an impressive record of new knowledge and knowhow over the last years, in both understanding and transforming matter, and in their applications in analysis and production. Chemistry covers areas as diverse as food, health, welfare, water management, energy, transport, materials, electronics, to name a few.

However, many problems arise with these activities, often associated with mass production: resource depletion, pollution, and impact on human, animal and environmental health. This objective situation is nonetheless perceived by social groups in quite diverse and sometimes subjective ways. On one side, chemists are proud of their contribution to the well-being of humanity. On the other side, parts of the population express a diffuse fear, due to the presence in their environment of a lot of manufactured products, of which the long term environmental and health effects are largely unknown. The distance and misunderstandings between the two worlds are obvious. However, many members of the chemists' community and environmental NGOs are successfully interacting without ideological a priori on these issues. Unfortunately, these debates are often lacking visibility. As a result, the public opinion is left aside and therefore highly formatted through media reports, a problem largely amplified by the wide circulation of uncontrolled data and fake news on internet.

The 2019 international congress celebrating the centenary of IUPAC provides for the first time an opportunity to chemists to debate about the perception of their discipline by the citizens.

#### **Keywords:**

Surveys, regulations, public understanding of science, risk perception, content analysis, experience sampling, doxastic attitudes, scientific outreach, education, communication, media, social networking, science in society, public debate, dialogue, academic and industrial chemists, ethics, whistle-blowers, precautionary principle, ...

#### **Conveners:**

- *Lydie VALADE (CNRS-LCC Toulouse, Chimie et Société/Fondation de la Maison de la Chimie, FR)*
- *Michel CLAESSENS (European Commission, Directorate-General for Energy, ITER, Brussels, BE)*

#### **Symposium Honorary Lecture:** *(short video conference)*

- *THL: Riōji NOYORI (Nobel Prize 2001, Nagoya University, JP)*

### *Session 4.1: Chemistry and Society: current knowledge*

#### **Abstract:**

A number of investigations have been conducted on the role of chemistry in the society and on its perception by citizens. This symposium will consider the information collected

worldwide on the identification of problems emerging from chemicals and on regulations to solve them, compare the different approaches and draw some useful guidelines.

**Keywords:**

Surveys, regulations, sociology, geopolitics, ethics, public understanding of science, risk perception, content analysis, experience sampling, doxastic attitudes, etc...

**Organizers:**

- Marie-Claude VITORGE (*Chimie et Société/Fond. Maison de la Chimie, Paris, FR*)
- Patrick BAUCHAT (*Univ. Rennes, Chimie et Société/Fond. Maison de la Chimie, FR*)
- Fabienne CRETZAZ VON ROTEN (*Faculté Sciences Soc. et Politiques, Lausanne, CH*)
- Hélène MEJEAN (*Consultante, Paris, FR*)

**Invited speakers:**

- KN: Martin W. BAUER (Director of MSc Social and public communication, Professor of social psychology, London School of Economics and Political Science, UK)
- IL1: Nicolas CUDRÉ-MAUROUX (Senior executive vice-president, Solvay, Brussels, BE)
- IL2: Mathias GIREL (Director of the department of philosophy, ENS, Paris, FR)

*Session 4.2: Scientific outreach vs Teaching, Perception and communication in chemistry*

**Abstract:**

Perceptions of chemistry through education or scientific outreach are sensibly different; their articulation should be further considered. Image and Communication receive a renewal of reflection. What does it mean for chemistry? Is it only transmission of information or should it also take into account the interlocutor with his fears, belief, experience and potential valuable contribution? What is the impact of websites on the comprehension of chemistry issues? Participation of teachers, mediators and journalists is expected.

**Keywords:**

Scientific outreach, education, communication, media, social networking, etc...

**Organizers:**

- Arnaud TESSIER (*CNRS-CEISAM, U-Nantes, Chimie et Société/Fondation Maison de la Chimie, FR*)
- Séverine MARTRECHARD (*CNRS-ISMO, U-Paris Sud, Chimie et Société/Fondation Maison de la Chimie, FR*)
- Marie-Blanche MAUHOURAT (*Inspection générale, Ministère de l'Éducation Nationale, Paris, FR*)

**Invited speakers:**

- KN: Elizabeth RASEKOALA (Co-chair, African Gong - the Pan-African Network for the Popularization of Science & Technology and Science Communication, ZA)
- IL1: Carla MORAIS (Science education department, University of Porto, PT)

- IL2: Didier PERRET (Chief communication officer, Chimiscope, University of Genève, CH)

### ***Session 4.3: Chemistry and Society: intensifying the dialogue***

*Invited contributions only.*

#### **Abstract:**

Many public debates address “science and society” topics, but they are often considered inefficient, both by experts who believe that their role is only to provide “objective” information, and by citizens who feel manipulated. What should be changed in the debate organization and the mindsets to improve exchange?

Invited contributions and a panel discussion involving industrial and academic chemists, sociologists, journalists and NGO representatives, will address these problems and analyze the difficulties as well as successful experiences from which guidelines could be identified for developing and improving the dialogue.

This session will be freely opened to the public and a large time will be devoted to the discussion with the audience.

#### **Key Words:**

Science in society, public debate, dialogue, academic and industrial chemists, ethics, whistle-blowers, precautionary principle, etc...

#### **Organizers:**

- *Andrée MARQUET (Sorbonne Université, Chimie et Société/Fondation Maison de la Chimie, Paris, FR)*
- *Jean-Michel LEFOUR (Chimie et Société/Fondation Maison de la Chimie, Paris, FR)*
- *André CICOLLELA (Réseau Environnement Santé, Paris, FR)*
- *Esther GAUDREAULT (Associat. Francophone pour le Savoir-Acfas, Montréal, CA)*

#### **Invited speakers:**

- KN: Yves GINGRAS (Professor of history and sociology of science and technology, University of Québec at Montréal, CA)
- IL1: Pierre BURELLI (President, Dow France, FR)
- IL2: Pelle MOOS (Senior safety and health policy officer, BEUC, European consumer organization, BE)

### **Panel Discussion**

#### **Moderator:**

- Mathieu VIDARD (Producer and host of scientific programs, France-Inter, Paris, FR)

#### **Invited panelists:**

- Ulrike FELT (Professor of science and technology studies , University of Vienna, AT)
- Bernard FERINGA (Professor of molecular sciences, Nobel Prize 2016 in chemistry, University of Groningen, NL)

- Liz HARRIMAN (Deputy-director of Massachusetts TURI, Toxic Use Reduction Institute, USA)
- Stéphane HOREL (Investigative reporter, FR)
- Corinne LEPAGE (Member of the European Parliament, President of LRC - Cap21, FR)
- Pelle MOOS (Senior safety and health policy officer, European consumer organization, BEUC, BE)
- Thorsten PINKEPANK (Director Sustainability Relations, BASF, DE)
- Richard THOMMERET (Research and innovation communication director, Solvay, BE)

### **Symposium Conclusion**

- Cédric VILLANI (Professor of mathematics, Fields Medal 2010, French Parliamentary Office for Evaluation of Scientific and Technological Options, FR)