



CHEMISTRY in Europe

Newsletter for European Chemistry, published by EuChemS

Issue 2021–2

EDITORIAL

The colour of Carbon



In our [2019 periodic table of critical elements](#), Carbon is depicted as large and with a green background. This means plentiful, not coming from conflict zones, and in no danger of supply in the foreseeable future. Shortly after the publication of the EuChemS table, we received a letter signed by over 20 distinguished colleagues asking to reconsider the colour of carbon. They contended that its

likmain sources, hydrocarbons, are often tied to conflict areas, so black should apply to it, ewise gold or tantalum. Additionally, they pointed out that C is characterised by *rising threat from increased use*, which qualifies an element to be orange in our table. In the case of Carbon, the threat is peculiar as it is not strictly connected to the scarcity of the element itself but to the existential threat it poses to humankind in terms of climate change.

This letter sparked discussion within the Executive Board and opinions were varied. Someone noticed that it is hard not to consider C plentiful (i.e., green) due to the huge amounts stored as biomass and in the lithosphere. Others pointed out that the periodic table must contain information only on atoms and not molecules. If we undertake the latter approach, possibly the colour of every element should be reconsidered. In the end, we decided to open the discussion to the whole scientific community and even extend it to other elements. In other words, we want our table to be a living document, periodically updated as a consequence of technological, economic and geopolitical developments. Accordingly, we have implemented a Webinar series on specific critical elements.

Our first “element webinar” was focused (of course) on Carbon. Throughout a whole day, scientists with different background discussed the multifaceted aspects of carbon and the rush to decarbonize our economy. Our webinar was a great success with over 350 participants who connected during the day and listened to talks on several topics that you can watch [here](#) and [here](#). During the webinar we made a poll among attendees on which element should be discussed next. Lithium was the winner. We are definitely going to take this suggestion up!

In the months to come, as the Executive Board, we will continue the discussion on the colour of Carbon and we look forward to receiving suggestions and comments from you all. We still do not know what the colour(s) of C in the next edition of the Table will be. Regardless, I think the only safe strategy to achieve decarbonisation will be to keep fossil fuels underground as much as possible, fostering efficiency and renewability.

In a way, the C webinar set an example. By a rough estimation, our online webinar produced around 0.2 tons of CO₂ in terms of internet videoconference connection, i.e., over a 200x decrease compared to 350 participants flying to Brussels.

After the pandemic disaster, we must critically reconsider the way we communicate and interact. Perhaps, one day, this might help to put an end to the discussion, with everyone agreeing on the only colour the very element of life deserves: green.

Nicola Armaroli,
EuChemS Executive Board member

FOCUS

EuChemS recent science-policy activities

Workshops

EuChemS organised its successful interactive webinar on the Carbon Element on 22 April 2021, which was part of an initiative of the EuChemS Task Group on the Periodic Table. Recordings are now available on the [EuChemS YouTube Channel](#).

Public consultations

Nevertheless, carbon has not been the only chemical element in the spotlights. EuChemS provided its views on the EU’s plan for a complete Mercury phasing-down process to be completed by 2030 by answering to the [Public Consultation of the European Commission on Mercury](#). We also answered to the [Public Consultation on the new soil strategy](#) of the European Commission in which EuChemS underlined the importance of soil in land users’ practices.

High-Level Roundtable for the Chemicals strategy

EuChemS was invited to join the expert group “High Level Roundtable on the implementation of the Chemicals Strategy” set up by the DG Environment of the European Commission. Floris Rutjes, EuChemS President, is presenting more details of the sustainable chemicals policy in the new section ‘[President’s column](#)’ which we are introducing for the first time in this issue of Chemistry in Europe.

EuChemS Secretariat

POLICY

Cornerstone Erasmus+ programme undergoes key adjustments in times of turmoil



Erasmus+

Do we still need to present [Erasmus+](#)? In 2019, nearly 940,000 people in Europe either studied, trained, or volunteered abroad through the European Union's mobility and cooperation programme for education, training, youth, and sport. On 25 March 2021, the European Commission launched the new Erasmus+ programme for the 2021-2027 period together with its first open calls for projects. For this new programme, the focus is on inclusiveness, digitalisation, and sustainability. Nevertheless, the transition between the previous programme (2014-2020) and the new one is starting in challenging times: Brexit, as well as the COVID-19 pandemic, forced the EU to revise one of its most successful flagship programmes to provide an effective response and to stay competitive over the long-term, hence impacting its work programme.

Renewing Erasmus+ in times of COVID-19 and Brexit

In order to reach its ambitious goals, the European Commission went the extra mile and doubled the budget of the new 7-year Erasmus+ programme: €26,6 billion will be invested over this period (€14,7 billion were allocated to the 2014-2020 Erasmus+ programme). The new budget is divided as follows: 83% will go to education and training, 10.3% will be allocated to youth programmes and 1.9% to sports and will ensure the mobility of the 12 million prospective students throughout 2021-2027. Nonetheless, it will also be redistributed between the numerous projects and open calls that are scheduled to open, such as the Centres of Vocational Excellence ([CoVEs](#)): in 2021, €44 million will be invested in the establishment of these European platforms, compared to €20 million in 2020. The call is open for submissions until 7 September 2021. All the European Commission initiatives for the 2021-2027 Erasmus+ period are published on its [website](#); amongst others, the call for Erasmus Mundus Joint Masters is also currently open ([EMJM](#)).

The recent releases of some of [Horizon Europe](#) work programmes give an insight into the possibilities for Erasmus+ & HE joint actions, such as the MSCA's calls for Doctoral networks and Postdoctoral fellowships or EIT's upcoming calls, which will be designed to include additional higher-education institutes and research organisations. Both programmes are intended to foster the career development opportunities for young people across Europe, and include green, digital, and inclusive targets.

“The fact that the Erasmus+ budget for the next seven years has almost doubled shows the importance given to education, lifelong learning and youth in Europe. Erasmus+ remains a unique programme in terms of its size, scope and global recognition, covering 33 countries, and accessible to the rest of the world through its international activities.”

– Mariya Gabriel, Commissioner for Innovation, Research, Culture, Education and Youth,
Source: [European Commission's press release](#)

Nevertheless, the implementation of this new Erasmus+ programme was disrupted by the United Kingdom's withdrawal from the European Union. After Brexit, UK students can no longer take part in Erasmus+, as the UK has stopped participating in the EU programme and it will not join as an associated third country. During the 2014-2021 period, between 16,000 and 17,000 UK students benefited from Erasmus+. For its part, the UK welcomed 31,000 Erasmus students. As a replacement, the UK established its own student exchange programme, the [Turing scheme](#). All is not lost: the UK will associate with Horizon Europe, giving UK scientists and researchers access to most parts of the 2021-2027 EU Framework Programme, including projects in higher domains of education.

The new Erasmus+ programme had to be adjusted to tackle the long-term COVID-19 related challenges on student mobility. As of 2021, the programme includes a “Digital Erasmus+” strand, which allows short-term physical presence abroad, accompanied by online learning activities. But the key novelty is the creation of a European Student Card ([ESC](#)): this digital platform enables every student in mobility to easily identify themselves electronically at higher education institutions in Europe, hence increasing the efficiency of administrative processes by eliminating paperwork and lengthy registration procedures. This initiative is currently being deployed and is expected to be fully in place by 2025.

Towards a more inclusive, greener, and digital programme

The ongoing transition from the 2014-2020 MFF term to the 2021-2027 one makes the Erasmus Work Programme building more complex than it usually is as the next 7-years Work Programme for education, training, youth, and sport has not yet been officially approved by EU institutions. The [annual Erasmus+ Work Programme for 2021](#) is nonetheless on its way to being officially adopted and is intended for the fulfilment of three key priorities: inclusiveness, digitalisation and focus on Higher Education (with the promotion of inter-connected higher education systems).

Putting emphasis on digitalisation will make Erasmus+ a key contributor to the European Education Area's Digital Education Action Plan fulfilment and is highly relevant in the current times of social isolation and loneliness due to the COVID-19 pandemic. Implementing an increasingly digitalised education ecosystem and placing greater value on related competencies is intended to allow for a smooth bottom-up transformation relying on millions of students ready to shape Europe's future.

In alignment with the European Green Deal and the newest R&I Horizon Europe programme, Erasmus+ will also promote education for environmental sustainability and will support greener mobility across Europe. Indeed, the early stages of the 2021-2027 term also imply a bridging step from Horizon 2020 to Horizon Europe. The latter will fully integrate education across its whole framework and through various actions, such as MSCAs or EIT's new KICs. With the overarching aim to modernise academic institutions, the programme also aims to ensure easier access to studies for students coming from disadvantaged backgrounds.

Inclusion comes along as an even more relevant focus area within the Erasmus framework considering that it remains an efficient soft-power instrument that has tightened the links between millions of students from various cultures and played a pivotal role in the emergence of a European identity over its 34 years of existence. Its repeated mentions as a major EU success in Eurobarometer polls indicates how much it has been contributing to reinforcing the EU feeling and promoting EU integration throughout the years.

Supporting traineeships and student mobility in the EU

The European Chemical Society, and more specifically the [EuChemS Secretariat](#), recently had the opportunity to support youth employment in Europe via the Erasmus+ programme. Since 2015, the portal [EU4EU](#) (acronym of "European Universities for the European Union") offers a network platform for university students and companies in the EU. Students affiliated with partner universities can start an internship abroad, which is financed with Erasmus+ funds.

Through the portal EU4EU, EuChemS recruited two master students who are currently undertaking an internship on science policy within the EuChemS Secretariat office in Brussels, Belgium. As one of the host organisations of this Erasmus+ portal, EuChemS aims to support student mobility as well as education across Europe and hopes to facilitate the access to employment for young graduates.



The European Commission is about to launch a commemorative €2 coin celebrating the Erasmus programme's 35th anniversary and its various success stories. The winning design, which was chosen to represent the programme's long-time mission for a united and inclusive Europe, is expected to be released by July 2022 across the Euro-area (19 countries).

Laura Jousset,
EuChemS Science Communication & Policy Officer

Maxine Boi,
EuChemS Erasmus Trainee

Timothée Jourdain,
EuChemS Erasmus Trainee

Sources:

- The Erasmus+ Annual work programme 2021: https://ec.europa.eu/programmes/erasmus-plus/resources/documents/annual-work-programmes_en
- The Erasmus+ annual report 2019: <https://op.europa.eu/en/publication-detail/-/publication/30af2b54-3f4d-11eb-b27b-01aa75ed71a1/language-en>
- The European Commission's Press release about the UK on Erasmus+ https://ec.europa.eu/programmes/erasmus-plus/about/uk-and-erasmus_en

RESEARCH

Between High Analytical Demands and Green(er) Sample Preparation for A Sustainable Future



The beginning of the story on the DAC-EuChemS Sample Preparation Study Group and Network

The step of Sample Preparation is the most critical step in chemical analysis. This “nightmare” of analytical chemists has attracted the interest of experts in the field who have joined forces in the Division of Analytical Chemistry of EuChemS (DAC-EuChemS) Sample Preparation Study Group and Network. Though initially starting as a “Task Force”, it was upgraded to a “Study Group” after the annual evaluation due to its remarkable activity. Study groups are dedicated to important topics of particular importance for EuChemS-DAC, and «Sample Preparation» is now one of the eight Study Groups in this field. The DAC-EuChemS Sample Preparation Study Group and Network is divided into three working groups (WG): 1. Science and Fundamentals, 2. Automation, Innovation and Entrepreneurship, 3. Information Exchange and Networking.

This scientific network is headed by Professor Eleftheria Psillakis from the Technical University of Crete and currently has close to 400 members from 37 countries in Europe, America, Asia, Africa, and Oceania working in academia, research institutes, industry, and private laboratories.

The aim of the network is to promote the science of sample preparation, the facilitation of the exchange of information between research teams, the facilitation of collaborations, the linking of research with innovation, the support of young scientists and the organisation of scientific activities, such as conferences, courses, webinars, support of publications and Special Issues to disseminate new ideas in this field. More information on this action and how to become a member is available at: <https://www.sampleprep.tuc.gr/en/home>

The 1st European Sample Preparation Conference

The 1st European Sample Preparation Conference, organised by DAC-EuChemS Sample Preparation Study Group and Network has concluded. This March, a virtual platform was the international meeting place for researchers and practitioners from all over Europe and overseas, from academic and industrial backgrounds. With the key theme of “Green Sample Preparation”, we opened the gate for all challenging ideas, aspects, and problems in sample pre-treatment. In numbers, the impact of this conference is reflected in 3 plenary lectures, 42 oral presentations, 65 poster presentation (in 2 parallel sessions) and 309 registrations from 35 countries. Contributions from new technologies, and extraction techniques, addressing theory, methods or applications and highlights of new prospects and developments of current importance in analytical extraction and sample preparation were presented. Moreover, in the virtual area of this wonderful event, during the two days, a large pool of new results and brainstorming solutions were reported as well. All in line with the challenging times and high expectations for a “greener” future...

Green and/or sustainable – Quo vadis, dear researcher??

Let's elaborate a bit on “greener” and more “sustainable” ...

For the DAC-EuChemS Sample Preparation Study Group and Network, the annual theme of 2021 is «Green Sample Preparation», and all activities focus on this topic. This theme was chosen because Sample Preparation is central to the sustainable development concept.

Keeping in mind that our primary goal is to provide useful chemical information, sample preparation cannot be avoided entirely. As analytical chemists, we have a mission to meet high analytical criteria for good sensitivity/selectivity, reproducibility, accuracy, low detection and quantification limits and hopefully high robustness of the method we applied for the measurements. What we can do is search and apply, whenever possible, a “greener” solution. For example, how to handle all reagents, after also being used in a “green” way. If it is not green enough (the solvents, reagents, energy consumed...), let’s make it sustainable and in line with a circular economy by avoiding the generation of waste, creating the stream(s) for a new value (product and/or process) of what remained as “surplus”.

Technique, tool, procedure, or method – stay focused!!

Sample preparation is still considered the bottleneck of the whole analytical process. This is not just a technical operation. Researchers need to have a strong scientific focus and always aim to describe the fundamentals behind all the methods applied. On the other side, it is not enough to develop an innovative technology. Comparing with those currently in use is of utmost importance as well as evaluating the advantages and drawbacks of various approaches, based on the “green” profile characteristics of the procedures and the perspective of future trends.

Do we need to make our samples cleaner, to preconcentrate the analytes, or to simply reduce the environmental impact? It is amazing how the advancements in the field of sample preparation, towards more efficient, automated, and miniaturised techniques have been extraordinary.

Biological, environmental and food samples were subjected to cost-efficient sample preparation techniques for the determination of pharmaceuticals, therapeutic and illicit drugs, emerging pollutants, etc. Many novel approaches to sample pre-treatment, for clinical, toxicological studies food quality control and, possibilities for air/water/soil pollution monitoring will come to practice. A serious science, a priori knowledge and experience are needed to prepare the sample for measuring the targeted analytes.

Current practice and future perspectives

So many promising ideas in analytical extractions were presented. We are witnessing a remarkable success of ionic liquids (ILs) as excellent alternatives to traditional organic solvents, in both analytical and bioanalytical chemistry. A tailor-made approach provided them with an uncommon selectivity toward specific groups of compounds even in micro-scale extractions from different matrices. Another promising alternative includes natural deep eutectic solvents (NADESs), due to good tunability, selectivity and, very importantly, sustainability. Both, ILs and (NA)DES, have the potential to be designer solvents, have negligible toxicity, be inexpensive and present themselves as an environmentally friendly alternative to conventional solvents. Moreover, nanomaterials, as renewable sorptive materials, appeared to have potential in various research areas. In addition, the wide variety of polymeric sorbents and magnetic composites offer such unique advantages over traditional silica-based sorbents in solid-phase extractions.

Many procedures were designed for full automation and were based on robust, reliable, commercially available analytical platforms, such as GC×GC-MS² for volatiles. Miniaturised detection systems, downsized sample preparation approaches, single-drop and solvent-free (micro)extraction systems (SPM³, MDSPE⁴ and SPME⁵) for gas, liquid, and solid samples were presented. What is more, integrated sample preparation methods in analytical techniques (HPLC⁶, LC-MS, HILIC⁷, UHPLC-MS⁸) and applications in a wide range of analytical and bioanalytical studies were demonstrated at the highest scientific level. So much to see, listen and learn... Fantastic energy during the conference, in front and behind the stage! I mean the screen... And 100% of voluntary work from the organising team and its leader Professor Eleftheria Psillakis.

All in all, this event was an intellectually rewarding meeting providing new insights and many creative ideas for the future to come. It was an excellent opportunity to share some enthusiasm in exchanging experience and ideas!

See you on the next Sample Prep Conference!

*Slavica Ražić,
Chair of DAC-EuChemS, Professor of Analytical Chemistry, University of Belgrade*

*Eleftheria Psillakis,
Head of EuChemS-DAC Sample Preparation Study Group and Network, Professor, Aquatic Chemistry, Technical University of Crete, School of Environmental Engineering*

*Victoria Samanidou,
EuChemS-DAC Sample Preparation Study Group and Network. Professor of Analytical Chemistry, Aristotle University of Thessaloniki*

A new series of events organised by the Food Chemistry Division



The pandemic situation changed our everyday lives and forced us to move most of in-person meetings to online platforms. Therefore, to build a virtual bridge between scientists and connect European chemists whose scientific work is dedicated to food and food-related topics, the Food Chemistry Division of the European Chemical Society (FCD-EuChemS) created a new series of events entitled “*Webinar series on food chemistry*”.

The 1st webinar was given on the 12 May 2021 by Dr. Reto Battaglia with a talk on: “*Why should anyone need a food chemist?*”. For the Food Chemistry Division, Dr. Reto Battaglia is both a highly-respected former president (1995-2000) as well as an active contributor and, to this day, a good friend. For EuChemS, he was instrumental in the transformation of its precursor FECS into EuChemS, which later evolved into EuChemS, in his capacity as the serving President of FECS in its final period and the first “former President” of EuChemS. Dr. Battaglia began his presentation with a slide showing how chemistry has become a useful tool in food analysis over the years. Then, a few case studies on food research were presented, emphasizing the significant role played by food chemists in the improvement of the quality and safety of food. The opening session was carried out by Nineta Hrastelj, Secretary-General of EuChemS, and Joana Amaral, the Chair of FCD. The whole seminar was moderated by Hans-Jacob Skarpeid (Norwegian Chemical Society).

This event gathered more than 130 participants who were able to ask questions to Dr. Battaglia in the last part of the webinar. An event that was scheduled to last around one hour took more than one hour and a half due to numerous questions raised during the Q&A.

Furthermore, on behalf of the Organizers, we invite you to FCD-EuChemS’ next webinar, which will be held on the 17 June 2021 at 15:00 CEST. The speaker of this webinar will be Professor Dr. Doris Marko from the Department of Food Chemistry and Toxicology ((University of Vienna, Austria)) presenting the lecture entitled: “*Emerging mycotoxins in the food chain*”.

Małgorzata Starowicz,
 Chair of the Food Chemistry Division of the Polish Chemical Society

Cristina Todașcă,
 Secretary of the EuChemS’ Division of Food Chemistry



Dr. Reto Battaglia just before the beginning of webinar.



MEMBERS' PERSPECTIVES

Chemistry goes digital and international

Chemistry goes digital and international

The GDCh Science Forum Chemistry((WiFo) 2021 will take place from 29 August to 1 September and will be for the first time completely online. The most important chemistry congress in the German-speaking region with usually more than 2000 participants from Germany and abroad is organised by the German Chemical Society ((GDCh).



Copyright: P.Schreiner, Photo: Katrina Friese

“Our next WiFo will not only be digital, but also much more international than previous science forums,” emphasizes GDCh President Professor Dr. Peter R. Schreiner. “Most of the scientific presentations will be held in English, and the digital event will make it easier for interested people from all over the world to attend the WiFo.” The GDCh therefore expects a significantly higher number of international scientists than at previous WiFos.

The scientific program includes international top research on socially relevant “megatopics” such as infection research, energy, sustainability, and climate research. Numerous symposia will also be devoted to different fields of chemistry. In addition, some of the GDCh’s most prestigious prizes will be awarded. A poster session and a job fair will enable young scientists in particular to present themselves. In addition, the digital conference platform offers very good opportunities to expand the personal network. Registration will be open from 25 May at <https://en.wifo2021.de>

*Karin J. Schmitz,
GDCh, Head of Public Relations Department*

GDCh supports Citizens’ Council on Climate in Germany

Scientists warn that the climate protection measures initiated so far are not sufficient in stopping the further increase in global warming. In Germany, the share of fossil fuels (coal, oil, natural gas, etc.) in energy consumption was still around 80% in 2019. Politicians fear that they lack the support of the general public for the necessary measures, although according to surveys, a majority of Germans would like to see a more decisive climate policy. At the same time, most citizens do not know what concrete action would have to be taken, what choices are available and what influence these would have on their everyday lives. Following positive experiences in Great Britain and France, the Bürgerrat Klima (Citizens’ Council on Climate) was founded in Germany to help resolve this difficult situation. The German Chemical Society, GDCh, belongs to the circle of supporters of the first nationwide Citizens’ Council on Climate (<https://buergerrat-klima.de>).

Under the patronage of former German President Horst Köhler, 160 people from all over Germany with different backgrounds and lifestyles are discussing in twelve sessions which socially just, ecologically responsible, and economically viable climate protection activities Germany should take in the coming years to ensure compliance with the Paris Climate Agreement. The resulting recommendations are to be handed over to the future coalition partners after the elections in autumn.

*Karin J. Schmitz,
GDCh, Head of Public Relations Department*

MEET...

Welcome in your new role at EuChemS

Maximilian Menche



Maximilian Menche is the new Chair of the European Young Chemists' Network (EYCN). He is currently a PhD Student at the University of Heidelberg

Liva Dzene



Liva Dzene is the new Secretary of the European Young Chemists' Network (EYCN). She is currently assistant professor at cole nationale sup rieure de chimie de Mulhouse.

Lieke van Gijzel



Lieke van Gijzel is the new Treasurer of the European Young Chemists' Network (EYCN). She is currently a Marie Curie PhD student at the TU Darmstadt.

Patrick W. Fritz



Patrick W. Fritz is the new Communication Team Leader of the European Young Chemists' Network (EYCN). He is currently a PhD Student at the University of Fribourg.

Shona Richardson



Shona Richardson is the new Global Connections Team Leader of the European Young Chemists' Network (EYCN). She is currently a PhD Student at the University of Edinburgh

Denisa Vargová



Denisa Vargová is the new Membership Team Leader of the European Young Chemists' Network (EYCN). She is currently a Post-doc at the Max-Planck-Institute.

Claudia Bonfio

Claudia Bonfio is the new Networks Team Leader of the European Young Chemists' Network (EYCN). She is currently a research fellow at the University of Cambridge

Sebastian Balsler

Sebastian Balsler is the new Science Team Leader of the European Young Chemists' Network (EYCN). He is currently a PhD-student at the Goethe University of Frankfurt.

Antonio M. Rodríguez García

Antonio M. Rodríguez García is the new Advisor of the European Young Chemists' Network (EYCN). He is currently a Postdoctoral Research Associate at the University of Castilla-La Mancha.



Rachel Mamlok-Naaman awarded the IUPAC 2021 Distinguished Women in Chemistry or Chemical Engineering

Dr. Rachel Mamlok-Naaman, from the Israel Chemical Society, is currently the Chair of the EuChemS Division of Chemical Education. She is a member of the chemistry group at the Department of Science Teaching, the Weizmann Institute of Science, Israel, where she served both as the head of the National Center for Chemistry Teachers (until present); the coordinator of the chemistry group at the Department of Science Teaching (until June 2016); the coordinator of chemistry teachers' programs in the framework of the Rothschild-Weizmann MSc program for science teachers, and of projects in the framework of the European Union. In addition, she serves as: The chair of DivCED EuChemS, IUPAC Titular member of the committee on chemical education, and executive member of various IUPAC committees, e.g., the Gender Gap Committee. Thus, her publications focus on topics relating to students' learning and to teachers' professional development. For her work on chemistry teachers' professional development in Israel, she was the recipient of several awards: Two from the Weizmann Institute – 1990-Bar-Ner (for teaching), and 2006-Maxine Singer (for professional development of science teachers); ACS award (2018) for incorporation of sustainability into the chemistry curriculum; 2021 Distinguished Woman in Chemistry or Chemical Engineering.

Recently, you were awarded the IUPAC 2021 Distinguished Women in Chemistry or Chemical Engineering Award. Congratulations! How do you feel about this recognition?

I was very excited about being elected and recognised by IUPAC as a 2021 Distinguished Woman in Chemistry or Chemical Engineering. For me, it is an acknowledgement to the fact that loving my profession as well as believing in what I am doing are the main components to success. The passion to research a domain in which I have the opportunity to use the entirety of my mind and soul kept me moving on even when I was faced with difficulties. Science education research in general and chemistry education in particular are composed of many different aspects: curriculum, teachers, students, policy makers, etc. It is always recommended to only focus on a select few aspects. However, a researcher should be acquainted with the other components. The process may be full of hindrances, and I did face quite a number of challenges including personal family constraints, however, I was persistent, loved my research and my practical work, developed self-efficacy, and believed in my ability to make a change.

You will receive your award during the IUPAC World Chemistry Congress in August 2021. The event will be held online, do you know how the award ceremony will take place?

The distinguished women will be honoured during a ceremony which will be held at the IUPAC World Congress in August 2021, and a special symposium featuring the awardees is also being organised. Plans are however being reviewed in the light of the congress becoming virtual.

Awardees have been selected based on excellence in basic or applied research, distinguished accomplishments in teaching or education, or demonstrated leadership or managerial excellence in the chemical sciences. Could you please tell us a bit about how your career has developed?

My research can be described as a spiral procedure, referring to the diverse facets of chemistry education, which are largely integrated with one another. The findings on student learning and motivation guided (and guide) me in designing and revising curriculum materials and professional development (PD) programs for chemistry teachers, since they are the key to the success of their students, implementation of new curricular materials, and reforms in education. Therefore, I always put a lot of emphasis on research regarding chemistry teachers' professional development (PD). I myself was a chemistry teacher for 26 years, part of them – parallel to my work at the Weizmann Institute. More specifically, the professional development programs and models which I developed, implemented and researched over the last 20 years in the Jewish and Arab sectors in Israel, as well as in USA, Georgia, Germany, Singapore, Taiwan, Estonia, Japan, Tanzania, Turkey, Czech Republic, etc., are based on research findings on students' conceptions and misconceptions regarding chemistry learning, inquiry-based skills and activities, including relevance in chemistry education, or teaching and learning in different cultures, e.g., argumentation, asking questions, hypothesising. The chemistry education programs were designed and researched in collaboration with colleagues.

Collaboration with colleagues in Israel and abroad

In education, it is very difficult to reach meaningful achievements without collaboration. For me, as a chemistry teacher, a chemistry regional consultant, a deputy chief chemistry superintendent, and later also a researcher, it would be impossible. When I finished my PhD (1998), I was invited by Professor John Penick to North Carolina State University (NCSU) to spend 3 months at the Department of Education as a Visiting Professor.

I gave and attended seminars and was involved in studies and did my post-doctoral studies on scientific socio-economic issues (Mamlok-Naaman, Hofstein and Penick, 2007). A few months later, I travelled to Ann Arbor, USA, to do my post-doctoral studies at the University of Michigan with Professor Joe Krajcik. My work mainly revolved around "Design-based science education" (Fortus, Dershimer, Krajcik, Marx and Mamlok-Naaman, 2004). This was the beginning of my academic collaboration: (1) travelling to conferences in Israel and abroad, e.g., National Association for Research in Science Teaching (NARST), the European Science Education Research Association (ESERA), the European Conference on Research in Chemistry Education (ECRICE), or Eurovariety, (2) being invited to give key-note or plenary lectures, e.g., ACS PacifiChem meetings, ECRICE in Krakow, Poland, July 2010; Jyväskylä, Finland, July 2014; Gordon Research Conference, June 2015; Barcelona, Spain, July 2016; at ICCE in Malaysia; at the 3rd Conference in Teaching and Dissemination of the Sciences in Portugal, 7 July 2018; 2nd International Conference on Science, Mathematics, Entrepreneurship, and Technology Education in Turkey (on-line), and (3) involvement in collaborative research projects, such as following three consecutive projects of the European Union – EU (2008-2017) in the framework of FP7, which ended at: Popularity and Relevance in Science Education and Scientific Literacy, (PARSEL), Professional Reflection-Oriented Focus on Inquiry-based Learning and Education through Science (PROFILES), and Teaching Enquiry with Mysteries Incorporated (TEMI). Professor Avi Hofstein and Professor Ron Blonder from the department of Science Teaching were also involved in these projects, together with Drs. Dvora Katchevich and Malka Yayon.

At present, I am involved in another EU project together with Professor Ron Blonder: Addressing Attractiveness of Science Career Awareness – SciCar, in the framework of Twinning of research institutions, financed by Horizon 2020. Our partners are Professor Miiia Rannikmae from Tartu University in Estonia, and Professor Jari Lavone from the University of Helsinki. Lately, I have become an external evaluator of different EU projects regarding the enhancement of professional development of science teachers, such as ARTIST, DISSI, and LOVE..

I would like to elaborate on three specific projects:

- The National Center for Chemistry Teachers was established in 1996, with the aim to provide a strong framework for life-long-learning (LLL) to each chemistry teacher. Its objectives are:

(1) designing standards and models for effective professional development based on academic research and development, (2) conducting long term professional development programs for leading teachers, (3) working collaboratively with the chief chemistry superintendent, Dr. Dorit Taitelbaum (3) providing professional consulting based on scientist and science education experts in each of the disciplines, (4) offering prototype courses and teaching/guiding materials, and (4) supporting regional professional development frameworks.

- Participation at Malta Conferences (*Frontiers of Science: Research and Education in the Middle East*, 2014) held every two years, and initiated by Professor Zafra Lerman. These gatherings bring together around a hundred scientists from more than a dozen Middle Eastern countries, including Israel, Jordan, Iran, Egypt and Saudi Arabia. Topics range from materials science, nanotechnology, and medicinal chemistry to environmental issues of concern to the entire region, such as freshwater scarcity, alternative energy, and air pollution.
- Acting as part of an exhibit created for the [Museum of the Civilizations of Europe and the Mediterranean Sea](#), which was inaugurated in Marseille – the city named the European Capital of Culture for 2013. The exhibit created for the museum's opening, attended by France's former President, Francois Hollande, was called *Citizenships and Human Rights*. The exhibit featured nine women, from different walks of life and nationalities, who have made significant contributions to society. In the exhibit, each of the women told her life story and described her philosophy in a filmed monologue; the films are continuously screened on a wall in the museum.

I was one of these women, explaining in the film the importance of science education, which spans borders and cultures, and advances humankind as a whole: "Learning science is an inseparable part of general education – not just a subject for future scientists, but knowledge that is crucial to all citizens of the globe who want to understand the world around them or even make rational choices in their lives. A broad education that includes science may not be the quickest route to economic success, but it is a sure one, and one that enriches the spirit of humanity. It is the essence of what makes us human".



Annual chemistry teachers' meeting, December 2015



Malta conference,
November 2016

I feel that my main achievements are in combining research and practice. I am happy that I had the opportunity to act as a chemistry teacher for 26 years, and to be able to conduct research studies in relation to teaching and learning chemistry.

I am happy that I had the opportunity to act as a chemistry teacher for 26 years, and to be able to conduct research studies in relation to teaching and learning chemistry. In addition, I got to know several aspects of the Ministry of Education through my projects as well as due to my roles as a regional consultant of chemistry teachers, and as a substitute of the chief inspector of chemistry. My experience in the education system helped me in planning and conducting professional development programs in cooperation with science educators in Israel and abroad. I felt the importance of highlighting the point of education through science / chemistry, and not just teaching or learning chemistry. It gave me huge satisfaction to work with teachers from all over the world, and to try to influence their attitudes towards the way in which chemistry should be taught, as well as their motivation to perform changes in their teaching strategies, e.g., planning lessons in which every individual student will be able to express himself / herself and get the chance to understand chemistry.

Moreover, I would also like to mention that my work has been done in collaboration with students and colleagues. I published papers with my students and collaborated with excellent science and chemistry educators from Israel and from abroad, with whom I conducted practical work and research and also published papers in peer reviewed science education journals.

What drove you to pursue a career in STEM?

As a child, I was often asking questions and wondering about what was happening around me. These feelings became deeper when I grew up and wanted to study medicine, hoping to find solutions to many health problems. However, I wanted firstly to study the root of the problems, and therefore I chose to study chemistry. While doing my studies, I noticed that chemistry is a central subject, helping us to understand the world around us, and being connected to other disciplines such as physics, biology, history, technology and humanity. It reinforced my attitude towards chemistry, as well as towards the other connected STEM disciplines. Therefore, as the first stage of my career, I wanted to convey these insights to young students.

I became a chemistry teacher in high schools, loved my work with my students – seeing the sparks in their eyes when they were enthusiastic about something, and years later I pursued academia. My work as a teacher, and my experience with the education system (as mentioned above), helped me a lot in my research studies.

Do you have some advice to give to young people interested in Chemistry studies?

Science in general, and chemistry in particular, helps our understanding of the world around us. Everything we know about the universe, from how trees reproduce to what an atom is made up of, is the result of scientific research and experiment. Human progress throughout history has largely rested on advances in science. Chemistry is sometimes called "the central science", because it bridges physics with other natural sciences, such as geology and biology. Chemistry is connected to real life, as well as to different research areas, such as medications, energy sources, fighting cancer, slowing down global warming, preventing hunger and drought, facilitating human life in space, etc. It is a fascinating subject, with endless career opportunities.

In your opinion, what are the main challenges facing chemical education nowadays, in Europe and beyond?

In my opinion there are three main challenges: (1) Chemical studies are not easy for many students; students are not aware about the variety of career opportunities as chemistry graduates, (2) chemistry is responsible for disasters in the world, e.g., chemical weapons, and (3) there is a belief that by studying subjects such as finance, economics, and computer sciences, their career opportunities will be better, and their salaries will be higher. Therefore, there is quite a lot to be done in the pursuit of minimising these beliefs.

Do you think opportunities for chemists are the same among the different countries of the EuChemS Member Societies?

I am not sure about it, especially when it has to do with women in chemistry. According to UNESCO institution of Statistics, fewer than 30% researchers all over the world are women. Women continue to represent a small proportion of faculty members in science and technology programs, especially in more prestigious research academic institutions, as well as industry. For women in STEM faculties for example, academic tenure often coincides with their child-bearing years, decreased lab space, inadequate resources, lower salaries, and fewer prestigious opportunities. All these aspects make early stages of an academic career particularly difficult. They still need to cope with discrimination with an unconscious bias as well as with the demands of their families.

You are the Chair of the EuChemS Division of Chemical Education. What are some of the moments and achievements from your time as Chair that you are most proud of?

In general, I am always happy when I can meet and interact with scientists from the other chemical divisions and discuss potential collaborations. One of the highlights was the EuChemS General Assembly Meeting in Bucharest, on 3 – 4 October 2019. On 20 January 2021, I initiated a Zoom meeting with the Division delegates and invited Dr. Nineta Hrastelj. We discussed the situation of teaching and learning in the light of the COVID-19 pandemic. The discussion enabled an exchange of ideas, and even highlighting positive aspects regarding the on-line communication system. I felt that looking at the benefits of the technological advancements during these challenging days was beneficial to everybody and moreover – helped us all in conveying the conclusions to the chemistry teachers in their countries, encouraging them, and highlighting some positive aspects of this period. We all stressed the point, that we hope that these positive points will continue, and the educational system will benefit from the fact that teachers developed a more advanced technological literacy (albeit due to problematic times). For our annual meeting (this time at Eurovariety 2021), we (I and the co-chairs – from east and west Europe), will send a letter to the partners, inviting them to discuss some important points, such as: Did I learn new techno-pedagogical strategies to teaching as well as to assessment? Did the on-line teaching encourage the students to develop self and independent learning? Did the on-line teaching encourage me to be more creative and innovative than I used to be? Do I believe that I will integrate the on-line strategies in the face-to-face classes?

Eurovariety is the key conference of the EuChemS Division of Chemical Education. Can you tell us more about the upcoming event?

The 9th European Variety in University Chemistry Education Conference, [Eurovariety 2021](#), will be held from 7 to 9 July 2021 in Ljubljana, Slovenia, as an on-line conference. There will be the possibility of online participation for this event. The Eurovariety 2021 conference, run under the auspices of the [EuChemS Division of Chemical Education](#), will be hosted by the University of Ljubljana, Faculty of Education in Ljubljana, Slovenia.

This conference will bring together chemistry lecturers and educational professionals to improve the understanding of chemistry teaching and learning. They will share and showcase the best practices in the field, and network across the community. Topics:

For university level:

- COVID-19, and teaching and learning chemistry
- Innovative approaches in chemistry teaching
- Application of ICT in chemistry education
- Mentoring chemistry students

For primary and secondary schools :

- Developing competencies of primary and secondary school chemistry pre-service teachers
- In-service professional development of chemistry teachers

Are there other upcoming projects of the EuChemS Division of Chemical Education that you would like to mention?

I would like to mention the DivCED EuChemS meeting which is planned to be held during the 2021 Eurovariety conference. In this meeting, we will discuss further collaborations and projects, hopefully face-to-face. In addition, we started planning ECRICE 2022 in Israel. This conference was planned for 2020 but was postponed due to the COVID-19 pandemic.

This interview is coming to an end, would you like to add a few words?

I hope that I managed to describe my work, which covers a variety of science education facets: research and practice, advising graduate students, collaborating with researchers and science in Israel and abroad, writing in 2014 a Handbook for Reviewers Conference Contributions, together with Martin Goedhart, Iwona Maciejowska, and participating in science education committees of IUPAC (CCE, Gender Gap, Standards in Chemical Education, Systems Thinking), as well as of EuChemS (co-editor of [Chemistry Teacher International](#)); Ethics for chemistry students; Periodic table; Year of Chemistry). I did my best to contribute as much as possible to science education in general, and to chemistry education in particular, and I am very grateful for the acknowledgment of IUPAC: receiving the *IUPAC 2021 Distinguished Women in Chemistry or Chemical Engineering Award*.

*Interview of Rachel Mamlok-Naaman,
 Chair of the EuChemS Division of Chemical Education,
 Conducted by Laura Jousset,
 EuChemS Science Communication & Policy Officer*



2019 EuChemS General Assembly, Bucharest, Romania

Networks

16th Delegate Assembly – Virtual Meeting

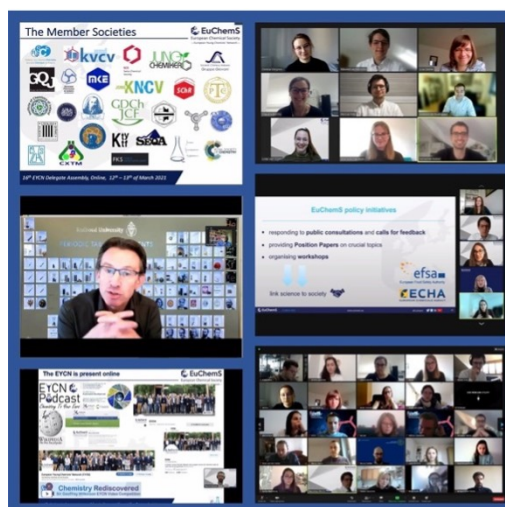
The European Young Chemists' Network (EYCN) continues to bring together young chemists and promote their vision despite the challenges set by the Covid-19 pandemic. Following the spirit of time, the 16th Delegate Assembly (DA) was held virtually on 12 – 13 March, and the original plan to meet in Fribourg, Switzerland was postponed to 2022. The DA was organised through Zoom, Wonder, and Slack, gathering delegates and guests from over 20 countries to discuss the future of the network. Although organised online, the DA was an engaging event with fruitful brainstorming sessions and enjoyable networking.

The DA began with welcome words and brief reports from Dr. Antonio M. Rodríguez García (EYCN Chair), Maximilian Menche (EYCN Secretary), and Dr. Carina Crucho (EYCN Treasurer). The first day of the DA continued with presentation of the teams and ended with a fun chemistry-related pub quiz that will be launched to a wider audience later this year. The second day of the DA opened with a recorded welcome message from the President of the European Chemical Society (EuChemS), Prof. Floris Rutjes, who wished the EYCN a lot of success for the years to come. Joining the DA live, Prof. Pilar Goya (EuChemS Vice-President) gave a comprehensive overview of the EuChemS activities during the past year, highlighting the Global Women's Breakfast, the ceremony for the 2018 EuChemS lecture awardee, the workshop titled The value is on circularity with the European parliament, and the 50th anniversary of EuChemS. A separate session was also dedicated to the EU policy landscape and EuChemS policy initiatives presented by Dr. Nineta Hrastelj, Secretary-General of EuChemS.

This year, the national societies were presented in an engaging poster session followed by small group brainstorming sessions on Sponsorships, the EYCN Podcast, and Outreach initiatives. The last session, moderated by Jelena Lazi and Laura Jousset from EuChemS, highlighted the importance of social media, interaction with the public, and cooperation with national societies. The 3rd edition of the Chemistry Rediscovered EYCN video competition on the theme "Safety in Chemistry" was also launched on 13 March with the support of the Wilkinson Charitable Foundation.

Part of the DA was the election of the new EYCN Board for 2021–2023. Maximilian Menche will continue the work of Dr. Antonio M. Rodríguez García as the next EYCN Chair. Dr. Liva Dzene was elected as the new Secretary and Lieke van Gijzel filled the spot of Treasurer. Additionally, the new Team Leaders were elected including Dr. Denisa Vargová (Membership), Dr. Claudia Bonfio (Networks), Patrick Fritz (Communications), Shona Richardson (Global Connections), and Sebastian Balsler (Science).

The 17th DA will be held in January 2022 by the Swiss Chemical Society in Fribourg, Switzerland, and the 18th DA was decided to take place in the Hague, Netherlands, coordinated by the Royal Netherlands Chemical Society (KNCV) on 18 – 20 August 2023.



Impressions from the
16th Virtual Delegate Assembly

*Katja Väyrynen, Dimitra Pournara,
Communication Team Members*

*Patrick Fritz,
Communication Team Leader*

*Maximilian Menche,
EYCN Chair*

Chemistry Rediscovered



Chemistry Rediscovered

Sir Geoffrey Wilkinson EYCN Video Competition 

Theme: Safety in Chemistry

Step 1 Choose the aspect of 'Safety in Chemistry' that you would like to highlight!

Step 2 Team up with up to three friends and use your imagination and make a 90-second video!

Step 3 Send your submission to science@eycn.eu no later than **30th September 2021!**

First Prize: Trip to Lisbon in 2022!
+ many more prizes

For more information visit:
bit.ly/ChemistryRediscovered2021




During the 16th Delegate Assembly of the European Young Chemists' Network (EYCN), the call for participation for the 3rd edition of the video competition "Chemistry Rediscovered – Sir Geoffrey Wilkinson EYCN video competition" was launched. Participants must highlight an aspect of the subject "Safety in Chemistry" based on a 90-second video. The competition is divided in two groups: under and above 18 years old in order to have fair chances for everyone. The goal of the video competition is to motivate young students for chemistry in general. Chemistry Rediscovered takes place every two years and each time a different aspect of chemistry is highlighted. In the last edition, which took place in the year of the periodic table, the participants had to be creative in order to incorporate the elements of the periodic table. This time, the often-underrated topic of safety in chemistry is the theme and we are very excited to see what the participants will come up with. The deadline for submitting video is 30 September 2021.

For more information visit bit.ly/ChemistryRediscovered2021.

The main prize is a trip to the 8th EuChemS European Chemistry Congress (ECC8) in Lisbon in 2022.

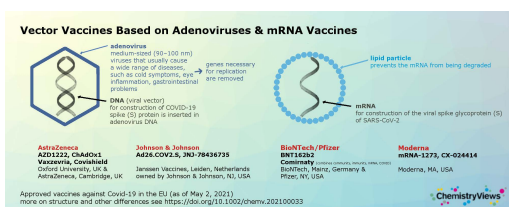
*Sebastian Balsler,
EYCN Science Team Leader*



Chemistry Talks

Comparing COVID-19 Vaccines

Currently, four Covid-19 vaccines have been approved for application in the EU, and partial registration dossiers have already been submitted for others. So far, all approved vaccines show very good efficacy. A Clever Picture just published in ChemistryViews illustrates the structure of the vaccines from AstraZeneca, BioNTech/Pfizer, Johnson & Johnson, and Moderna and compares their ingredients, storage, and administration. Two of the vaccines are vector vaccines based on adenoviruses, the other two are mRNA vaccines. But there are also differences within these two groups. For example, they use different adenoviruses or lipids to package the DNA or mRNA for the construction of the spike protein of COVID-19.



Vaccines typically require years of research and testing before they reach the clinic. However, scientists and regulators have been working extremely

hard, and several vaccines against Sars-CoV-2, the virus that triggers COVID-19, are already in use. The work began in January 2020 with the decoding of the SARS-CoV-2 genome. In March 2020, the first human safety studies of a vaccine began. BioNTech/Pfizer's vaccine was the first to receive approval: first from the UK Medicines Regulatory Agency in December 2020, followed by emergency approvals in the US and the EU. It was the first time an mRNA vaccine received approval and is produced on a large scale.

Read full article in ChemistryViews:
<https://doi.org/10.1002/chemv.202100033>

'Increasing visibility is an important goal'

Professor Floris Rutjes, Vice-Chairman of the KNCV Board, started his mandate as EuChemS President on 1 January 2021 for a period of three years. A perfect time for an interview with this educator, researcher and entrepreneur who excels in each of those fields. In 2002, the KNCV awarded him the KNCV Gold Medal, and in 2008 he won the prize for the most enterprising scientist in the Netherlands.

How did you end up as a volunteer at KNCV? What path did you take within KNCV?

After winning the KNCV Gold Medal in 2002, I felt like doing something for the association in return. As a result, I took on several positions over the years, including serving on the board of the Organic Chemistry Section and the Pharmacology Section. After this, the idea of playing an even greater role within the KNCV slowly began to take shape. Consequently, I rose to the positions of Vice Chair (2015-2016) and Chair (2016-2019) of the KNCV successively. These tasks have provided me with a valuable network and many unique experiences and skills.

What attracted you to run for EuChemS president?

'When my term as president at the KNCV ended, the opportunity arose to run for president of EuChemS. I knew very little about EuChemS when I became president of the KNCV, but in the following years, we at the KNCV

President's Column



EuChemS involved in Sustainable Chemicals Policy

Instead of writing only an editorial contribution at the start of my presidency, I proposed to contribute a column to each issue of Chemistry in Europe to draw attention to particular topics that are relevant for EuChemS members. This first time I would like to focus on policy at the European level. One can read on the website that part of the mission of EuChemS is to 'provide a single, unbiased European voice on key policy issues in chemistry and related fields. That sounds nice, but what does it actually mean?

Let me highlight several examples. To start with, on a regular basis EuChemS is taking positions with respect to consultations of the European Commission, which can all be read on the EuChemS website. Another example concerns the organization of policy workshops on relevant topics, often with participation of members of the European Parliament. During the past month, as part of our strategy to keep drawing attention to the scarcity of elements and inspired by the EuChemS Periodic Table, an online workshop was organised 'The Carbon Element – Key towards a sustainable society', which, with a record number of participants, was a great success.

have become increasingly involved in EuChemS, and have familiarised ourselves with them. The KNCV board eventually persuaded me to run for this position.

What are the main challenges for EuChemS that you want to tackle in your term as president?

'One problem for EuChemS is that there's a much greater distance between us and the 'chemist' than is the case with the national societies. So EuChemS is not really on many people's minds. I am sure that half of the members of the KNCV and the KVCV have hardly heard of EuChemS. Of course, that's a problem if you say that you represent all these members. Name awareness is certainly one of the things we will be working on. Becoming more visible is an important goal. Some of the actions we are taking to achieve this include publicising our awards and our annual recognition of European chemical heritage, as well as producing short films that allow us to contact chemists all over Europe online.

If you would like to know more about Floris Rutjes's views on membership, EuChemS, who will be the winner of the Nobel prize, and much more, then please see the complete interview [here](#).

Why do people believe in conspiracy theories?

Standfirst: Chemical conspiracy theories have grown in recent years and experts are weighing in on what we can do about them. In the age of Covid-19, conspiracy theories are all around us. Some say the virus was created by the military, others blame symptoms on 5G technology and some even say the virus doesn't exist at all. But conspiracy theories are not new. 'They've always been a way of thinking that people turn to in times of crisis, when things are not clear,' says social psychologist Karen Douglas from the University of Kent in the UK.

A major focus of many conspiracy theories is the chemicals in our water, food and in the air we breathe. One of the most recent is the 'chemtrails' theory – the idea that governments are releasing chemicals into the environment via aircraft to control the population. This may seem laughable but recent surveys show a sizeable proportion of the public are open to believing this and other conspiracies, in some cases, with serious consequences. Understanding how these ideas formulate and transmit is becoming a priority for psychologists like Douglas, but what role scientists themselves can play in debunking these theories is still unclear.

What leads people to embrace conspiracies is not straightforward. People are often looking for answers and certainty surrounding an issue, or for safety and a sense of control over their lives and they are often looking for a sense of belonging and community within a like-minded group. One of the greatest ironies is that chemical-related conspiracies do little to hold the chemical industry and government regulators to account where real problems do exist, reflects says Tracey Brown, director of Sense about Science, a UK charity that campaigns for scientific thinking among the public and policy makers.

'To have a sceptical impulse is a reasonable thing – to question what you're told, to know that you get a varnished version of what's going on in the world when you're listening to people who've got skin in the game – that's actually a reasonable position to take in the world,' says Brown. But ultimately the message needs to be that it's scientists, not conspiracists, who have the tools to find the truth.'

Nicola Armaroli, chair of the workshop and member of the EuChemS Executive Board, reports more extensively on this successful virtual meeting elsewhere in this issue.

Another recent example is the selection of EuChemS, represented by myself in my capacity as President, as member of the High-Level Roundtable on the Chemicals Strategy for Sustainability, which has been issued by the European Commission. The main task of this expert group is to support the Commission to realise the objectives of this new and important strategy. We, the European chemical community, are important stakeholders in helping to achieve successful implementation of the strategy, and we would like to contribute by feeding in perspectives on new and innovative science and technology that are relevant to effective chemicals management. Equally important, we will emphasise the role of education, since without training world-class scientists and innovators, we simply would not be able to develop the required sustainable solutions. On 5 May, a first meeting has been held, in which the selected stakeholders could bring in arguments and provide their viewpoints, resulting in a detailed work plan from the European Commission that will be executed in the years to come. This work plan will most likely contain multiple work packages to which EuChemS can provide relevant contributions. Having a large network of chemists behind us, and with active support from our members, I am confident that EuChemS can play an important role as a member of this roundtable!

Floris Rutjes
EuChemS President

CALENDAR

In the current environment and status of COVID-19, some events recognised by EuChemS are being postponed or canceled. However, EuChemS Events calendar is being updated on a regular basis.

If you plan to attend an event, we invite you to check the calendar [here](#).

The recordings of EuChemS online events are available on the [EuChemS YouTube Channel](#).



COLOPHON

Chemistry in Europe (CiE) is the EuChemS quarterly newsletter mainly intended for an audience of chemists. Its objective is to inform the community about research in Europe, to provide updates from EuChemS Member Organisations, and to investigate the latest policy-related developments.

Editorial Board:

Liva Dzene, Pilar Goya, Nineta Hrastelj (Editor in Chief), Laura Jousset (Coordinator), Anna Robinson, Floris Rutjes, Victoria Samanidou, Karin Schmitz, Emmanuel Sinagra, Cristina Todașcă.

Copyright Notice



Chemistry in Europe is published by EuChemS under a Creative Commons license. EuChemS permits others to copy, distribute or display this content if EuChemS is referred as its sources.

