

FASC Newsletter 10, November 2023

This year's Nobel Prize winners (Bawendi, Brus, Ekimov) worked in the area of Quantum Dots. The area of nanochemistry was recognised in this year's Prize. From simple observations, early experiments opened up a large new area of practical chemistry with enormous impact on human life. Interestingly many research groups in African Universities work in this area. Indeed, the late Professor Paul O'Brien, from the University of Manchester, played a key introducing the topic to numerous research groups in Ghana, Tanzania and South Africa through his 'one-pot' synthetic strategies.

Note the request for involvement with the Schoolteachers survey and the request for assistance with the RSC Open Ended Working Group 2, included in the newsletter.

Neil Coville.

Content

ABOUT FASC

- FASC website
- FASC membership and invoices
- Advertising in the FASC newsletter

CHEMISTRY NEWS

- FASC News
- i) FASC Congress first announcement
- Prof Pietro Tundo obituary
- Noble Prize in Chemistry 2023
- IUPAC Survey of High School Chemistry Schoolteachers
- African Chemical Societies News
- i) Senegal: conference
- ii) Mauritania: conference
- iii) Lesotho: report
- ACS: comment In support of our global chemistry community
- Commonwealth Chemistry
- iv) Webinar organised by the Commonwealth Chemistry Early Career Network
- African Conference on Research in Chemistry Education (ACRICE)
- Emerging Chemist's news
- i) Report: Green Chemistry postgraduate summer school
- African Light Sources Program
- Royal Society of Chemistry News
- i) Open ended working Group 2







- ii) PACN meeting in Kenya
- Commonwealth Chemistry
- African Journals of Chemistry

CONFERENCES/WORKSHOPS (Africa)

North Africa

Mauritania

Fourth International Chemistry Day

• Southern Africa

South Africa

CATSA 2023; Catalysis Society of South Africa 16th Frank Warren conference (organic chemistry)

SACI Inorganic and Carman 2024

Chem4Energy

Analitika

CONFERENCES/WORKSHOPS (International)

Biophysics in Africa conference,

DETAILED CONFERENCE INFORMATION

See adverts at the end of the Newsletter

See FASC website for data on conferences https://www.faschem.org/

ABOUT FASC

FASC website

The FASC website is now up and functioning. Information on the FASC history, the updated FASC constitution, old copies of the newsletter, copies of the African Journal of Chemistry etc., has been loaded onto the site. https://www.faschem.org/

FASC membership and invoices

Payment of fees

Online payment is now available to all Members and Societies

Please email <u>fasc.chem@wits.ac.za</u> and request an online payment link – Note it will be in ZAR. The <u>Equivalent daily</u> rate will be used when the payment link is created. You can enter card details via a safe site.

Mrs Laila Smith

Membership Fees

Please apply online: http://www.faschem.org/contact/membership_application

Advertising in the FASC newsletter

The newsletter will provide a means of getting messages to our member countries. This newsletter thus provides a means of advertising employment opportunities, conferences, and workshops, and even for companies/Universities to promote themselves. We encourage member countries to use the Newsletter for advertising purposes. All conferences and events will be advertised for free; if not a FASC country, there could be a small charge. For advertising costs, contact the FASC office in South Africa: laila.smith@wits.ac.za

CHEMISTRY NEWS







FASC news



i) FASC Congress first announcement

7th ANNUAL DAYS OF CHEMISTRY OF SENEGAL AND 9th FASC CONGRESSES (FASC|JACS 2024)

Chemistry, a lever for sustainable development of African countries 19-21 November 2024, Radisson Blu Hotel, Dakar Sea Plaza, Senegal

FIRST ANNOUNCEMENT

Overview

Senegal will host the African Chemical Societies for the General Assembly of the Federation of African Societies of Chemistry (FASC), It will be held in conjunction with the Annual Days of Chemistry of Senegal (Journées Annuelles de Chimie du Sénégal - JACS), the major event of the Senegalese Committee for Chemistry (CSC), from 19 to 21 November 2024 at Radisson Blu Hotel, Dakar Sea Plaza, Corniche Ouest, Dakar, Senegal. The conference is themed "Chemistry, a lever for sustainable development of African countries".

FASC|JACS 2024 will be jointly organized by CSC and FASC along with their partners among which are RSC, ACS, IUPAC, OPCW and West African Society of Chemistry (SOACHIM/Senegal) and in collaboration with Senegalese universities. The aim of this conference is not only to bring together Africa's scientific, technological and industrial communities, but also to rethink together a structurally sustainable development centered on mankind and its priority investments. Chemistry is heavily involved in solving problems of African societies linked to health, energy, environment, water supply and nutrition, and therefore plays a key role in the sustainable development of African countries.

The Covid 19 crisis revealed the fragility of African economies and the need for genuine policies of sovereignty in the fields of pharmaceuticals, health, food, energy and more.

Africa has a very low profile at IUPAC. Senegal is one of 4 African countries and the only French-speaking member of IUPAC, with CSC as its National Adhering Organization. This conference is an opportunity for FASC and IUPAC to recruit new members.

Topics

The following topics will be developed around this general theme:

- 1. Green chemistry
- 2. Sustainable materials
- 3. Water and environment
- 4. Electrochemistry and nanotechnology
- 5. Chemistry and health
- 6. Miscellaneous

Abstracts

Abstracts for all oral and poster presentations must be written in English, on a single page, in Word format (1.15 line spacing, Times New Roman font, size 12) and include the title, authors and affiliations, abstract text, keywords and references (if any). Abstracts should be submitted simultaneously by e-mail to the following 3 addresses:

Prof. Matar Seck: matar.seck@ucad.edu.sn

• Prof. Modou Fall: modou.fall@ucad.edu.sn







Prof Pietro Tundo - obituary

Communication from the GREEN SCIENCES FOR SUSTAINABLE DEVELOPMENT FOUNDATION

With great sorrow in our hearts, we comunicate to you that last night (Monday 30th October, 2023) Prof. Tundo passed away. As many of you might already know, Prof. Tundo was struggling with his health issues in past months and in the last week his condition worsened.

Prof. Tundo was a great scientist, creative and proactive, always at the forefront of promoting green chemistry all around the world. I am sure that many of you have shared good memories with him also thanks to the Green Chemistry Summer Schools in Venice and Prof. Tundo was grateful for each one of your contribution to this project.

Professor Tundo's funeral will be celebrated on Friday at 11:00 at Parrocchia Santa Maria Ausiliatrice in Gazzera, address Via Asseggiano, CAP 30174, Chirignago-Zelarino- VENEZIA.

For any of you who would like to send a thought of condolence, we will collect every item to the GSSD Foundation Office and deliver it to the family of Prof. Tundo.

I also personally thank you for your support and affection in this very sad moment.

Graziana Gigliuto, International Secretariat, GREEN SCIENCES FOR SUSTAINABLE DEVELOPMENT FOUNDATION, GSSD Foundation. https://www.gssd-foundation.org/

Obituary

Prof Pietro Tundo was a great friend to many young African chemists. His enthusiasm for his subject, his organisational skills and his ability to interact with others - young and old - were what made him a unique and towering figure in the Green Chemistry World. He was a great supporter of young researchers in the subject of Green Chemistry on the African continent and this cohort of researchers will miss him.

I first met and interacted with Pietro when he was one of the keynote speakers of an IUPAC Green Chemistry event held in Durban, South Africa, in July 2014. He had a special focus on supporting young chemists from Africa at his annual IUPAC Green Chemistry events (held in Venice). This included ensuring financial support for students to attend the meetings both virtually and face to face in the form of bursaries. The large number of students from many, many countries in Africa who attended this annual event was due to his vision and personal support. Indeed the statistics that he showed every year revealed the effect he had on ensuring countries from all over Africa were well represented at the events. He was also involved with a FASC (Federation of African Societies of Chemistry) conference held in Tanzania in 2017 where he obtained IUPAC support for a Summer School on Green Chemistry.

Neil Coville

Nobel Prize in Chemistry - 2023







The Nobel Prize in Chemistry 2023: The Royal Swedish Academy of Sciences has decided to award the Nobel Prize in Chemistry 2023 to

Moungi G. Bawendi Massachusetts Institute of Technology (MIT), Cambridge, MA, USA

Louis E. Brus Columbia University, New York, NY, USA

Alexei I. Ekimov Nanocrystals Technology Inc., New York, NY, USA

"for the discovery and synthesis of quantum dots"

The Nobel Prize in Chemistry 2023 rewards the discovery and development of quantum dots, nanoparticles so tiny that their size determines their properties. These smallest components of nanotechnology now spread their light from televisions and LED lamps, and can also guide surgeons when they remove tumour tissue, among many other things. Everyone who studies chemistry learns that an element's properties are governed by how many electrons it has. However, when matter shrinks to nano-dimensions quantum phenomena arise; these are governed by the size of the matter. The Nobel Laureates in Chemistry 2023 have succeeded in producing particles so small that their properties are determined by quantum phenomena. The particles, which are called quantum dots, are now of great importance in nanotechnology. "Quantum dots have many fascinating and unusual properties. Importantly, they have different colours depending on their size," says Johan Aqvist, Chair of the Nobel Committee for Chemistry. Physicists had long known that in theory size-dependent quantum efects could arise in nanoparticles, but at that time it was almost impossible to sculpt in nanodimensions. Therefore, few people believed that this knowledge would be put to practical use. However, in the early 1980s, Alexei Ekimov succeeded in creating size-dependent quantum efects in coloured glass. The colour came from nanoparticles of copper chloride and Ekimov demonstrated that the particle size afected the colour of the glass via quantum efects. A few years later, Louis Brus was the frst scientist in the world to prove size-dependent quantum efects in particles foating freely in a fuid. In 1993, Moungi Bawendi revolutionised the chemical production of quantum dots, resulting in almost perfect particles. This high quality was necessary for them to be utilised in applications. Quantum dots now illuminate computer monitors and television screens based on QLED technology. They also add nuance to the light of some LED lamps, and biochemists and doctors use them to map biological tissue. Quantum dots are thus bringing the greatest beneft to humankind. Researchers believe that in the future they could contribute to fexible electronics, tiny sensors, thinner solar cells and encrypted quantum communication – so we have just started exploring the potential of these tiny particles. 4 October 2023

Website pre<mark>ss rel</mark>ease

Further information: www.kva.se and www.nobelprize.org

IUPAC Survey of High School Chemistry Schoolteachers

The IUPAC Committee on Chemical Education is supporting a new initiative called the

International Survey of High School Chemistry Schoolteachers on their use of Practical Activities







The survey asks teachers about how and why they use hands-on practical activities in classes, challenges they face, and if any of these activities related to **green and sustainable chemistry**. The project website will also collect examples of green and sustainable chemistry practical activities from teachers around the world. The survey is anonymous, online, and where possible in the local language of the teacher.

To date, we have over **fifty countries** involved, with the survey translated into **twenty-five languages**. A map of current countries committed is on the project website (https://eschemistry.org/iupac-survey/)

The project has a commitment to include low- and middle-income countries, by supporting **one or more chemistry education lecturers/teacher educators in each country** to:

- If required, translate the survey into a local language
- Ensure the survey reaches schoolteachers
- Develop relationships with schools to collect examples of practical activities
- Be part of cross-country teams to disseminate national and international research findings including at conferences such as ICCE and ACRICE.

Would you like your country to become involved? Would you like to be a country coordinator? Please email the project team (eschemistry@deakin.edu.au) or one of the IUPAC Task Group chairs.

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African Chemical Societies News

i) Senegal

Senegal will host the African Chemical Societies for the General Assembly of the Federation of African Societies of Chemistry (FASC), It will be held in conjunction with the Annual Days of Chemistry of Senegal (Journées Annuelles de Chimie du Sénégal - JACS), the major event of the Senegalese Committee for Chemistry (CSC), from 19 to 21 November 2024 at Radisson Blu Hotel, Dakar Sea Plaza, Corniche Ouest, Dakar, Senegal. The conference is themed "Chemistry, a lever for sustainable development of African countries" (see above for more details).

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ii) Mauritania

The Mauritanian Chemical Society are organising their fourth International Chemistry Days (JIC 2023), 09 to 11 December 2023 at the Nouakchott Hotel; Nouakchot; Mauritania. https://www.scmauritania.org/jic2023/







Contact M A Sanhoury (JIC 2023 Committee) for information; also, the advert at the end of the newsletter

iii) Lesotho



Chemical Society of Lesotho holds a Hydrogen Webinar

The Chemical Society of Lesotho held a Hydrogen Webinar on the 8th of October 2023. The webinar was in response to the public discourse over the impending **Metsi ke Bophelo Water and Hydrogen in a Digital Future Conference and Expo** that was held in Lesotho on 12 to 13th October, 2023. The Webinar that was attended by a recorded 300 participants from countries as far afield as Europe and America, with areas of trade in politics, diplomacy, engineering, media, etc. was led by eminent members of the Society and scholars from the National University of Lesotho, namely, Dr Emannuel B. Tanor, Professor Mosotho J. George and Dr Thabang Ntho.

This Webinar covered areas such as explaining what hydrogen is, the chemistry and physical properties of hydrogen, history of hydrogen as a fuel - from the science fiction writing in 1874 that predicted that water would be the future oil, to the latest surge in hydrogen energy hype, different production approaches, and why Lesotho is ideal for hydro-generation to the policy and political considerations. The audience received the lecture with a lot of enthusiasm and the Society received very positive feedback. The link to the recording can be accessed https://fb.watch/nLOWmFDrGw/

Subsequent to the Webinar, the President of ChemSoL was invited to make two presentations in the Hydrogen Conference on the *human capital development* and *the implications of Hydrogen economy on climate change respectively*. The Society was further tasked with compiling the report for this important national event. It is hoped that this appointment is the beginning of recognition and will give the Society some impetus going forward.

The next event is the Annual Mole Day to be staged as a webinar on the 27th October 2023. ChemSoL wishes to invite other Societies to join the webinar and contribute papers to this event. So far one member of Botswana Chemical Society has submitted an abstract for this webinar.

Prof Mosotho George

ACS comment on the global chemistry community

The article written below is by former ACS President, Prof Angela Wilson

Chemical scientists are also vital in addressing many global scientific R&D and manufacturing issues.







It is hard to believe that my time in the American Chemical Society presidential succession is ending soon. It has been a tremendous honor to serve ACS in this way. There have been many highlights, and among the best moments have been engaging with members in our local sections, student chapters, divisions, international chapters, and international student chapters. I have been impressed by the activities and involvement of members in so many places across the globe. After visiting with numerous members around the world, I believe we need to build stronger connections between our international members, chapters, and student chapters and our domestic ones. Sharing more of our science and activities, legislative policies that impact the chemical sciences, and our collective best practices in education and training will enable our community to better address global scientific challenges and current and future workforce needs. ACS has already made appreciable efforts to build these bridges through rich offerings of opportunities. For students, ACS offers an International Research Experience for Students program, leadership programs, and travel awards. For professionals, ACS provides Global Innovation Grants and Global Innovation Imperatives funds to foster international collaborations toward addressing global challenges. But there is still more ACS can do to build bridges. During my visits, with each research presentation, innovation, or chapter idea that I heard, I identified connections that would benefit multiple potential global partners. Making these connections happen needs much more than just one matchmaker. ACS as a whole needs to come together to help build these bridges. Members currently have the opportunity to vote on a proposal to include an international member on the ACS Board of Directors. I wholeheartedly support this proposal. It will provide a stronger bridge to our international membership and help with identifying and creating global activities and collaborations. There is also a second proposal—one that is in the earlier stages of consideration—to include international members on what is now a national ACS Council. We are not at all the first "American" society to offer international members a voice in governance. Many others, including the American Physical Society and the American Association for the Advancement of Science, have international representation in their leadership. Globally, society is encountering numerous scientific challenges. Chemical scientists already play a critical role in addressing many of them. Often, legislative leadership and a general understanding of the science underlying policy and policy decisions are also necessary. Policies made in Europe can affect companies in the US. Policies in the US can affect manufacturers in Asia and Africa. It is therefore important that the global scientific community communicate about its work with a voice that is accessible to the public and legislators. What are we doing? Why is it important? What are the underlying global consequences of policies or potential policies? It is vital that ACS members as well as the society interact with legislators to indicate how the chemical sciences tie into so many policies—including those in health, the environment, energy, the economy, education, and national security. We must also champion support for science globally and for a strong international network of chemical scientists for the future. Chemical scientists are also vital in addressing many global scientific R&D and manufacturing issues. For example, there is currently a critical shortage of carboplatin and cisplatin, two essential cancer treatments that were discovered at my home institution, Michigan State University. A survey of 27 US cancer centers in May 2023 revealed that 93% had a shortage of carboplatin and 70% had a shortage of cisplatin. These drugs are being rationed. This is an unacceptable situation, and as a chemistry community, we should be working globally to ensure that our supply pathways are strong and that our manufacturing practices are sound. Every ACS member has a role to play in helping ACS fulfill its mission of "advancing the broader chemistry enterprise and its practitioners for the benefit of Earth and all its people" and its vision of "improving all people's lives through the transforming power of chemistry." To truly have a transformative impact on the world, all of us must work







together—to enable the necessary innovative discoveries, to teach the next generation of scientists, to communicate effectively with our legislators and the public, and to do so much more. It has been a true honor to serve as ACS president-elect, ACS president, and ACS immediate past president, and I look forward to seeing the ongoing steps that ACS takes to positively affect our community and our world globally. Views expressed are those of the author and not necessarily those of C&EN or AC

OCTOBER 16, 2023 | CEN.ACS.ORG | C&EN 35

In support of our global chemistry community

ANGELA K. WILSON, ACS IMMEDIATE PAST PRESIDENT

African Light Source Project

Update on the activities of the African Light Source and Biophysics in Africa conferences.

We just had a very successful Biophysics in Africa conference. We had <u>presentations</u> reflecting the breadth of the field, from computational analysis and electrophysiology, to structural biology and molecular virology. We are planning the next conference for 18 - 22 March 2024 during the global Biophysics Week, https://conference.africanbiophysics.org. We very much hope that the Federation of African Societies of Chemistry will fully participate.

We are advancing in our discussion towards founding a formal biophysics professional society on the continent. The discussion may result in some firm actions at next March's conference.

Before then there is the African Light Source conference, 13-17 November, https://conference.africanlightsource.org. We hope FASC will participate fully in this conference as well.

In addition to the scientific program, we also will have a science policy and diplomacy program. Particularly on Monday 13 November we will have a forum with African science ministers, and on Tuesday 14 November there will be a forum on grassroots science policy and diplomacy via NGOs.

Lawrence Norris, African Light Source Foundation. African Physical Society lnorris@africanlightsource.org

Royal Society of Chemistry News



i) Open Ended Working Group 2

In December, the Open Ended Working Group 2 (OEWG2) for the creation of a UN science policy panel (SPP) on chemicals, waste, and pollution will be considering the idea of capacity building as an aspect of the future panel's work programme. As you may imagine, there are varying views of what capacity building means in the context of an international scientific body –







and many countries are interested (positively and negatively) in the monetary implications of such activities.

The Royal Society of Chemistry would like to provide an alternate perspective from the scientific and technology community on the issue, focusing on what type of capacity building is desired by and useful to scientists around the world. In order to build out a case for capacity building, we are looking for examples of scientists participating in or receiving capacity building. Any reference material, such as links to websites, reports, or testimonials, would be useful. For reference, the UN defines capacity building as 'the process of developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need to survive, adapt, and thrive in a fast-changing world.'

If you're an African scientist who's participated in or received capacity building, please give your observations through the short survey which you access through the link below. Your input will be invaluable during the deliberations.

Dr. Jamal Hassan

Programme Manager, Pan Africa Chemistry Network, Royal Society of Chemistry www.rsc.org

ii) PACN meeting in Kenya;

This meeting will now take place in late 2024. More information will be available later in the year

Commonwealth Chemistry

i) Webinar organised by the Commonwealth Chemistry Early Career Network

Details on a webinar entitled "Pathways to success" will be held on the 21st November 2023 are given below











Prof. Priyani Paranagama - University of Kelaniya <priyani@kln.ac.lk>

African Journals of Chemistry

African Journal of Chemical Education (FASC)

Enquiries and manuscripts should be addressed to the Editor-in-Chief: email <u>eic@faschem.org</u>, PO Box 2305, Addis Ababa, Ethiopia.

Dr. Temechegn Engida e-mail: temechegne@faschem.org

See the FASC website for a complete list of Journals

CONFERENCES/WORSHOPS (AFRICA)

See the FASC webpage for more details on the conferences listed below

West Africa

Nothing to report

North Africa

Mauritania

• **Fourth International Chemistry Days** (JIC 2023), 09-11 December 2023, Nouakchott Hotel; Nouakchot; Mauritania. https://www.scmauritania.org/jic2023/

Southern Africa

South Africa







- CATSA 2023, Catalysis Society of South Africa, Mossel Bay, South Africa. 14–17th November 2023
- **16th Frank Warren conference (organic chemistry)** 3-6 Dec 2023, Polokwane, South Africa. https://www.saci.co.za/FW2023/
- **SACI Inorganic and Carman 2024** 4-6th June 2024, Drakensberg Mountains, South Africa
- Analitika 2024 0-14th March, 2024, Drakensberg Mountains, South Africa
- Chem4Energy 20-24th March 2024, MuldersDrift, South Africa

Conferences/Workshops (International)

see FASC website

Conferences/Workshops details









The Road to POLOKWANE

The End is Nigh! Register NOW!

All Registrations close 20 October 2023

If you are already coming, please "pump us up" on the socials! #FrankWarren2023





Federation of African Societies of Chemistry

Chem4Energy Annual Conference







Materials and Processes for a Sustainable Energy Future

Wednesday 20 - Sunday 24 March 2024 Muldersdrift, South Africa

Dear colleagues

On behalf of the organising committee we would like to remind you that we are now accepting abstract submissions for oral or poster presentation at the 2024 Chem4Energy Conference on 'Materials and Processes for a Sustainable Energy Future'.

The abstract submission deadline for the Chem4Energy 2024 Conference has been extended and we look forward to receiving any final abstract submission via the <u>conference website</u> by Friday 17th November.

Full details of the submission process are available on the conference website.

The 2024 Chem4Energy Conference will be held in **Muldersdrift**, South Africa, on **Wednesday 20 – Sunday 24 March 2024**. The Chem4Energy community has grown out of several collaborative UK-Africa consortium programmes and 2024 will see the third in this series of annual meetings, which focus on

- Highlighting the synergy between experiment and computation
- Offering opportunities for early career researchers to disseminate their work in oral and poster presentations
- Allowing plenty of opportunity for discussion of the research presentations

The Chem4Energy conferences aim to bring together local academic and industrial researchers and developers from Southern Africa with colleagues from Europe, the USA and further afield, to discuss the latest developments in sustainable energy materials and processes, build new collaborations, and influence and support future directions in the field of sustainable energy research.

Although contributions in all areas within the Chem4Energy remit are welcome, core themes of the 2024 meeting include:

- Homogeneous and heterogeneous catalysis for clean energy production
- CO2 capture and utilisation
- Materials for solar energy devices
- Nuclear energy
- Hydrogen production, storage and transport
- High-performance computing in energy research

Keynote speakers (announced to-date):

- Professor Robin Grimes, Imperial College London, UK
- Professor Chris Hardacre, University of Manchester, UK
- Professor Patricia Kooyman, University of Cake Town, South Africa
- Professor Phuti Ngoepe, University of Limpopo, South Africa
- Dr Happy Sithole, National Integrated Cyber-Infrastructure at CSIR (NICIS), South Africa
- Professor Magda Titirici, Imperial College London, UK

Key Dates:

- Registration opened: Friday 11 August 2023
- Abstract submission deadline for oral or poster presentation: Friday 3 November 2023
- Bursary applications: Friday 10 November 2023
- Abstract acceptance notification (oral or poster): Friday 8 December 2023
- Registration deadline for presenting authors: Friday 12 January 2024
- Registration closes: Friday 26 January 2024







Please take the time to explore the <u>conference website</u> for details on key dates; abstract submission; registration and accommodation; and to keep yourself informed of any changes. If you have any questions or enquiries after visiting the site please email the Conference Secretariat Chem4Energy@leeds.ac.uk.

We look forward to receiving your abstract submission and to your presence at the 2024 conference.

Organising Committee

Professor Cornie van Sittert, North-West University, South Africa

Dr Marietjie Ungerer, Cardiff University, UK

Professor Nora de Leeuw, University of Leeds, UK; Utrecht University, The Netherlands













