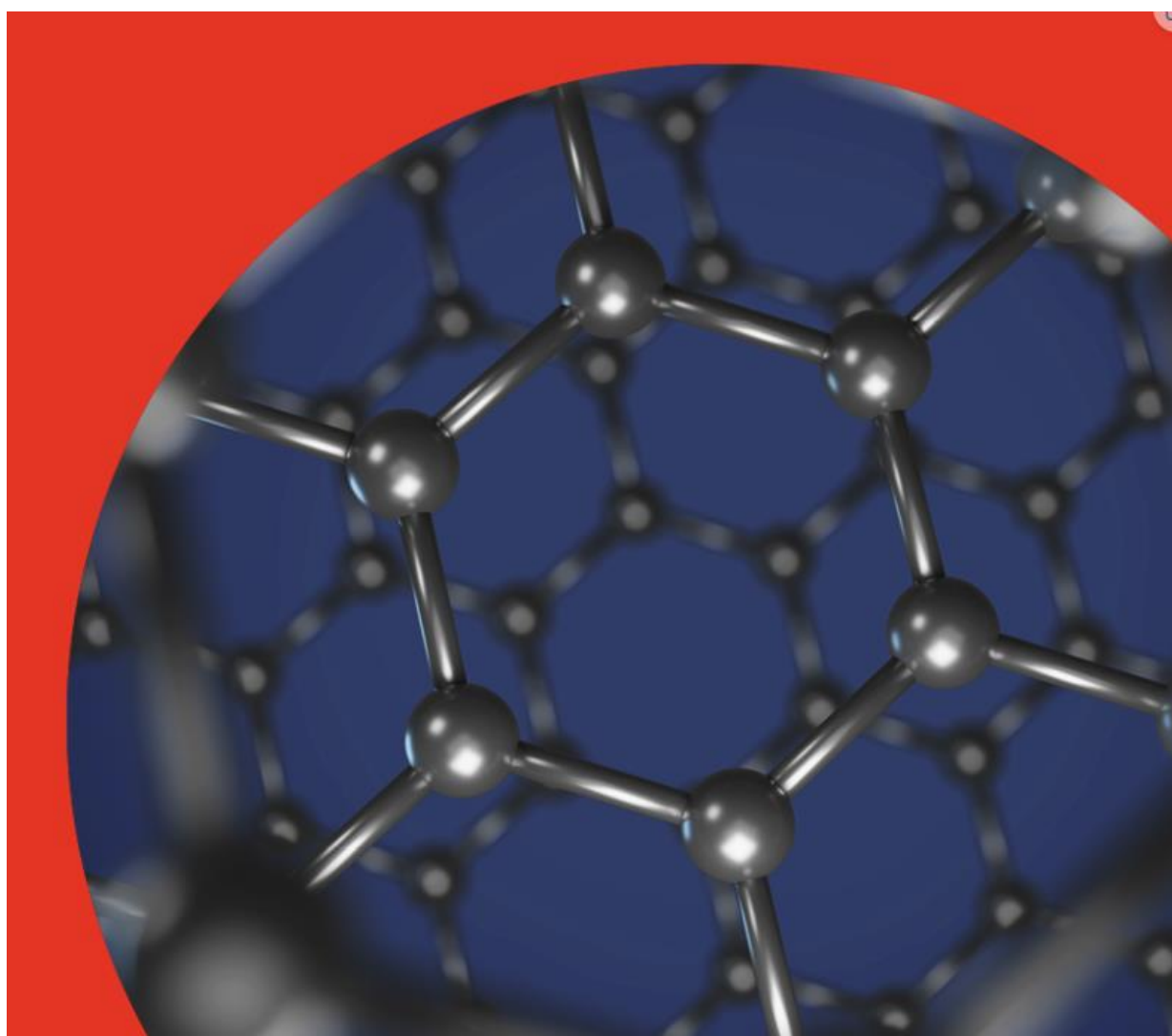




NEWSLETTER

March 2025



IOP
Institute of Physics



See [BritishCarbonGroup](https://www.britishcarbongroup.org) for further details

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Editorial

Samantha Wilkinson, Secretary of the British Carbon Group

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This issue of the BCG newsletter features a number of upcoming events from around Europe. One of which is the BCG Core challenge event which will also feature the groups AGM.

Notice is hereby given that the 2025 Annual General Meeting of the British Carbon Group. The business of the Meeting is as follows: -

1. Apologies for Absence
2. Minutes of the last AGM British Carbon Group website (<https://www.britishcarbon.org>)
3. Chairman's Report
4. Treasurer's Report
5. To Receive Notice of the Representatives of the Sponsoring Bodies
6. Election of Officers and committee members.
7. Any Other Business

At the 2025 AGM the Chair, prof. Geoff Fowler, will stand down. Nominations for this position are invited.

Nominations duly proposed and seconded and with the consent of the nominee, should be received by the Honorary Secretary no later than one week before the AGM by emailing Samantha.wilkinson@uknnl.com

Future Event : The Core Challenge : Research into Carbon Treatment and Recycling



<https://iop.eventsair.com/bcg2025>

Hosted by the British Carbon Group, this event will explore the technical and scientific aspects of carbon research with the potential to be applied to nuclear decommissioning. There is an opportunity for UK researchers to play a key role in emergent technologies, especially those that could be transferred from other industries and applications.

Whilst a baseline of deep geological disposal for graphite is well established for England and Wales, a facility will not be available for reactor wastes until at least the 2050s. Opportunities to sustainably manage this form of carbon to avoid prolonged and potentially expensive interim storage are being investigated. Nearly 100,000Te of graphite from more than 40 reactors will need to be managed in the UK over the next century and innovation is encouraged to meet key challenges related to this material, particularly the presence of long-lived radionuclides (e.g. C-14, Cl-36).

Contributions are also sought that are relevant to research into management of graphite that may be utilised in future reactor designs to minimise the potential for large amounts of legacy material being generated in the decades to come.

Topics will include carbon volume reduction (thermal, chemical and physical), separation and potential re-use of radionuclides (in radiopharmaceuticals, agriculture, batteries, etc.), novel graphite retrieval methods from inside reactors, and Carbon Capture Utilisation and Storage.

This event is one of a series supported by Nuclear Restoration Services during 2025 to explore innovative solutions from the UK Carbon Industry and potential international collaborators.

Future Event : Carbon 2025 & the Brian Kelly Award



It is with great pleasure that the Francophone Carbon Association will welcome all carbon scientists in Saint-Malo for the World Conference on Carbon 2025.

The conference will take place at the Saint-Malo Conference Center, with direct view of the sea and the ramparts of the old town.

More information on the website of the conference:

[Carbon 2025 - PremC](#)

Brian Kelly Award

This annual award was established in 1996 by the British Carbon Group in memory of Brian Kelly, a leading authority on graphite physics (note that Brian's book, "The Physics of Graphite", is available for download from the BCG website).

The award is intended as a travel grant for students and early career researchers with up to ten years postdoctoral experience to attend the annual World Conference on Carbon – Carbon 2025 this year. Anyone living or working, at the time of that conference, in the country where the conference is held is not eligible. As a consequence, applications will not be accepted from France on this occasion.

The award is made upon the basis of an appraisal of three documents:

- (1) your abstract as submitted to the conference
- (2) a short CV (with the date of the award of PhD if applicable)
- (3) a commentary provided normally by the candidate's supervisor or close colleague.

Self-nomination is permitted. The Award Committee of the British Carbon Group will determine the successful applicant.

The closing date for applications is 1st May 2025.

The award is £750 and is presented at the time of the conference with a certificate. It is a condition of the award that the winner attends the conference and presents their paper either orally or as a poster.

Applications may be transferred electronically to the Chair of The Brian Kelly Award Committee, Ms. Nassia Tzelepi, at Nassia.tzelepi@uknnl.com



Future Event : INGSM 2025

A blue banner for the 25th International Nuclear Graphite Specialists' Meeting. At the top, a white arrow-shaped box contains the dates "Sept. 29th – Oct. 3rd 2025". Below this, the title "25TH INTERNATIONAL NUCLEAR GRAPHITE SPECIALISTS' MEETING" is written in white, bold, uppercase letters. In the center, there is an orange button with the text "REGISTER NOW" in white. At the bottom, the IAEA logo and the location "Wien, Austria" are displayed in white.

Sept. 29th – Oct. 3rd 2025

25TH INTERNATIONAL NUCLEAR GRAPHITE SPECIALISTS' MEETING

REGISTER NOW

IAEA  Wien, Austria

<https://ingsm25.com/>

This conference will continue the series begun at the Oak Ridge National Laboratory, Tennessee, in 2000. The annual conferences continue to explore the entire nuclear graphite life cycle and the technical issues which are presented in the design, operation and decommissioning of graphite-moderated nuclear reactors. The previous conference held in September 2024 in Berkeley CA (USA) attracted nearly 100 delegates representing the key international design organisations, plant operators, specialised university research departments, consultants and regulators and with a particular look ahead to graphite-containing SMR designs. INGSM presentations are archived within the IAEA Knowledge Base on Nuclear Graphite, and this will continue with presentations for the 2025 conference.

Abstracts are now invited on all aspects of nuclear graphite manufacture, deployment and decommissioning, in all relevant sciences and engineering. We are keen to develop discussion and encourage development of HTR and MSR modular designs. Contributions on carbonaceous and composite materials associated with fuel or fusion systems are also included.

For abstract submission please see the conference website (given above). Abstracts must be received by 30th June 2025.

Future Event : Nanotec25

A red banner for the Nanotec25 conference. On the left is a 3D molecular model of a carbon nanosphere. In the center, the text "Nanotec25" is written in large white font, with "Carbon Nanoscience and Nanotechnology" below it in a smaller white font. At the bottom center, the dates "Vienna, 26-29 August 2025" are written in white. On the right is a photograph of a classical building entrance with a doorway and a pediment.

Nanotec25

Carbon Nanoscience and Nanotechnology

Vienna, 26-29 August 2025

<https://nanotec25.univie.ac.at/>

Nanotec is one of the longest running carbon nanoscience conferences in Europe, since 1998. It has been bringing together scientists working in carbon science at the nanoscale. While each of these materials has its own dedicated research community, Nanotec draws on common themes and allows researchers to share insight into this unique element at the nanoscale. The Nanotec conferences are renowned for their relaxed and friendly atmosphere, with emphasis on discussion and participation. We endeavour to achieve as large student participation, and we anticipate that the keynote talks will be strongly influential on the next generation of nanotechnology scientists. The abstract submissions are open and places are limited to 160 so register as soon as possible.

Future Event : NIA DWM Group on Graphite in collaboration with NRS

30th April 2025, Engine Rooms, Birchwood Park, Warrington

This event is being organised jointly by Nuclear Restoration Services Ltd and the Nuclear Industry Association to engage with the supply chain and other organisations to foster innovation in the management of graphite. The event is one of three such events dedicated to that purpose.

Whilst a baseline of deep geological disposal is well established for England and Wales, a facility will not be available for reactor wastes until at least the 2050s. Opportunities to sustainably manage irradiated graphite to avoid prolonged and potentially expensive interim storage are being investigated. Nearly 100,000Te of this material from more than 40 reactors will need to be managed in the UK over the next century and innovation is encouraged to meet key challenges related to this material, particularly the presence of long-lived radionuclides (e.g. C-14, Cl-36). UK irradiated graphite represents more than a third of the world total so there is an opportunity for UK to play a key role in emergent technologies.

Contributions are also sought that are relevant to management of graphite that may be utilised in future reactor designs to minimise the potential for large amounts of legacy material being generated in the decades to come.

Topics will include:

- Novel graphite retrieval methods from inside reactors,
- Waste volume reduction (thermal, chemical and physical),
- Separation and potential re-use of radionuclides in radiopharmaceuticals, agriculture, batteries, etc.
- Carbon Capture Utilisation and Storage.

Please register your interest on the website: [NIA DWM Group on Graphite in collaboration with NRS - Nuclear Industry Association](#)

British Carbon Group 2024 Travel Grant Award Recipient: 2024 International Elastomer Conference, USA

23rd September 2024, Christian Nwosu



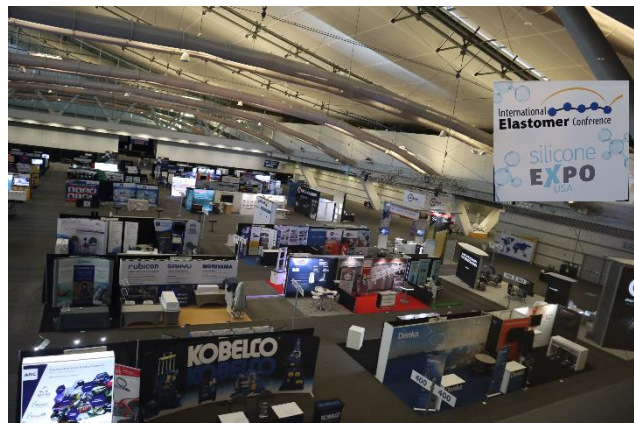
My special thanks to the British Carbon Group (BCG) for the Grant awarded to me, which enabled my participation as a speaker at the 2024 International Elastomer Conference (IEC) held at David Lawrence convention centre, between 9th and 12th September 2024, in the city of Pittsburgh of the Commonwealth of Pennsylvania, USA.

The 2024 IEC featured wide range events, such as: women's event (WORD) programme; courses on elastomer (rubber) products manufacturing; industrial expo presentations; training on rheology and process Engineering; student outreach programme; young professionals event; and technical meetings. Some of the courses featured includes failure analysis, vulcanisation and curing chemistry, compound consistency mixing and testing, essentials of silicone rubber, tire durability, and compounding fluoroelastomers.

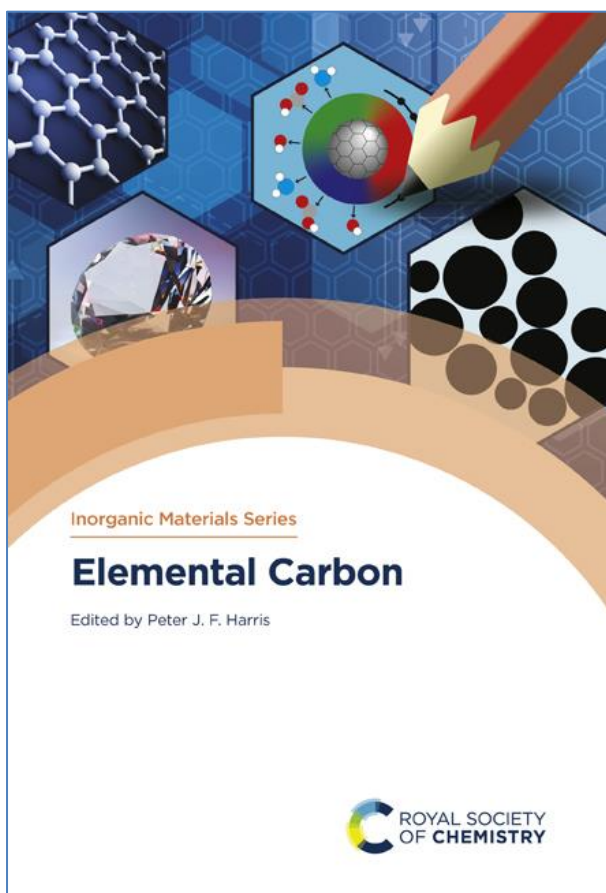
IEC technical sessions focused on areas such as new commercial developments, environmental risk, 6PPD and PFAS, finite element analysis and modelling, sustainable materials and processes, polymer degradation and stability, 3D and 4D printing with high performance elastomers, advance materials, processes for tires, characterisation and testing of elastomer materials, silicone elastomers/compounds and elastomer reinforcement.

The event, which was co-located with the 2024 Silicone Expo USA, also featured various industrial expos, where several industries showcased their products ranging from industrial machines (for elastomer products manufacturing and analysis) to elastomer products such as O-rings, hose, medical and non-medical tubes and prosthetics.

As a participant and speaker, I made presentation of my work titled "Graphene Nanoplatelets and external Waterbased Crosslinker Effects on the Mechanical and Thermal Properties of Waterbased Elastomer Nanocomposites". Speaking at this conference afforded me the opportunity to exchange ideas with a host of academics and industrial experts through questions and discussions generated from my talk. This provided me with stronger perspective on wide ranging innovative ideas on my future research direction, as well as enabled me to develop my professional network. Once again, I am grateful to the BCG for the travel bursary to me which facilitated my participation at this spectacular global conference in USA.



Christian Nwosu is a final year PhD student researching on graphene materials based elastomer nanocomposites, at The University of Manchester, United Kingdom.



New RSC Book: Elemental Carbon

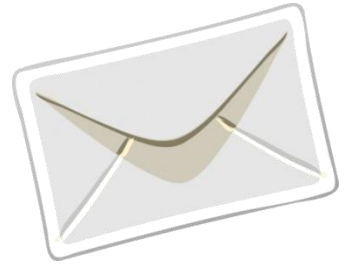
Edited by Peter J F Harris, Royal Society of Chemistry, 2024.

ISBN: 978-1-83916-451-4

This book brings together experts from five fields of research on solid carbon to provide a wide-ranging and up-to-date overview of the subject. The first chapter, by Dong Liu and Ming Jiang of the University of Oxford, with Kevin Potter and Peter Harris of Bristol University, covers graphite and carbon fibres. As well as outlining the chemical and physical properties of graphite, two of its most important current applications are reviewed, namely its use in nuclear power and in lithium-ion batteries. Carbon fibres are then discussed. The structure of carbon fibres is described and the preparation, properties and applications of carbon fibre composites reviewed.

Contact to the Group

The BCG welcomes feedback from its members, so please get in touch with us if you attended one of our events and it sparked an idea, you have been involved in a particularly interesting project or have any other thoughts which might be of interest to the rest of the group!



Please submit any thoughts to samantha.wilkinson@uknnl.com

Items for the next newsletter – Submit an Article

We'd like to hear what you're doing, what you think of the British Carbon Group, any ideas you may have for networking opportunities or anything else you think would be of interest to the rest of the Group. We plan to publish the next Newsletter in Autumn 2025.
