In the lead up to 2025, any individual, group, organization, institution, or government can help aid the mission of the International Year by facilitating the creation of events or resources that will help others to improve their understanding of the importance and impact of quantum science and technology. Events and resources from around the world will be featured on this site in 2025.

<https://quantum2025.org/>

Pure and Applied Chemistry Special Issues—Call for Papers

This year, *Pure and Applied Chemistry* launches a series of themed special issues focused on the IUPAC top ten emerging technologies in chemistry initiative (https://iupac.org/what-we-do/top-ten/). A call for the first three issues has been launched. These special issues will celebrate all aspects of chemical smart sensors, of catalysis, and of sustainable polymer chemistry.

Smart sensors and diagnostics

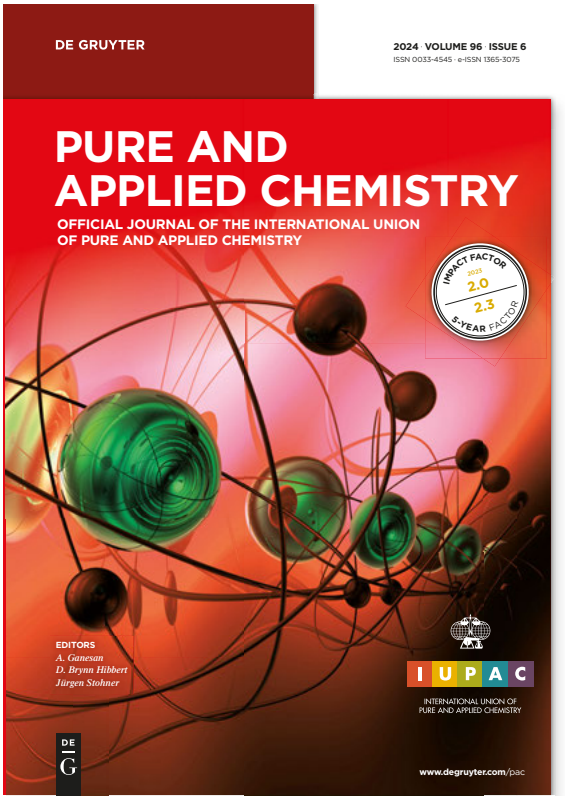
The field of sensors has seen dramatic improvements in recent times. Smart sensors that not only detect an input but then produce an output in response are popular in all areas including the development of rapid diagnostics. The design and application of smart sensors lies squarely within the chemical sciences, as recognised by several IUPAC Top Ten Emerging Technologies awards:

- Wearable sensors 2023
- Film-based fluorescent sensors 2022
- Textile displays 2022
- Chemiluminescence for biological use 2021
- Nanosensors 2020
- Rapid diagnostics for testing 2020

Catalysis from protons to proteins

The ability of external agents that are unconsumed to influence reaction kinetics is fundamental to chemistry. Such catalysts range from the very simplest atom, a proton, to macromolecular enzymes with exquisite efficiency and specificity that are essential to life. Catalysis is well recognised by several IUPAC Top Ten Emerging Technologies awards:

- Chemical synthesis of RNA and DNA 2021
- Semi-synthetic life 2021
- Enantio-Selective Organocatalysis 2019



- Flow Chemistry 2019
- Reversible Deactivation of Radical Polymerization 2019
- Directed Evolution of Selective Enzymes 2019

Sustainable Polymer Technology

Synthetic polymers are everywhere in modern society. This poses a sustainability issue when it comes to their end of life. Increasing efforts are devoted to the recycling or degradation of polymer materials, as recognised by several IUPAC Top Ten Emerging Technologies awards:

- Biological recycling of PET 2023
- Depolymerisation 2023
- Macromonomers for better plastic recycling 2020
- Turning Plastics to Monomers 2019
- Reversible Deactivation of Radical Polymerization 2019

We welcome contributions in the form of original research communications, full research articles and reviews.

For inquiry and submission guidelines, contact PAC editor, Ganesan at a.ganesan@uea.ac.uk