

Terminology for Dynamic Polymer Networks and Hydrogels

The field of dynamic covalent polymer networks, including hydrogels, is a rapidly developing area that involves researchers across several areas of chemistry (organic, catalysis, polymer) and beyond (physics, materials science, chemical and biomedical engineering). However, because this area has developed recently, a comprehensive set of terms describing these materials is utterly lacking in IUPAC terminology documents. As a result of rapid development of these materials across the world, confusion in the literature exists, including terms used synonymously in some papers that are defined as different classes in others.

This project seeks to collect these terms and provide guidelines for their application in a Recommendations document to be published in *Pure and Applied Chemistry*. This will benefit the wide group of researchers working on dynamic polymer materials by providing a common language.

For more information and comment, contact task group chair Roxanne KIELTYKA <r.e.kieltyka@chem.leidenuniv.nl> | <https://iupac.org/project/2025-005-2-400>

Systems Thinking, Sustainability and Chemical Industry

In partnership with International Organisation of Chemical Sciences for Development (IOCD), this project builds on engagement with chemical industry established during IUPAC project 2020-014-3-050, Systems Thinking in Chemistry for Sustainability: Toward 2030 and Beyond (STCS 2030+), providing a channel for collaboration between chemical companies that facilitates dialogue, collaboration and commitment on tackling sustainability challenges and concentrated efforts to identify and implement solutions. In particular, the task group will:

- develop a Policy Paper (“White Paper”) on the enabling environment needed to strengthen chemical industry engagement in systems thinking and sustainability.
- develop representative Case Studies of using systems thinking to advance sustainability in chemical industry: unpacking the factors, options and trade-offs in each selected industrial system; providing a model of system-wide approaches to sustainability.
- strengthen tertiary education, in-service training

and professional development on systems thinking in chemical industry: equipping chemistry graduates and those working in industry with specific systems thinking skills.

For more information and comment, contact task group chair Peter Mahaffy, Stephen Matlin, or Jane Wissinger | <https://iupac.org/project/2025-004-2-041/>

Small-Scale Chemistry Initiative in India

In a concerted effort to revolutionize chemistry education and promote sustainable laboratory practices, IUPAC in collaboration with the Chemical Society of Thailand and various partners, launched a transformative project in India. This initiative, titled “*IUPAC Capacity Building of Teachers in Chemistry: Hands-on Small-Scale Experiments in High School in Asia*,” unfolded through four impactful phases from August 2024 to February 2025.

This report narrates the journey of this transformative initiative aimed at enhancing chemistry education through small-scale, sustainable experiments. The project empowered teachers with practical skills, green chemistry awareness, and innovative teaching methods. It unfolded in four strategic phases: hands-on workshops, a national video competition, international networking, and advanced trainer development. Through regional collaboration and capacity building, the program supported the United Nations Sustainable Development Goals. Ultimately, it laid the groundwork for lasting change in science education across Asia.

Phase One: Laying the Foundation in Bangalore

The journey began in August 2024 in Bangalore, India, where 100 secondary school teachers gathered for a hands-on workshop on small-scale chemistry. Led by an expert team from Thailand and supported by institutions such as JNCASR and the Federation of Asian Chemical Societies, the workshop introduced innovative techniques using minimal chemical quantities to enhance safety, reduce costs, and lower environmental impact.

Over two days, teachers engaged in nine meticulously designed experiments, learning to use everyday materials to illustrate key chemistry concepts. These sessions not only equipped them with practical skills but also sparked a deeper interest in green chemistry and sustainability. At the conclusion of the workshop,