

Okinawa institute, Okinawa Institute of Science and Technology, Japan.

- **The POLY-CHAR Awards for the best oral presentations by students and young scientists** were given to: Andres Cardil, Institute of Structure of Matter (IEM-CSIC), Madrid, Spain; Joshua Schumacher, University of Siegen, Germany; Jirawan Jindakaew, Thammasat University, Thailand.
- **The POLY-CHAR Awards for the best poster presentations by students and young scientists** were given to: Talika Neuendorf, Leibniz-Institut für Polymerforschung Dresden e. V, Dresden, Germany; Marius Schmidt, University of Bayreuth, Bayreuth, Germany; Florian C. Klein, Universität Hamburg, Germany.
- **The IUPAC Prizes for the best poster presentations** were awarded to: Jaime Lledó, University of Valladolid, Spain; Palash Das, Indian Institute of Technology Kharagpur, India; Scarlett Elizabeth López Álvarez, Universidad de Guadalajara, Mexico.

Finally, this POLY-CHAR edition has awarded two **special prizes from the GEP Group** to: Beatriz Merillas (**best oral presentation**) and Clara Amezáua (**best poster presentation**), both from the University of Valladolid, Spain.

The social agenda for POLY-CHAR 2024 was designed to facilitate communication and strengthen relationships. On Monday 27 May, young researchers who had registered for the Short Course had the opportunity to take part in an Escape Room activity to promote team building. On the other hand, a flamenco dance show was offered to the lecturers of the Short Course as a courtesy for their support. On Tuesday 28 May, a welcome reception with nibbles and drinks was offered at the end of the day sessions. The conference excursion was scheduled for the afternoon of Wednesday and we visited the UNESCO World Heritage City of Alcalá de Henares. Another important social event took place on Thursday with the Conference Gala Dinner at the historic Café Comercial. Finally, after the closing ceremony of the conference, a Spanish wine was offered in the cloister where we said goodbye to our colleagues and friends. While sampling this Spanish wine we had the opportunity to meet the IUPAC President, Javier García-Martínez, who stopped by the Cloister to greet the delegates.

The upcoming POLY-CHAR 2025 conference will take place in Mauritius, September 2025.

Araceli Flores served as Chair for POLY-CHAR 2024. She is a member of the Institute of Polymer Science and Technology of the Spanish National Research Council (CSIC) in Madrid.

Applications of Nanotechnology in Agriculture and Food Systems

by Melanie Kah and Rai Kookana

IUPAC is currently sponsoring several projects related to nanotechnology in the Chemistry and the Environment Division. The first project (# 2016-016-2-600) on the “Guidance for Industry and Regulators on Assessment of the Environmental Fate and Risks of Nano-enabled Pesticides” looks at the ecological risks associated with nano-enabled pesticides in agricultural systems (Walker *et al.*, 2018. *Journal of Agricultural and Food Chemistry*, 66, 6480; Kah *et al.*, 2018, *Nature Nanotechnology*, 13, 677). The second project (# 2017-035-2-600) is on “Human Health Risk Consideration of Nano-enabled Pesticides for Industry and Regulators.” This project extends the concepts developed for ecological risk assessment, to human health risk assessment (Kah *et al.*, 2021. *Nature Nanotechnology*, 16, 955-964). It also considers next-generation risk assessment approaches, which can apply to both humans and the environment and recognise their linkages. And this year, IUPAC has also provided support (#2023-027-1-FSC), to facilitate early-career researchers’ participation in the IUPAC-endorsed meeting Gordon Research Conference (GRC-2024) on Nanoscale Science and Engineering for Agriculture and Food Systems. The meeting took place 23-28 June 2024, at the University of Southern New Hampshire (USA).

Clearly, the three projects are closely related as they cover the applications of nanotechnology in Agriculture and Food Systems, in a broader sense (via GRC-2024) as well as in a narrower sense, by focussing on nano-enabled pesticides. The conference provided an opportunity to (i) discuss the current developments in nanotechnology for the potential benefit to the agriculture and food sector and (ii) to discuss implications on nano-pesticides for regulatory bodies, industry and research organisations.

At GRC-2024, the lectures given by high-profile speakers from different sectors catalysed lively and inspiring discussions on the potential applications of nanotechnology in food systems.

The grantees of IUPAC support to attend GRC-2024 were selected based on their academic merit and country of origin. They presented their research

at the well-attended poster sessions and the meeting format provided plenty of opportunities to network. They were:

Vanessa Takeshita (University of São Paulo, Brazil); ORCID# 0000-0003-3325-0543 Felipe Franco de Oliveira (São Paulo State University, Brazil); ORCID# 0000-0001-7084-8208 Muyideen Olaitan Bamidele (Autonomous University of Coahuila, Mexico); ORCID# 0000-0003-2473-2903 Anju, (Indian Institute of Technology, Delhi); ORCID# 0000-0002-7569-5674

Our awardees were extremely grateful and enthusiastic about their experience:

- *"It was the best scientific meeting experience I had by far."*
- *"It was the most interesting conference that I have ever been to."*
- *"I am honoured to have been selected as a recipient of an IUPAC grant, which will greatly assist me in covering some of the expenses associated with attending the conference."*

The project members of the IUPAC projects #2016-016-2-600 and #2017-035-2-600 attending the conference discussed the potential



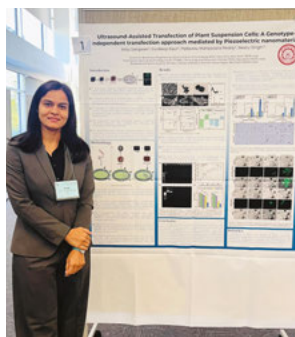
Vanessa Takeshita (University of São Paulo, Brazil)



Felipe Franco de Oliveira (São Paulo State University, Brazil)



Muyideen Olaitan Bamidele (Autonomous University of Coahuila, Mexico)



Anju, Indian Institute of Technology (IIT) Delhi

future activities involving regulatory bodies, industry and research organisations on nano-enabled pesticides.

Melanie Kah is at The University of Auckland, New Zealand; and Rai Kookana at CSIRO/ University of Adelaide, Australia

Metal-Organic Frameworks for Medicine, Energy and Water Treatment

by Olesia G. Kulyk and Romy Ettlinger

EU4MOFs is a COST (European Cooperation in Science and Technology) Action focused on transforming lab-designed Metal-Organic Frameworks (MOFs) into practical solutions for healthcare, sustainable energy, and clean water. On 6-7 June 2024, EU4MOFs held its first Hybrid Symposium and Workshop in Bilbao, Spain. This hybrid event brought together 70 on-site and 75 online attendees, who are leading experts from academia and industry from more than 20 countries.

The EU4MOFs Symposium, held on 6 June, began with a welcome from Action Chair Stefan Wuttke. He discussed the potential of MOFs to address cancer, energy, and wastewater issues and emphasized the importance of collaboration between academia and industry, with the COST Action team leading these efforts.

The MOF Symposium featured two keynote lectures—one talk on a common scientific language and MOFs standardization by Greta Heydenrych (IUPAC), and a second lecture on nanomedicine by Twan Lammers (RWTH Aachen). These talks were followed by three sessions on nano-, meso-, and macroscale MOFs, focusing on their applications in medicine, for energy applications, and for water treatment. Each session included compelling talks and a subsequent productive panel discussion.

Greta Heydenrych from IUPAC highlighted efforts to standardize MOFs and develop a common scientific language. She discussed the FAIR principles for data—findable, accessible, interoperable, and reusable—and the challenges of making data machine-readable, as well as the need for standardized experimental descriptions, outreach, and funding. IUPAC provides great expertise with this and therefore she outlined what has been done in the MOF sphere by IUPAC until now. Building on this, there was an agreement that an initiative in form of an IUPAC-MOF task force should be formed to “organise the field of MOFs.” This will facilitate the communication of chemistry and ultimately, make the chemistry language—and the field of