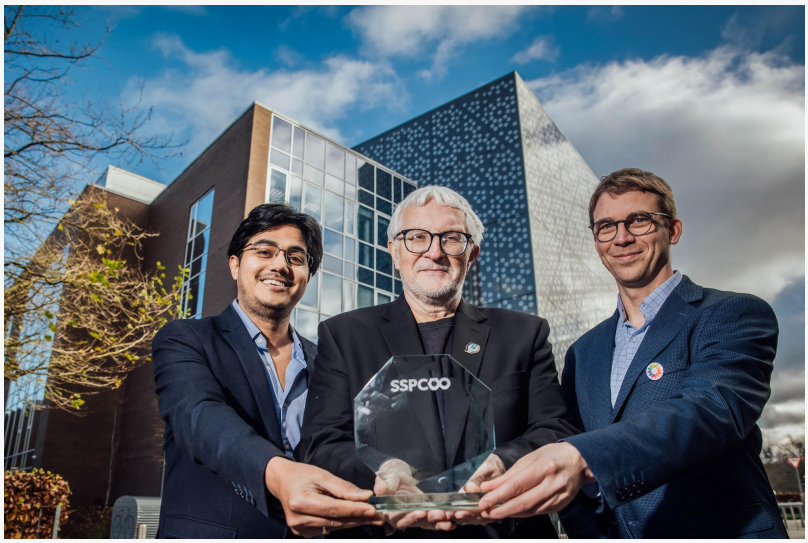
Better, Cheaper, Greener: SSPC honour UL team for groundbreaking chemistry

The Kyoto collaboration story



Associate Professor Soumya Mukherjee, Professor Mike Zawototko, and Associate Professor Matthias Vandichel, University of Limerick, SSPC, Research Ireland Centre for Pharmaceuticals Academic Collaboration Award winners.

LIMERICK, IRELAND, December 3, 2025 /EINPresswire.com/ -- : Professor Michael Zaworotko, Associate Professor Soumya Mukherjee, and Associate Professor Matthias Vandichel, Department of Chemical Science, and Bernal Institute, University of Limerick (UL), received the SSPC, Research Ireland Centre for Pharmaceuticals, Academic Collaboration Award, for their long-standing collaboration with Nobel Prize in Chemistry winner, Professor Susumu Kitagawa, Kyoto University.

The global chemistry community celebrated the awarding of the 2025 Nobel Prize in Chemistry to Professor Susumu Kitagawa, Richard Robson and Omar Yaghi whose groundbreaking work on metal-organic frameworks (MOFs) has revolutionized the field of crystal engineering. Former SSPC Director and current PI, Professor Michael Zaworotko, Bernal Chair of Crystal Engineering at UL, has been a close collaborator of Professor Kitagawa for over 10 years, a testament to the deep and productive scientific partnership between Limerick and Japan.

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>
> *Professor Mike Zaworotko*

Both Kitagawa and Zaworotko are internationally recognised pioneers in MOF research, and their collaborative efforts have helped shape the global landscape of materials science. Their shared vision and complementary expertise have led to numerous joint publications, innovations, and mentoring of the next generation of researchers, through collaboration. Critically, both share a collaborative spirit, firmly believing that

teamwork is critical to address global challenges faced by society.

Prof. Zaworotko noted that “Teamwork is always a rewarding and effective way to conduct research but, when one wants to address the most urgent global challenges, it is a prerequisite. This situation is driven by the inherent complexity and interdisciplinary needed to address carbon capture, water purification, better/cheaper medicines, where disruptive solutions require the design and testing of a new generation of better, cheaper and greener materials.” Associate Professor Soumya Mukherjee at the Bernal Institute, UL, during his first postdoctoral stint on MOFs with Professor Zaworotko’s mentorship, started working with Professor Kitagawa’s team. Today, Prof. Mukherjee leads his own research group at UL and continues to collaborate actively with both Profs. Zaworotko and Kitagawa.

“I am excited by the synergies between our labs,” said Prof. Mukherjee. “Working with Professor Kitagawa’s team means access to unmatched expertise in material characterisation and a shared spirit of innovation. It feels like we’ve come full circle, from my vantage point as a student admirer to now being a collaborator pushing the boundaries of MOF science together.”

The collaborative spirit across the SSPC community at the Bernal Institute in UL continues to grow. Professor Matthias Vandichel, a computational chemist and chemical engineer, has worked on the computational description of MOF applications for nearly two decades, and joined Profs. Zaworotko’s and Mukherjee’s MOF research efforts, bringing advanced modelling techniques to complement experimental work.

“Our collaboration with Kyoto University allows us to explore MOFs from multiple angles, experimentally and computationally,” said Prof. Vandichel. “For this particular collaboration, we implemented hybrid computational frameworks that enabled us to understand the gas sorption behaviour of flexible porous materials. It’s a privilege to contribute to a research lineage that has led to such a prestigious recognition.”

This Nobel Prize not only honours Professor Kitagawa’s individual achievements but also highlights the power of international collaboration, mentorship, and the long-term partnerships that drive scientific discovery. SSPC, hosted at the Bernal Institute in UL is proud to be part of this journey and remains committed to fostering global research excellence.

Louise O Neill
SSPC
+353 87 930 8585
email us here
Visit us on social media:
LinkedIn
Instagram
YouTube
X