

About Jianwei Sun's work

A chemist by training, Sun specialises in organic synthesis, developing, for example, new processes and strategies for creating biologically active molecules, including advanced intermediates of pharmaceuticals, in a green and sustainable fashion.

His current research focuses on chirality—a fundamental molecular property where compounds exist as mirror images of each other, analogous to left and right hands. This characteristic is crucial in pharmaceutical development, as molecular mirror forms can produce dramatically different biological effects.

Sun has pioneered innovative methods for selective chiral synthesis. His latest research employs charged molecules as a strategic tool for precise reaction control. This approach has three key objectives: directing the formation of specific chiral forms, facilitating selective molecular fragment removal, and enabling interconversion between different molecular configurations.

The potential benefits of this work are numerous, from enhancing pharmaceutical development to advancing materials science and promoting sustainable chemical processes.

Biography

Jianwei Sun is a professor in the Department of Chemistry at the Hong Kong University of Science and Technology. He completed his BSc and MSc in chemistry at Nanjing University before taking his PhD at the University of Chicago.

Sun has won numerous awards, including the Early Career Award, from the Research Grants Council of Hong Kong in 2012 and the Thieme Chemistry Journal Award in 2014. In 2019, he was elected as a member of the Hong Kong Young Academy of Sciences, and in 2021, he was elected as a Fellow of the Royal Society of Chemistry. His current research is supported by a Croucher Senior Research Fellowship.