**Laser nanoprinting integrated with in-situ characterization system for miniaturize photonic devices**

*School of Science, RMIT University, Melbourne 3000, Australia*

**Baohua Jia**

**Email: baohua.jia@rmit.edu.au**

This presentation mainly introduces the interaction between 3D nanoprinting and various materials at the angstrom scale and their in-situ characterization during the ultrafast interaction process. Describe the precise and unparalleled manipulation of materials by nanoprinting at the spatial, temporal and atomic scales with unparallel capability of real-time monitoring and feedback. In particular, the application status and broad prospects of optical nanoprinting and two-dimensional photonic integrated devices are introduced in detail. The presentation will also share the future development directions of ultrafast optical nanoprinting and angstrom material devices, and the major challenges faced. The developed scalable graphene metamaterials show attractive optical and thermal properties. Through patterning with advanced laser nanoprinting technique, functional photonic devices with ultrathin, light weight and flexible nature have been demonstrated promising exciting opportunities for integrated photonics.

A person in a white coat

Description automatically generated**Short Bio:**

**Distinguished Professor Baohua Jia** is a Fellow of Australian Academy of Technological Sciences and Engineering (ATSE) and ARC Future Fellow at RMIT University. Before joining RMIT, she was the Founding Director of Centre for Translational Atomaterials at Swinburne University of Technology. Her research focuses on the fundamental light and nano-and atomaterial interaction, in particular, laser manipulation of two-dimensional materials. She has co-authored > 300 publications with an H-index of 70 and delivered more than 70 keynote/invited talks at prestigious international conferences and serves multiples professional committees. She also received prestigious awards, such as ARC Future Fellowship (2021), Finalist for Prime Minister Award (2017), Young Tall Poppy Science Award (2013), L’Oréal Australia and New Zealand for Women in Science Fellowship (2012), Discovery Early Career Researcher Award (DECRA) (2012), Victoria Fellowship (2010) and Australian Postdoctoral Fellowship (2009) et al.