



Department of
Mechanical Engineering
The University of Hong Kong



SEMINAR

Techniques for the Brazing/Joining of Advanced Materials and Dissimilar Materials

Date: 15 January, 2024 (Monday)
Time: 2:00 p.m.
Venue: LE4, Library Extension Building
HKU

Speaker: Professor Peng HE
State Key Laboratory of Advanced Welding
and Joining Harbin Institute of Technology
China

Abstract:

With the steady development of science, technology and economy, application of single structural material cannot meet the demanding requirement for lightweight, multifunction, and integrity in extreme service conditions. This has become an ever-increasing challenge facing technology-intensive industries including aerospace, aviation and nuclear power. Application of welded structures of novel materials and/or dissimilar materials could maximize the respective materials performance advantages, and therefore has been of great significance to the manufacturing industry. In the past twenty years, the Harbin Institute of Technology research team has conducted extensive research in the field of brazing and special joining. This report has provided a comprehensive summary of the team's significant research progresses and achievements, including: 1) In-situ strengthening and stress relief of ceramic/metal joints, 2) Design and Application of Green Low-melting Glass Brazed Joint, 3) Low temperature bonding and high temperature application of advanced ceramics, 4) Joining technology of dissimilar metal, 5) Ultrasonic Additive Manufacturing (UAM) technology of laminated metal composite.

Biography:

Peng He, a professor at Harbin Institute of Technology, is the dean of the State Key Laboratory of Advanced Welding and Joining, the vice-dean of the School of Materials Science and Engineering, serving as a general board member of the welding group of Chinese Mechanical Engineering Society, vice chairman of the Brazing Materials, Equipment and Processes Branch of the China Welding Association, and director of the welding of Standardization Administration of China. He has been engaged in research work on new material interface design, performance optimization, new materials and dissimilar material joining, and electronic packaging. He won the 2nd

National Natural Science Award and the 2nd National Science and Technology Progress Award. He has published over 300 academic papers, authorized over 100 national invention patents, and formulated and revised 20 national standards.

ALL INTERESTED ARE WELCOME

For further information, please contact Prof. M.X. Huang at 3917 7906.