

## Preface

The International Conference on Mechanical and Materials Engineering (ICMME 2025) was held during 28–30 April 2025 at Jaypee University of Engineering and Technology, Guna (M.P.), India, and was organized by the Department of Mechanical Engineering. The conference aimed to provide a platform for researchers, academicians, industry professionals, and students to present and discuss recent advances in the broad areas of mechanical engineering, materials science, manufacturing technologies, and related interdisciplinary domains.

ICMME 2025 focused on both fundamental and applied research aspects relevant to modern engineering and materials development. The conference covered a wide range of topics including advanced materials, manufacturing processes, thermal and energy systems, mechanical design and analysis, robotics and automation, computational modelling, smart materials, sustainable engineering solutions, and emerging technologies in engineering applications.

The conference attracted participation from researchers and professionals representing universities, research institutions, and industries. Through keynote lectures, technical sessions, and academic discussions, ICMME 2025 facilitated knowledge exchange and encouraged collaboration among researchers working in different engineering and materials-related disciplines.

All manuscripts submitted to the conference underwent a rigorous peer-review process conducted by subject experts to ensure the quality, originality, and relevance of the research contributions. Selected papers that satisfied the required academic standards were accepted for publication in this proceedings volume of MATEC Web of Conferences, which focuses on research related to materials science, engineering, and applied technological developments.

The editors would like to express their sincere gratitude to all the authors for their valuable contributions and to the reviewers for their constructive comments that helped improve the quality of the papers. We also thank the organizing committee members, faculty, and volunteers for their dedicated efforts in making ICMME 2025 a successful academic event.

It is hoped that the papers presented in this volume will contribute to the advancement of research in mechanical engineering, materials science, and emerging engineering technologies.