**Preface**

It is with immense pride and joy that we present the proceedings of the 5th International Conference on Material Science and Applications (ICMSA25), held on April 10, 2025, in Ariyalur, Tamil Nadu, India. The conference served as a vibrant platform for researchers, academicians, scientists, and industry experts to exchange ideas and share their latest findings in the dynamic field of material science.

Material science continues to play a transformative role in advancing modern technology and industry, with far-reaching impacts in areas such as renewable energy, electronics, nanotechnology, and biomedical applications. The theme of ICMSA25 emphasized interdisciplinary collaboration to address global challenges and unlock novel applications that contribute to both societal progress and environmental sustainability.

Throughout the conference, participants engaged with pioneering research presented through keynote addresses, technical sessions, and poster presentations. The contributions compiled in these proceedings showcase a wide spectrum of work—from fundamental studies on materials synthesis and characterization to cutting-edge innovations in energy storage, nanomaterials, and smart materials.

We sincerely thank all contributing authors for sharing their valuable research, the reviewers for their thoughtful evaluations, and the organizing committee for their dedication and hard work in bringing this event to fruition.

It is our belief that the ideas and discoveries presented here will inspire new directions of inquiry and foster meaningful collaborations within the global material science community. We look forward to building on this momentum and advancing the boundaries of knowledge in future editions of ICMSA.

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