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Preface

The 21st International Conference on Global Research and Education, Inter-Academia 2024, continues the series organised by the Central European university community, primarily from Poland, Hungary, the Slovak Republic, and the Czech Republic, in collaboration with the Shizuoka University in Japan. Since 2002, the conference has been held annually in autumn, fostering enduring collaborations in critical domains of scientific and technological advancement alongside promoting excellence in higher education.

Focusing on the most rapidly developing areas of mechatronics, this issue offers an in-depth discussion of the physics applied in modern materials engineering, particularly in the fields of inorganic semiconductors, carbon and polymeric materials, inorganic glasses, crystalline materials, and metamaterials. Furthermore, it encompasses subjects pertaining to system control, metrology and nanometrology, robotics, biomedical engineering, photonics, and micromachined micro-electromechanical systems. An international consortium of prominent researchers from 11 countries has compiled the collection of articles.

The proceedings are designed as an essential reference resource for academic, governmental, and industrial research and development sectors in the future. Moreover, we aspire for this volume to serve as the definitive reference for the global community in the field of mechatronics.

This issue includes 57 meticulously chosen contributions presented at the 21st International Conference Inter-Academia 2024, hosted by Warsaw University of Technology from September 4 to 6, 2024 in Warsaw and Pultusk, Poland.

We express our appreciation to all authors for their contributions to this volume.

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Guest Editors