Preface

The field of material science has experienced expeditious progress in the last two decades. The increasing focus of scientists on technological applications of various materials welcomed a tremendous amount of research. Material science has an enormous potential influence on almost every field, such as industrial, technical, environmental, economic, health-sciences, biomedical, politics, etc. Moreover, it is also helpful in providing solutions to the primary necessities of society and tackles the current challenges of sustainability and compatibility. Nanomaterial science offers enormous research opportunities in diverse applications, including aerospace, electronics, biology, defense, medicine, national security and energy harvesting. Substantial progress has been witnessed in understanding the theoretical and practical aspects of the materials in recent years.

Nowadays, material science has stepped up in tackling rising environmental concerns by providing an opportunity to produce materials that can generate non-fossil-based energy. Enormous researches have been carried out to prepare advanced materials that can efficiently be used in fuel cells, solar cells, walkways, and other means to generate clean energy. For this reason, low-cost materials have been investigated to replace expensive precious metals in fuel cell applications. For example, carbon-based materials have been researched to substitute Pt metal electrodes for fuel cells, which can significantly improve the stability of electrodes and can be produced on a large-scale. Likewise, efficient but low-cost materials for biosensors and other medical applications have been prepared that allow their widespread application. Furthermore, composite materials with tailor-made properties have completely revolutionized the world. Today, composite materials find their applications in almost every industry, such as aeronautics, spaceships, automobile, electronics, electrical, constructions, etc.

The contribution of material science to the advancement of human societies is unprecedented, and continuous research in the field will provide more opportunities for technological advances. For this reason, the new edition of our research journal presents the latest research in the field of material science. It contains a detailed section on the material’s preparation, result, and discussion of each research article, explaining the fundamental characterization and application of the material. The journal contains various research articles representing the latest research work done by different authors. The editor of the journal encourages and welcomes all the authors for future research articles in the field of material science.

Dr. Ram Gupta  
(Editor-in-Chief)  
Department of Chemistry  
Pittsburg State University  
Pittsburg, KS (USA)  
E-mail: rgupta@pittstate.edu