

Preface

It is a pleasure to introduce this Volume devoted to the 9th International Conference on Key Engineering Materials (ICKEM). The 2019 edition of the ICKEM conference was held in Oxford University, United Kingdom on Mar. 29 - Apr. 1, 2019. The meeting was devoted to providing a venue for a discourse on advanced materials, with particular emphasis on multi-scale, hierarchically structured materials of natural and technological origin, used in a wide range of applications due to their structural and functional properties. It sought to promote the dialogue between industry and academia in the field of engineering materials, and contributing to building a broad research and development platform to underpin new technologies.

The evaluation of all papers was conducted by the technical program committee on the basis of review reports from its members and international reviewers. By means of double blind peer-review, 76 full papers were accepted from the original 196 submissions from 29 countries and regions. This volume provides an opportunity for the readers to engage with a selection of refereed papers that were presented at ICKEM2019.

The collected papers are focused on research in the areas of biomaterials, novel composite materials, metallic materials, polymer property characterization and optimization, material processing technology, material performance analysis, and engineering evaluation.

In order to explore more fully some of the cutting edge new ideas, avenues and initiatives in response to new challenges, a joint conference was run alongside this event devoted to *Materials and Design*, in which specific research results by conference participants were presented and examined in the light of combined modeling and characterization frameworks.

The conference organizing committee members extend warm thanks to all technical program committee members and external reviewers for their efforts contributed to paper selection and reviewing. The creation of this proceedings volume would not have been possible without their hard work and provision of their time and expertise. This event could not have become reality without the support of all our chairs, keynote speakers, invited speakers. Our special thanks must go to the conference secretary, Emma Wang, for her persistence and patience.

We hope that the readers find their engagement with the ideas and results presented in this Volume both useful and interesting, and helpful in sustaining their own professional advancement in the global context of key engineering materials.

Last but not at least, we are delighted to announce that the 10th International Conference on Key Engineering Materials will be held in Madrid, Spain on March 25-28, 2020. We look forward to welcoming the delegates of ICKEM2020 in Spain in 2020.

On behalf of the ICKEM2019 Organizing Committee
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