

## Foreword

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Dear CPM Readers,

As we enter our fourth year of the journal, it is our pleasure to update readership. The creation of the journal Computational Particle Mechanics (CPM) in 2013 was motivated by the fact that particle-based mechanics and numerical methods have become wide-spread in the natural sciences, industrial applications, engineering, biology, applied mathematics and many other areas. The goal is to enhance communication among researchers in the applied sciences who use “particles” in one form or another in their research. Broadly speaking, our motivation for the starting the journal has as its core the fact that “particle mechanics/methods” has now come to imply several different aspects to researchers in the 21st century, for example, including: (1) Particles as a physical unit in granular media, particulate flows, plasmas, swarms, etc., (2) Particles representing material phases in continua at the meso-, micro-and nano-scale and (3) Particles as a discretization unit in continua and discontinua in numerical methods.

It is our hope that this forum will have a positive influence in fostering and spreading particle-based research in the computational mechanics community. This field has even become even more active since the founding of the

journal, with applications in (1) Particulate and granular flow problems, (2) Fluid-structure interaction problems, (3) Coupled multiphysical phenomena, (4) Material design/functionalization, (5) Manufacturing processes, (6) Biomedical engineering, (7) Multifracture and fragmentation and (8) Excavation and drilling problems. In particular, the combination of rigorous material modeling theories, coupled with the dramatic increase of computational power can potentially play a significant role in the analysis, control, and design of many new industrial processes, with the objective being to develop superior products, produced at lower overall operational costs.

We wish to thank all authors for choosing CPM for publishing their scientific work. We extend our gratitude to our readers for supporting the dissemination of the journal content. Thanks also to the Honorary Editor, Prof Roger Owen for his advice and support and to the Editorial Board for their involvement in the organization of Special Issues of CPM and for helping in the review process. Our final thanks go to Springer and the journal production team for their exceptional professional work in the publication of CPM.

Best regards, The CPM Editors, Tarek I. Zohdi, Eugenio Oñate and Peter Wriggers

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