EDITORIAL

Editorial: Charting the Future of Computational Advances in Mechanics and Engineering

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It is with great honor and enthusiasm that we jointly present this inaugural editorial as the Editor-in-Chief and Co-Editor-in-Chief of *Computational Advances in Mechanics and Engineering* (*CAME*). At this pivotal moment in the evolution of our field, we are both inspired by the remarkable progress in computational mechanics and acutely aware of the challenges and opportunities that lie ahead.

Expanding Horizons in Computational Engineering

The *CAME* stands at the intersection of computation, mechanics, and engineering—a nexus rapidly redefining scientific inquiry and technological innovation. The mission of our journal is to serve as a comprehensive and dynamic forum for the dissemination of original research, emerging trends, and interdisciplinary collaboration. We welcome contributions spanning advanced numerical methods, finite element and meshfree approaches, multiphysics modeling, computational materials science, biomechanics, energy systems, smart structures, and the rapidly growing interface with data science and artificial intelligence.

Our aim is to provide a premier platform for cutting-edge research, novel algorithms, high-performance computing strategies, and studies that bridge theory, simulation, and real-world applications. In this new era, the proliferation of advanced computational tools, AI, and data-driven modeling is transforming how we approach classical and emerging problems, from multiscale simulations and digital twins to AI-augmented optimization.

Editorial Vision and Priorities

Our editorial philosophy is rooted in three core principles: **scientific excellence, fairness, and community engagement**. As editors, we are committed to upholding the highest standards of scholarly rigor, integrity, and openness. The *CAME* will continue to publish peer-reviewed original research, comprehensive review articles, technical notes, and special issues on timely topics. We are particularly interested in studies that:

- Present innovative computational methods for mechanics and engineering problems,
- Integrate machine learning and artificial intelligence with physical modeling,
- Demonstrate reproducibility, open science practices, and ethical best practices,

Submitted: 01 August 2025
Accepted: 02 August 2025
Published: 10 November 2025

Vol. 1, **No.** 1, 2025.
10.62762/CAME.2025.996780

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Citation
Rasool, G., & Khan, M. I. (2025). Editorial: Charting the Future of Computational Advances in Mechanics and Engineering. *Computational Advances in Mechanics and Engineering*, 1(1), 1–2.

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- Bridge the gap between theory, simulation, and real-world engineering applications,
- Foster interdisciplinary collaboration across physical, life, and data sciences.

We also encourage submissions that address the increasing complexity of models, integration of massive datasets, the responsible use of AI, and the broader ethical and societal impacts of engineering solutions.

Nurturing a Vibrant Research Community

To nurture a vibrant and diverse research community, we are expanding our editorial board with leading experts from academia and industry, and we warmly invite early-career researchers and underrepresented groups to contribute their perspectives and expertise. Mentorship, special issues, and opportunities for involvement in editorial activities will be a priority for supporting the next generation of researchers.

Embracing Change and Responsibility

The field of computational mechanics is uniquely positioned to address some of humanity's most pressing challenges—sustainable energy, advanced manufacturing, smart infrastructure, bioengineering, and climate resilience. However, as we harness the power of computation, we must also ensure reliability, reproducibility, and ethical responsibility in our research. The *CAME* is committed to supporting open data, transparent reporting, and robust benchmarking frameworks.

As an open-access journal, the *CAME* is dedicated to removing barriers to knowledge dissemination, fostering inclusivity, and amplifying the reach and impact of high-quality research globally.

A Call to the Community

The success of the *CAME* depends on the collective enthusiasm, expertise, and integrity of our contributors, reviewers, editors, and readers. We invite you to:

- Submit your latest research, technical advances, and critical reviews to the *CAME*,
- Serve as peer reviewers and uphold scientific rigor,
- Propose and guest-edit special issues on emerging themes,
- Share your insights, experiences, and feedback to help us grow.

We recognize the dedication required from authors and reviewers, and we pledge to maintain an efficient, transparent, and fair review process.

Looking Forward

We are deeply grateful to the outgoing editors, our distinguished editorial board, and the entire the *CAME* community for their foundational work. Together, we will continue to elevate the journal's impact and foster a global forum for computational advances in mechanics and engineering. With your continued engagement, we are confident that the *CAME* will achieve new heights of scholarly excellence and global impact.

We look forward to receiving your contributions and to collaborating with you in shaping the future of our field.

Dr. Ghulam Rasool
Editor-in-Chief

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Co-Editor-in-Chief

Computational Advances in Mechanics and Engineering

Data Availability Statement

Not applicable.

Funding

This work was supported without any funding.

Conflicts of Interest

The authors declare no conflicts of interest.

Ethical Approval and Consent to Participate

Not applicable.

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