



*materials*



*Special Issue Reprint*

## **Advances in Computation and Modeling of Materials Mechanics**

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This Reprint compiles the published articles from the Special Issue “Advances in Computation and Modeling of Materials Mechanics” in the journal *Materials*. The collection features cutting-edge research contributions in materials mechanics, covering experimental characterization and computational modeling of composite materials, simulation of irradiation effects in nuclear materials for enhanced performance and safety, multi-scale material mechanics simulations, and innovative machine learning approaches for material property prediction and design. The articles highlight significant advancements in computational methodologies, including multi-scale modeling, high-performance computing, and data-driven techniques, which enable a deeper understanding of complex material behavior under diverse conditions. By providing insights into the latest developments, this Reprint serves as a valuable resource for researchers and engineers in materials science and engineering, fostering further innovation in the design and application of advanced materials for critical sectors.



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