



PREFACE

Michael Johlitz · Yann Marco · Lucien Laiarinandrasana

Preface

Received: 10 February 2024 / Accepted: 12 February 2024 / Published online: 26 February 2024
© The Author(s) 2024

Welcome to the realm of polymer mechanics, a fascinating field where the interplay of structure, behavior, and function manifests in myriad forms. In this volume, titled “Experimental Investigations and Modelling in Polymer Mechanics,” we embark on a journey through the intricate world of polymer materials.

Polymers, with their diverse chemical compositions and versatile physical properties, play a fundamental role in our daily lives, spanning industries from health care to aerospace. Understanding the mechanical behavior of polymers is crucial for optimizing their performance and designing innovative applications. This special issue delves into the experimental techniques and modeling approaches employed to unravel the complexities of polymer mechanics.

Within these pages, you will find a comprehensive exploration of experimental methodologies, from traditional mechanical testing to advanced characterization techniques. Complementing experimental endeavors, modeling serves as a powerful tool for elucidating the observed phenomena and predicting polymer behavior under diverse conditions.

As guest editors of this volume, we have endeavored to compile contributions from leading experts in the field, offering insights into the latest advancements and emerging trends in polymer mechanics research. It is our hope that this book will serve as a valuable resource for researchers, practitioners, and students alike, fostering continued exploration and innovation in the dynamic realm of polymer science and engineering.

We extend our gratitude to the contributors for their contributions and to the readers for their interest in this ever-evolving discipline. May this book inspire curiosity, spark inquiry, and contribute to the collective pursuit of knowledge in polymer mechanics.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article’s Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article’s Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

Funding Open Access funding enabled and organized by Projekt DEAL.

Publisher’s Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.