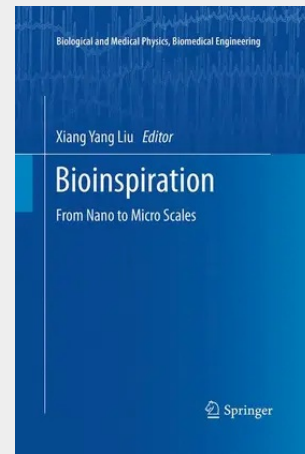


Bioinspiration

From Nano to Micro Scales

Methods in bioinspiration and biomimicking have been around for a long time. However, due to current advances in modern physical, biological sciences, and technologies, our understanding of the methods have evolved to a new level. This is due not only to the identification of mysterious and fascinating phenomena but also to the understandings of the correlation between the structural factors and the performance based on the latest theoretical, modeling, and experimental technologies. Bioinspiration: From Nano to Micro Scale provides readers with a broad view of the frontiers of research in the area of bioinspiration from the nano to macroscopic scales, particularly in the areas of biomineralization, antifreeze protein, and antifreeze effect. It also covers such methods as the lotus effect and superhydrophobicity, structural colors in animal kingdom and beyond, as well as behavior in ion channels. A number of international experts in related fields have contributed to this book, which offers a comprehensive and synergistic look into challenging issues such as theoretical modeling, advanced surface probing, and fabrication. The book also provides a link to the engineering of novel advanced materials playing an important role in advancing technologies in various fields.

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