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Physics : Biological and Medical Physics, Biophysics

Gruber, P., Bruckner, D., Hellmich, C., Schmiedmayer, H.-B., Stachelberger, H., Gebeshuber, I.C. (Eds.)

Biomimetics -- Materials, Structures and Processes

Examples, Ideas and Case Studies

- Presents state-of-the-art research results in biomimetics and bio-inspired cellular structures
- Provides guidance to the application of biomaterials
- Gives ideas for the construction of buildings by learning from the nature
- Bionic aspects of biodynamics described
- Tribology in biology covered

The book presents an outline of current activities in the field of biomimetics and integrates a variety of applications comprising biophysics, surface sciences, architecture and medicine. Biomimetics as innovation method is characterised by interdisciplinary information transfer from the life sciences to technical application fields aiming at increased performance, functionality and energy efficiency. The contributions of the book relate to the research areas: - Materials and structures in nanotechnology and biomaterials - Biomimetic approaches to develop new forms, construction principles and design methods in architecture - Information and dynamics in automation, neuroinformatics and biomechanics Readers will be informed about the latest research approaches and results in biomimetics with examples ranging from bionic nano-membranes to function-targeted design of tribological surfaces and the translation of natural auditory coding strategies.

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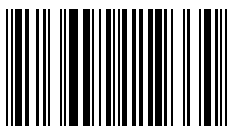
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