Bioinspired Materials Science and Engineering
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**DESCRIPTION**

An authoritative introduction to the science and engineering of bioinspired materials

*Bioinspired Materials Science and Engineering* offers a comprehensive view of the science and engineering of bioinspired materials and includes a discussion of biofabrication approaches and applications of bioinspired materials as they are fed back to nature in the guise of biomaterials. The authors also review some biological compounds and shows how they can be useful in the engineering of bioinspired materials.

With contributions from noted experts in the field, this comprehensive resource considers biofabrication, biomacromolecules, and biomaterials. The authors illustrate the bioinspiration process from materials design and conception to application of bioinspired materials. In addition, the text presents the multidisciplinary aspect of the concept, and contains a typical example of how knowledge is acquired from nature, and how in turn this information contributes to biological sciences, with an accent on biomedical applications. This important resource:

- Offers an introduction to the science and engineering principles for the development of bioinspired materials
- Includes a summary of recent developments on biotemplated formation of inorganic materials using natural templates
- Illustrates the fabrication of 3D-tumor invasion models and their potential application in drug assessments
- Explores electroactive hydrogels based on natural polymers
Contains information on turning mechanical properties of protein hydrogels for biomedical applications

Written for chemists, biologists, physicists, and engineers, *Bioinspired Materials Science and Engineering* contains an indispensable resource for an understanding of bioinspired materials science and engineering.

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**ABOUT THE AUTHOR**

GUANG YANG, P HD is a professor in the College of Life Science and Technology at Huazhong University of Science and Technology in China. Her research involves biomaterial, biomanufacture and nanomedicine. She co-chaired the 2014 Sino-German Symposium on Bioinspired Materials Science and Engineering (BMSE3-Bio). Dr. Yang has published over 90 peer-reviewed papers and numerous book chapters. She also has over 10 issued and pending Chinese patents and serves as a reviewer for several academic journals.

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