

BIONANOTECHNOLOGY

Biological Self-assembly and its Applications

Edited by: Bernd H. A. Rehm *Institute of Molecular BioSciences, Massey University, New Zealand*
x + 310 pp, February 2013 ISBN: 978-1-908230-16-4 \$319/£159

Under the expert guidance of Bernd H. A. Rehm, the authors of this book provide a survey of the most striking and successful approaches for the production of biogenic nanodevices considering not only living organisms as manufacturer but also *in vitro* processes that utilize the self-assembly of isolated biomolecules. The book provides a topical overview of the vast field of bionanotechnology by describing various biological nanostructures, the implied design space and the enormous potential for applications in medicine and technology. Two chapters describe the microbial production of tailor-made self-assembled nanostructures which can be processed into functional nanoparticles. Other chapters comprehensively summarize recent developments in the use of protein-based assemblies for nanodevice and nanomaterials production. Topics include: polymer synthesis, self-assembly and display technology, self-assembly and application of cellulosomal components, protein-aided mineralization of inorganic nanostructures, amyloid fibrils as bionanomaterials, self-assembly and applications of bacteriophages and virus-like particles, plant oil bodies and oleosins-structure function and biotechnological applications, visual restoration using microbial rhodopsins, magnetosomes and liposome-nanoparticle assemblies.

This is a recommended book for anyone interested in the fields of nanotechnology, biotechnology, metabolic engineering, molecular biology, genetic engineering and protein design.

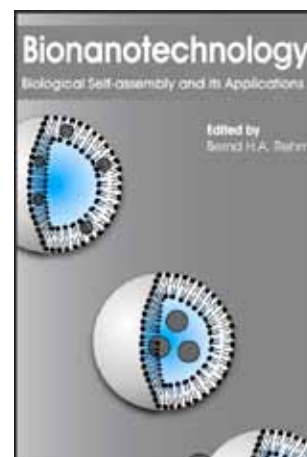


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