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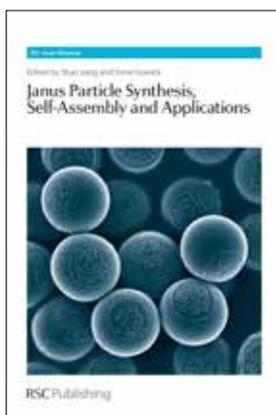


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Janus Particle Synthesis, Self-Assembly and Applications

Edited by Shan Jiang, Massachusetts Institute of Technology, USA | Steve Granick, University of Illinois at Urbana-Champaign, USA

Named after the two-faced roman god, Janus particles have gained much attention due to their potential in a variety of applications, including drug delivery. This is the first book devoted to Janus particles and covers their methods of synthesis, how these particles self-assemble, and their possible uses. It goes beyond a simple summary and offers a logical way of selecting the proper synthetic route for Janus particles for certain applications. Written by pioneering experts in the field, the book introduces the Janus concept to those new to the topic and highlights the most recent research progress on the topic for those active in the field.

Hardback | 312 pages | ISBN 9781849734233 | 2012 | £153.99

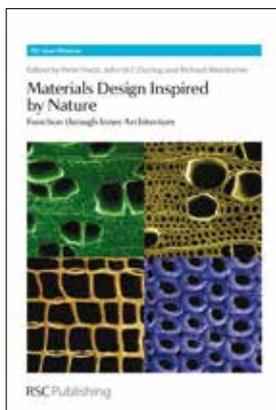


Magnetorheology Advances and Applications

Edited by Norman Wereley, University of Maryland, USA

Magnetorheological fluids, smart fluids which change viscosity in the presence of a magnetic field, are of great commercial interest for many engineering applications such as shock absorbers and dampers in aerospace. Magnetorheology: Advances and Applications provides an update on the key developments in the physics, chemistry and uses of magnetorheological fluids. Edited by a leading expert and with contributions from distinguished scientists in the field this timely book is suitable for chemists, physicists and engineers wanting to gain a comprehensive overview of these smart materials.

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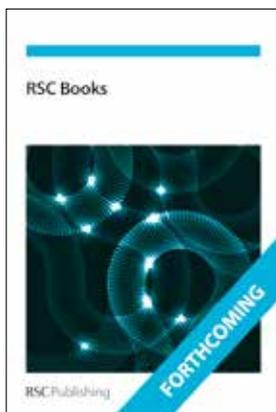


Materials Design Inspired by Nature Function through Inner Architecture

Edited by Peter Fratzl, John W C Dunlop, Richard Weinkamer, Max Planck Institute of Colloids and Interfaces, Germany

The inner architecture of a material can have an astonishing effect on its overall properties and is vital to understand when designing new materials. Nature is a master at designing hierarchical structures and so researchers are looking at biological examples for inspiration to create man-made materials. Materials Design Inspired by Nature is the first book to address the relationship between the inner architecture of natural materials and their physical properties for materials design. The book explores examples from plants, the marine world, arthropods and bacteria, where the inner architecture is exploited to obtain specific mechanical, optical or magnetic properties along with how these design principles are used in man-made products. Experimental methods used to investigate hierarchical structures are also covered. Written by leading experts in bio-inspired materials research, this is essential reading for anyone developing new materials.

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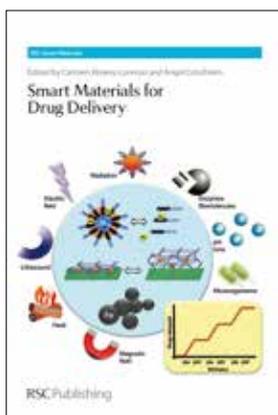


Responsive Photonic Nanostructures Smart Nanoscale Optical Materials

Edited by Yadong Yin, University of California, Riverside, USA

Photonic crystal nanostructures, whose photonic properties can be tuned in response to external stimuli, are desired for a wide range of applications in colour displays, biological and chemical sensors, and inks and paints. Until now there is no single resource which gives a complete overview of these exciting smart materials. This book details the fabrication of photonic crystal structures through self-assembly approaches, general strategies and approaches for creating responsive photonic structures for different responsive systems such as chemical, optical, electrical and magnetic as well as their applications. With contributions from leading experts in the field, this comprehensive summary on responsive photonic nanostructures is suitable for postgraduates and researchers in academia and industry interested in smart materials and their potential applications.

Hardback | 300 pages | ISBN 9781849736534 | 2013 | £149.99



Smart Materials for Drug Delivery

Complete Set

Edited by Carmen Alvarez-Lorenzo, Angel Concheiro, Universidad de Santiago de Compostela, Spain

Novel smart materials are needed for the design of intelligent drug delivery systems to enable the controlled release of active molecules. With so many papers available on smart and stimuli-responsive materials for drug delivery applications it's hard to know where to start reading about this exciting topic. This set pulls together the recent findings in the area and provides a critical analysis of the information available and how it can be applied to advanced drug delivery. Written by leading experts in the field, including a foreword from distinguished scientist Nicholas Peppas, The University of Texas at Austin, USA, the book will provide both an introduction to the key areas for graduate students and new researchers in the stimuli-responsive field as well as serving as a reference for those already working on fundamental materials research or their applications.

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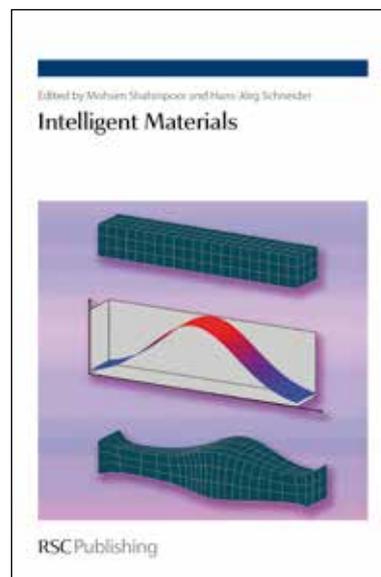
Intelligent Materials

Edited by Mohsen Shahinpoor, University of Maine, USA | Hans-Jörg Schneider, Saarland University, Germany

In this exceptional text the expertise of specialists across the globe is drawn upon to present a truly interdisciplinary outline of the topic. The influence of current research in this field on future technology is undisputed and potential applications of intelligent materials span nanoscience, nanotechnology, medicine, engineering, biotechnology, pharmaceutical and many other industries. This is an authoritative introduction to the most recent developments in the area, which will provide the reader with a better understanding of the almost unlimited opportunities in the progress and design of new intelligent materials. An indispensable reference for anyone contemplating working in the field.

"This will be the starting point for all researchers looking for industrial solutions involving smart materials. Congratulations to the Editors for providing such a vast and interdisciplinary book." P.-G de Gennes, France
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