Molecular Materials
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DESCRIPTION

“… the book does an excellent job of putting together several different classes of materials. Many common points emerge, and the book may facilitate the development of hybrids in which the qualities of the “parents” are enhanced.”—Angew. Chem. Int. Ed. 2011

With applications in optoelectronics and photonics, quantum information processing, nanotechnology and data storage, molecular materials enrich our daily lives in countless ways. These materials have properties that depend on their exact structure, the degree of order in the way the molecules are aligned and their crystalline nature. Small, delicate changes in molecular structure can totally alter the properties of the material in bulk.

There has been increasing emphasis on functional metal complexes that demonstrate a wide range of physical phenomena. Molecular Materials represents the diversity of the area, encapsulating magnetic, optical and electrical properties, with chapters on:

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• Physical Properties of Metallomesogens
• Molecular Magnetic Materials
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ABOUT THE AUTHOR

Professor Duncan Bruce graduated from the University of Liverpool (UK), where he also gained his PhD. In 1984, he took up a Temporary Lectureship in Inorganic Chemistry at the University of Sheffield and was awarded a Royal Society Warren Research Fellowship. He was then appointed Lecturer in Chemistry and was promoted Senior Lecturer in 1994, in which year he became co-director of the Sheffield Centre for Molecular Materials. In 1995, he was appointed Professor of Inorganic Chemistry at the University of Exeter. Following the closure of Exeter's chemistry department in 2005, Professor Bruce took up his present position as Professor of Materials Chemistry in York. He is currently Chair of the Royal Society of Chemistry Materials Chemistry Forum. His current research interests include liquid crystals and nanoparticle-doped, nanostructured, mesoporous silicates. His work has been recognized by various awards including the British Liquid Crystal Society's first Young Scientist prize and the RSC's Sir Edward Frankland Fellowship and Corday-Morgan Medal and Prize. He has held visiting positions in Australia, France, Japan and Italy.

Dr. Richard Walton, who was also formerly based in the Department of Chemistry at the University of Exeter, now works in the Department of Chemistry at the University of Warwick. His research group works in the area of solid-state materials chemistry and has a number of projects focusing upon the synthesis, structural characterization and properties of inorganic materials.

Dermot O'Hare is Professor in the Chemistry Research Laboratory at the University of Oxford. His research group has a wide range of research interests. They all involve synthetic chemistry ranging from organometallic chemistry to the synthesis of new microporous solids.

Duncan Bruce and Dermot O'Hare have edited several editions of Inorganic Materials published by John Wiley & Sons Ltd.
Inorganic Materials Series

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