**DESCRIPTION**

Supramolecular chemistry is ‘chemistry beyond the molecule’ - the chemistry of molecular assemblies and intermolecular bonds. It is one of today’s fastest growing disciplines, crossing a range of subjects from biological chemistry to materials science; and from synthesis to spectroscopy.

*Supramolecular Chemistry* is an up-to-date, integrated textbook that tells the newcomer to the field everything they need to know to get started. Assuming little in the way of prior knowledge, the book covers the concepts behind the subject, its breadth, applications and the latest contemporary thinking in the area. It also includes coverage of the more important experimental and instrumental techniques needed by supramolecular chemists.

The book has been thoroughly updated for this second edition. In addition to the strengths of the very popular first edition, this comprehensive new version expands coverage into a broad range of emerging areas. Clear explanations of both fundamental and nascent concepts are supplemented by up-to-date coverage of exciting emerging trends in the literature. Numerous examples and problems are included throughout the book. A system of “key references” allows rapid access to the secondary literature, and of course comprehensive primary literature citations are provided. A selection of the topics covered is listed below.

- Cation, anion, ion-pair and molecular host-guest chemistry
- Crystal engineering
- Topological entanglement
• Clathrates
• Self-assembly
• Molecular devices
• Dendrimers
• Supramolecular polymers
• Microfabrication
• Nanoparticles
• Chemical emergence
• Metal-organic frameworks
• Gels
• Ionic liquids
• Supramolecular catalysis
• Molecular electronics
• Polymorphism
• Gas sorption
• Anion-pinteractions
• Nanochemistry

*Supramolecular Chemistry* is a must for both students new to the field and for experienced researchers wanting to explore the origins and wider context of their work.

**Review:**

"At just under 1000 pages, the second edition of Steed and Atwood's *Supramolecular Chemistry* is the most comprehensive overview of the area available in textbook form...highly recommended."

— *Chemistry World, August 2009*
Jonathan W. Steed was born in London, UK in 1969. He obtained his B.Sc. and Ph.D. degrees at University College London, working with Derek Tocher on coordination and organometallic chemistry directed towards inorganic drugs and new metal-mediated synthesis methodologies. He graduated in 1993, winning the Ramsay Medal for his Ph.D. work. Between 1993 and 1995 he was a NATO postdoctoral fellow at the University of Alabama and University of Missouri, working with Jerry Atwood. In 1995 he was appointed as a Lecturer at Kings College London and in 1998 he was awarded the Royal Society of Chemistry Meldola Medal. In 2004 he joined Durham University where he is currently Professor of Inorganic Chemistry. As well as Supramolecular Chemistry (2000) Professor Steed is co-author of the textbook Core Concepts in Supramolecular Chemistry and Nanochemistry (2007) and more than 200 research papers. He has published a large number of reviews, book chapters and popular articles as well as two major edited works, the Encyclopaedia of Supramolecular Chemistry (2004) and Organic Nanostructures (2008). He has been an Associate Editor of New Journal of Chemistry since 2001 and is the recipient of the Vice Chancellor’s Award for Excellence in Postgraduate Teaching (2006). His interests are in supramolecular sensing and molecular materials chemistry.

Jerry L. Atwood was born in Springfield MO, USA in 1942. He attended Southwest Missouri State University, where he obtained his B.S. degree in 1964. He carried out graduate research with Galen Stuckey at the University of Illinois, where he obtained his Ph.D. in 1968. He was immediately appointed as an Assistant Professor at the University of Alabama, where he rose through Associate Professor (1972) to full Professor in 1978. In 1994 he was appointed Professor and Chair at the University of Missouri – Columbia. Professor Atwood is the author of more than 600 scientific publications. His research interests revolve around a number of themes in supramolecular chemistry including gas storage and separation and the control of confined space. He has also worked on the self-assembly of noncovalent capsules, liquid clathrate chemistry, anion binding and fundamental solid state interactions, and is a world-renown crystallographer. He co-founded the journals Supramolecular Chemistry (1992) and Journal of Inclusion Phenomena (1983). He has edited an enormous range of seminal works in supramolecular chemistry including the five-volume series Inclusion Compounds (1984 and 1991) and the 11-volume Comprehensive Supramolecular Chemistry (1996). In 2000 he was awarded the Izatt-Christensen Prize in Supramolecular Chemistry.

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• A comprehensive, modern overview of the field of Supramolecular Chemistry and its evolution into the nanoscale.

• Thoroughly revised and modernised coverage of traditional topics such as molecular and ion host guest chemistry, crystal engineering, networks, topological entanglement, clathrates, self-assembly, molecular devices and liquid phase assembly.

• Covering new topics such as dendrimers, supramolecular polymers, microfabrication, nanoparticles, chemical emergence, metal-organic frameworks, ion pairs, gels, ionic liquids, supramolecular catalysis, molecular electronics, polymorphism, gas sorption reactions and anion-pi interactions.

• Five new chapters in this new edition: ion pair receptors, molecular guests in solution, network solids, gels, and nanochemistry

• Unique “key references system” to highlight crucial reviews and primary literature.

• Exercises and problems with answers on a web site.

• Careful explanation of difficult or potentially unfamiliar topics. While fully contemporary with modern research literature the book assume little prior knowledge of supramolecular chemistry.

• Numerous key experimental techniques described in accessible “boxes” useful for the non-expert while maintaining the flow of scientific ideas for the more experienced.

• All technical terms are carefully explained and placed into context.

• All figures from the book are available from a Wiley supplementary website as Powerpoint slides for instructors

• Author maintains a website of relevant URLs and additional information ( www.dur.ac.uk/jon.steed/books.htm.)

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