













Our books publishing programme supports scientists, researchers, students

A guide to our book types

Book series

Ongoing, in-depth coverage of hot topics and developments in key fields of research.

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The books in our analytical science portfolio detail the latest research advances in analytical science, highlight groundbreaking technology and provide reference information, opinions and perspective on a broad range of subjects, from carbon-based nanomaterials to the latest developments in GC-MS.

Five minutes with...

Tell me about yourself

I am professor of medical imaging physics at Western Sydney University. I specialise in the 'physical side' of magnetic resonance, including how to probe molecular dynamics using diffusion and relaxation measurements and also magnetic resonance imaging (MRI). These magnetic resonance techniques are applicable to an extraordinarily diverse range of applications – you can use the same techniques for studying cancer biopsies as you can for grape development.

What can readers expect from your series?

New Developments in NMR is becoming a very large series of books, written by leading magnetic resonance experts. The six series editors select renowned



About the series

ISSN: 2052-3068

Editor-in-chief

Michael Thompson University of Toronto,
Canada

Series editors

Subrayal Reddy University of Central Lancashire,
UK | **Damien Arrigan** Curtin University, Australia |
Mengsu (Michael) Yang City University of Hong
Kong, Hong Kong

Providing a comprehensive look at the state of the art in detection technologies and materials used in the development of diagnostics for clinical, medicinal, and environmental applications, the books in this series are a valuable reference for graduate students and professional researchers across academia and industry. Emphasising the detection of chemicals and biochemical species in a quantitative fashion, the series will also interest advisors, consultants and government agency staff, who will benefit from the detailed nature of these titles.

Carbon-based Nanomaterials in Analytical Chemistry



Carlos D Garcia Clemson University, USA | **Agustín G Crevillén** Universidad Nacional de Educación a Distancia, Spain | **Alberto Escarpa** Universidad of Alcalá, Spain

This book serves as a reference manual which guides readers through the possibilities of carbon nanomaterials in various fields of chemical analysis. It provides current guidance to selecting the most appropriate material for targeted analytical application whilst considering the future trends in this field. Presenting the most relevant advances in employing carbon-based nanostructured materials for analytical purposes, this book fills a gap in the literature for graduate students and professional researchers across analytical chemistry in industry and academia.

Hardback | 250 pages | 9781788011020 | 2018 | £159.00 | \$223.00

Confining Electrochemistry to Nanopores From Fundamentals to Applications



Yi-Lun Ying East China University of Science and Technology, China | **Yao Lin** East China University of Science and Technology, China | **Yi-Tao Long** East China University of Science and Technology, China

Aimed at developing the concept of the electrochemical confined space in analysing single molecule



Quenched-phosphorescence Detection of Molecular Oxygen

Applications in Life Sciences

Dmitri B Papkovsky University College Cork, Ireland | **Ruslan I Dmitriev** University College Cork, Ireland

Providing an overview of the recent developments in oxygen sensing employing quenching of phosphorescent materials including dyes, polymers and pigments, this book will bring the literature up to date as this field has seen major progress and deployment of advanced sensor chemistry, materials and detection systems. The applications are broad and developing particularly in biomedical, food packaging and environmental areas open to commercialisation. Aimed at researchers in academia and industry interested in oxygen measurement and technologies, it delivers practical guidance for potential new users and researchers.

Hardback | 400 pages | 9781788011754 | 2018 | £179.00 | \$251.00



Also of interest



Mass Spectrometric Characterisation of Lignin and Related Compounds



New Techniques

Joseph Banoub Memorial University of Newfoundland, Canada

Devoted to highlighting mass spectrometry and tandem mass spectrometry techniques used for the elucidation of the chemical structure of lignin, this unique book sheds new light on the research in this area. Specific pertinent examples are presented that highlight the key role of the state-of-the-art mass spectrometry methods that employ softer ionization modes to analyse the structure of native and modified types of lignin. Providing an overview and critique of the current understanding of lignin structure, it takes into account the various extraction methodologies that have been employed. This book is useful for mass spectrometry researchers and other analytical chemists interested in biopolymers and also those in bio-fuels laboratories.

Hardback | 350 pages | 9781782628286 | 2017 | £169.00 | \$237.00

Mass Spectrometry in Biopharmaceutical and Emerging Drug Modalities





Optimizing NMR Methods for Structure Elucidation



Characterizing Natural Products and Other Organic Compounds

Darcy C Burns University of Toronto, Canada | **William F Reynolds** University of Toronto, Canada

This book is aimed at informing organic chemists and natural products chemists on the use of NMR for structure elucidation to enable them to ensure they yield the most reliable possible data in the minimum possible time. It covers the latest pulse sequences, acquisition and processing methods, practical areas not covered in most texts eg detailed consideration of the relative advantages and disadvantages of different pulse sequences, choosing acquisition and processing parameters to get the best possible data in the least possible time, pitfalls to avoid and how to minimize the risks of getting wrong structures. Useful in industrial, pharma or research environments, this reference book is for anyone involved with organic chemistry research and, in particular, natural products research requiring advice for getting the best results from the NMR facilities.

Hardback | 250 pages | 9781782625391 | 2018 | £159.00 | \$223.00

Paramagnetism in Experimental Biomolecular NMR



Claudio Luchinat University of Florence | **Giacomo Parigi** University of Florence, Italy | **Enrico Ravera** University of Florence, Italy

Paramagnetic NMR is a growing technique which represents an increasingly important tool for the investigation of biomolecules. This book presents an update and overview of the paramagnetic NMR effects as well as protocols for practical implementation of state-of-the-art experiments. All experiments are backed up by a solid theoretical foundation. Compiled by experts in the field, this book has international appeal for researchers as well as students interested in magnetic resonance and structural biology who require experimental support.

Hardback | 300 pages | 9781788010863 | 2018 | £159.00 | \$223.00

Practical NMR for Oil and Gas Exploration



Lizhi Xiao China University of Petroleum, Beijing, China

Describing comprehensively the development and applications of NMR to oil and gas exploration, this book will bring the literature up to date as it has developed very quickly in the last two decades. Outlining new methodologies, it will provide a thorough and comprehensive document enabling a better understanding of the basics of NMR physics, petrophysics, downhole tools and raw data. This book is designed to meet the needs of the community and encourage applications in low field NMR. The author has more than 30 years' experience in this hot and important topic.

Hardback | 600 pages | 9781849739160 | 2018 | £199.00 | \$279.00





Electron Paramagnetic Resonance



Volume 26

Victor Chechik University of York, UK | Damien M Murphy University of Cardiff, UK

The topics covered in this volume describe contrasting types of Electron Paramagnetic Resonance (EPR) application which remain very significant in modern science. This volume compiles critical coverage of developments in the recent literature by a hand-picked group of researchers at the cutting-edge of the field. Providing a snapshot of the area, this book is a useful addition to any library supporting this research.

Hardback | 250 pages | 9781788013727 | 2019 | £314.95 | \$441.00

Nuclear Magnetic Resonance



Volume 46

Robert Law Imperial College London

Electrochemical Reduction of Carbon Dioxide

Overcoming the Limitations of Photosynthesis

David Fermin University of Bristol, UK | Frank Marken University of Bath, UK

One of the crucial challenges in the energy sector is the efficient capture and utilisation of CO₂ generated from fossil fuels. This book covers the most recent developments in the field of electrochemical reduction of CO₂, from first-principle mechanistic studies to technological perspectives. An introduction to basic concepts in electrochemistry and electrocatalysis is included to provide a background for newcomers to this field. This book provides a comprehensive overview for researchers and industrial chemists working in environmental science, electrochemistry and chemical engineering.

Hardback | 300 pages | 9781782620426 | 2018 | £149.00 | \$209.00

Integrated Solar Fuel Generators

Ian D Sharp Lawrence Berkeley National Laboratory, USA | Harry A Atwater California Institute of Technology, USA | Hans-Joachim Lewerenz Helmholtz-Zentrum Berlin, Germany

Exploring integrated artificial photosystems, this book discusses the scientific and engineering efforts to overcome the formidable challenges involved with this solar fuels technology. It describes the critical areas of research and development towards viable integrated solar fuels systems, the current state of the art of these efforts, and outlines the future research needs that will accelerate progress towards a deployable technology. It is an important reference for researchers and industrialists in chemistry and engineering working in solar energy conversion.

Hardback | 350 pages | 9781782625551 | 2018 | £169.00 | \$237.00

CO₂-switchable Materials



Solvents, Surfactants, Solutes and Solids

Philip G Jessop Queen's University, Canada | Michael F Cunningham Queen's University, Canada

Summarising recent progress in the preparation, self-assembly, and functional applications of CO₂-responsive materials, this book explores physical chemistry of CO₂-switching, including constraints on structural design and process conditions, together with applications. The book emphasises the environmental, health, and safety advantages and disadvantages compared to conventional materials. It is ideal for researchers and industrialists working in green chemistry, chemical engineering, and polymer chemistry.

Hardback | 250 pages | 9781782628767 | 2018 | £149.00 | \$209.00

Green Chemistry for Surface



About the series

ISSN: 1350-7583

Series editors

R M Harrison University of Birmingham, UK | **R E**

Hester University of York, UK

Written by world experts in their specialised fields, this series tackles important environmental topics. It also focuses on broader issues, notably economic, legal and political considerations. Authors are drawn from industry, the public service and academic organisations. The books are invaluable for scientists and engineers in industry and public service, consultancy and academic institutions. They are also essential reading for students taking specialised courses in environmental chemistry, and provide supplementary reference

Also in the series



Cereal Grain-based Functional Foods



Carbohydrate and Phytochemical Components

Trust Beta University of Manitoba, Canada | Mary Ellen Camire University of Maine, USA

The last decade has seen much new research into determining which carbohydrates and phytochemicals are present in grains, and how to make these nutritionally available. This book covers the chemical composition of cereal grains, with special emphasis on new techniques to improve their functionality. Including topics such as the composition and functionality of oligosaccharides and sugars, polysaccharide types, and the role and definition of dietary fibre, this title provides researchers, clinicians and students with a comprehensive compendium on aspects of whole grain components.

Hardback | 352 pages | 9781788011488 | 2018 | £169.00 | \$237.00

Eggs as Functional Foods and Nutraceuticals for Human Health



Jianping Wu University of Alberta, Canada

Often described as 'nature's perfect food', perceptions of egg consumption and human health have evolved substantially over the past decades. This book presents recent developments on the processing of eggs for nutritional, biomedical, functional food, nutraceutical and other value-added applications, as well as providing new evidence around egg consumption on cardiovascular diseases, metabolic syndrome, weight management, mental development, eye, muscle, and ageing health. It will appeal to food scientists, food chemists, researchers in human nutrition specialising in eggs and dairy nutrition, and those involved in egg production.

Hardback | 480 pages | 9781788012133 | 2018 | £179.00 | \$251.00

Non-extractable Polyphenols and Carotenoids **ee**

Importance in Human Nutrition and Health

Fulgencio Saura-Calixto ICTAN-CSIC, Spain |

Book series



Popular
science



Biomaterial Control of Therapeutic Stem Cells

Akon Higuchi National Central University, Taiwan

Covering both human embryonic stem cells (hESCs) and human induced pluripotent stem cells (hiPSCs), this book bridges the gap between biomaterials research of stem cells and their use in clinical trials. The differentiation of human pluripotent stem cells (hPSCs) can be regulated by biological and physical cues from the biomaterials they are cultured on. This book provides a systematic treatment of stem cell culture and differentiation on specific biomaterials covering: 2D and 3D culture of hPSCs; differentiation of stem cells into cardiomyocytes, osteoblasts, neural lineages and hepatocytes; and biomaterials for clinical trials of stem cell therapies. A closing chapter looks at future trends. Written by an international leader in the field, this book is suitable for researchers working in biomaterials science, bioengineering, regenerative medicine and drug design.

Hardback | 250 pages | 9781788012072 | 2019 | £149.00 | \$209.00



Stimuli-responsive Drug Delivery Systems

Amit Singh AllExcel Inc., USA | **Mansoor M. Amiji** Northeastern University, USA

Providing an essential grounding to the booming area of smart materials, this book





About the series

ISSN: 2472-3819

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Understanding Intermolecular Interactions in the Solid State

Approaches and Techniques

Deepak Chopra IISER Bhopal, India



Technological and computational advances in the last decade have meant a vast increase in knowledge about crystalline matter. This book will focus on the role of intermolecular interactions in the assembly of molecules in periodic arrangements in crystals. It highlights experimental and computational approaches to understanding weak intermolecular interactions in the solid state. This will be a useful resource for postgraduates and researchers in crystal engineering, crystallography, physical chemistry, solid-state chemistry, supramolecular chemistry and materials science.

Hardback | 350 pages | 9781788010795 | 2018 | £169.00 | \$237.00





About the series

ISSN: 2044-0790

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Polymer chemistry is a vast research area and with so many papers published on the topic, it's hard to know where to start and what papers to read. With contributions from leading experts across the world, each book in the series covers key themes in polymer chemistry research for graduate students and researchers. The perfect introduction to key topics giving the reader the knowledge to continue their work.

Click Polymerization



Anjun Qin South China University of Technology, China | **Ben Zhong Tang** The Hong Kong University of Science and Technology, Hong Kong

A comprehensive summary of the recently emerged technique of click polymerization, edited by world renowned experts. From the basic knowledge through to the recent progress of click polymerizations, the book provides a complete overview for readers. This authoritative guide will provide an excellent resource for graduate students and researchers interested in polymer chemistry and materials science.

Hardback | 350 pages | 9781782627166 | 2018 | £169.00 | \$237.00

Macromolecules Incorporating Transition Metals



Tackling Global Challenges

Alaa Abd-El-Aziz University of Prince Edward Island, Canada | **Christian Agatemor** University of Prince Edward Island, Canada | **Wai-Yeung Wong** Hong Kong Baptist University, Hong Kong

New materials are required to solve global challenges such as the growing energy demand and reducing the threat of new and re-emerging diseases and infections. Metallopolymers is an exciting and promising area of research and this book focuses on the strategy of incorporating transition metals into macromolecules
Royal Society of Chemistry | gs8 books | materialsCS0ience | rsc.li/materials-books-18

Molecularly Imprinted Polymers for Analytical Chemistry Applications



Włodzimierz Kutner Polish Academy of Sciences, Poland | Piyush Sindhu Sharma
Polish Academy of Science, Poland

There is great interest in the preparation and application of synthetic receptor-based recognition units for chemical sensors. The book summarises the latest developments and applications of molecular imprinting for selective chemical sensing. Specific chapters include: designing of molecular cavities aided by computational modelling, application of molecularly imprinted polymers (MIPs) for separation as well as sensing of pharmaceuticals and nucleotides. The book is suitable for analytical and biomedical scientists as well as polymer and materials scientists.

Hardback | 350 pages | 9781782626473 | 2018 | £179.00 | \$251.00

Photopolymerisation Initiating Systems



Jacques Lalevee Institut de Science des Matériaux de Mulhouse, France |
Jean-Pierre Fouassier ENSCMu-UHA, France

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About the series

ISSN: 2046-0066

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About the series

ISSN: 2048-7681

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With contributions from experts in the field, the books in this series provide an essential overview of the latest developments in soft matter research. Each title covers a specific aspect of soft matter, from the fundamental concepts of soft matter systems to the diverse applications across different disciplines. The books are suitable for advanced undergraduate students, postgraduate students and professional researchers working in soft matter science and related fields.

Electrospinning

Nanoscience

Volume 5

P John Thomas





Book series



Professional
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Textbooks



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About the series

ISSN: 2055-1975

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Nick J Westwood University of St Andrews, UK

The Chemical Biology Series is a new venture that aims to provide a comprehensive suite of reference books on developing areas at the interface of chemistry and biology. Chapters written and edited by experts worldwide will introduce practical aspects and best methods, will explain the fundamental chemistry knowledge, and will provide forward-looking perspectives. Ultimately, the series aims to aid postgraduate students and researchers apply chemical tools and understand current challenges in the field. The books will provide a valuable reference for scientists working outside their own area of current expertise or looking to engage in chemical biology research. Coverage will include topics such as analytical and computational tools, chemical probes, imaging, glycosciences, genomics and transcriptomics, chemical genetics and gene editing tools, and aspects of synthetic biology.

Chemical and Biological Synthesis



Enabling Approaches for Understanding Biology

Nick J Westwood University of St Andrews, UK | **Adam Nelson** University of Leeds, UK

Through a series of recent case studies, this book summarises and showcases the ways in which the preparation of new chemical tools by synthesis has had a major impact in chemical biology. The book provides synthetic chemists with the broader context to which their work contributes and the biological questions that can be addressed through it. It also introduces synthetic techniques and methods to those who wish to incorporate synthesis for the first time into their biology-focused research programmes. It will be a useful guide to postgraduate students and researchers in synthetic organic chemistry and chemical biology.

Hardback | 350 pages | 9781782629481 | 2019 | £169.00 | \$237.00



Cyclic Peptides



From Bioorganic Synthesis to Applications

Wilfred A van der Donk University of Illinois, USA | **Jesko Koehnke** Helmholtz Centre for Infection Research, Germany | **James Naismith** University of St Andrews, UK

Cyclic peptides are increasingly being employed as a chemical tool in biology and drug discovery.

This book provides the reader with a comprehensive overview of the synthesis and applications of these useful molecules. Following an introduction to cyclic peptides, biosynthetic and traditional chemical routes to cyclic peptides are reviewed, analysis of cyclic peptides is discussed and, finally, a number of chapters are dedicated to their applications. A timely collection of chapters by leading researchers in the field, this book will be an essential resource for students, researchers and industrialists in medicinal, bioorganic, natural product and analytical chemistry.

Hardback | 300 pages | 9781782625285 | 2018 | £159.00 | \$237.00





Protein Crystallography

Challenges and Practical Solutions

Konstantinos Beis Imperial College London, UK | Gwyndaf Evans Diamond Light Source, UK



Protein crystallography has become vital to further understanding the structure and function of many complex biological systems. With contributions from leading researchers whose software are used worldwide, this book provides a coherent approach on how to handle difficult crystallographic data and assess its quality. Chapters will cover all key aspects of protein crystallography from





About the series

ISSN: 1757-7179

Editor-in-chief
Diana Anderson,







Written by internationally recognised authors, our physical chemistry books provide in-depth, reliable information on the ever-expanding range of subjects at the interface of physical chemistry and, chemical physics. In 2018, look out for the latest research using catalysts in renewable energy, physical models and computational methods, astrochemistry and more.

Five minutes with...

When did you first become interested in your field?

My interest in ultrafast dynamics, and eventually, attosecond science, was really triggered by a year that I spent in Ottawa. At the time, there was quite a unique mix of students and postdocs there, many of whom have gone on to highly successful careers, and the discussion climate was probably the best I have ever witnessed. People were talking about ideas all day, and I got a lot of inspiration there that I could capitalise on when I had the opportunity to establish my own research group.

What do you think the future looks like for attosecond science?

It looks extremely bright. Attosecond experiments are now being performed investigating electron dynamics in almost any form of matter that we can



About the series

ISSN: 1757-6725

Editor-in-chief

Chris Hardacre Queen's University Belfast, UK

Series editors

Jose Rodriguez Brookhaven National Laboratory, USA | **Bert Klein Gebbink** Utrecht University, The Netherlands

Catalysis is a major area of scientific research covering numerous fields of chemistry, and is a key factor in tackling many of the scientific challenges faced today, such as renewable energy systems and environmental protection. The books in this series provide an accessible reference for postgraduates, academics and industrialists working in this exciting field. The books cover both the research developments and applications of catalysis, across academia and industry.

Catalysis for Renewable Energy



Rafael Luque Universidad de Cordoba, Spain | **Jinlong Gong** Tianjin University, China

Covering recent advances in catalytic strategies for the production of renewable energy, this book explores technologies including biomass conversion to water splitting, CO₂ conversion. Focusing on catalyst design and development, this is a comprehensive reference for researchers working in catalysis and renewable energies.

Hardback | 250 pages | 9781782629719 | 2018 | £149.00 | \$209.00

Catalysis with Earth-abundant 6esets, and is

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Metal-free Functionalized Carbons in Catalysis

Synthesis, Characterization and Applications

Alberto Villa Università degli Studi di Milano, Italy | **Nikolaos Dimitratos** Cardiff University, UK

Metal-free carbons have recently shown great efficiencies in several catalytic processes. Providing an overview on the preparation, characterisation and application of metal-free functionalized carbons, this book looks at carbon nanotubes, graphene, carbon nitride and covalent organic frameworks (COF). It is ideal for researchers and industrialists working in catalysis, gas sensing and carbon dioxide storage.

Hardback | 300 pages | 9781782628637 | 2018 | £149.00 | \$209.00

Novel Catalytic Materials

Carbides, Nitrides, Phosphides and Amorphous Boron Alloys

Justin Hargreaves University of Glasgow, UK | **Andrew McFarlane**



Self-organized Motion



Physicochemical Design based on Nonlinear Dynamics

Satoshi Nakata Hiroshima University, Japan | **Veronique Pimienta** University of Toulouse, France |

István Lagzi Budapest University of Technology and Economics, Hungary |

Hiroyuki Kitahata Chiba University, Japan | **Nobuhiko J Suematsu** Meiji University, Japan

The book covers the self-propelled motion of chemical objects far from their thermodynamic equilibrium at various spatial scales and its applications. The book will discuss theoretical aspects, the characteristics of the motion, and design procedures of such systems from the viewpoint of nonlinear dynamics. The book is suitable for graduate students and researchers interested in physical and theoretical chemistry as well as soft matter.

Hardback | 450 pages | 9781788011662 | 2018 | £179.00 | \$251.00

Theoretical Chemistry for Electronic Excited States



Michael A Robb Imperial College London, UK



Chromic Phenomena



Colour Change, Luminescent Materials and New Applications 3rd Edition

Michael Hutchings | Peter Bamfield

Chromic or colour related phenomena are produced in response to a chemical or physical stimulus. This new edition will update the information on all those areas where chemicals or materials interact with light to produce colour, a colour change, or luminescence, and where 'coloured' compounds are used to transfer energy or manipulate light in some way. In the last five years since the previous edition, there has been an increase in number of papers and reviews being produced reflecting the growth of interest in this area. This ongoing research interest is matched by a large number of new technological applications of commercial value. This book appeals to industrial chemists, professionals, postgraduates and possibly as high level recommended reading for colour technology courses.

Hardback | 500 pages | 9781782628156 | 2018 | £179.00 | \$251.00

Computational Materials Discovery



Artem R Oganov Skolkovo Institute of Science and Technology, Russia | Gabriele Saleh Moscow Institute of Physics and Technology, Russia | Alexander G Kvashnin Skolkovo Institute of Science and Technology, Russia

Until a few years ago, new materials could only be discovered experimentally. Now the situation is dramatically different with advances in computational techniques. This is the first book to provide a systematic review of computational

Optimal Experimental Design for Chemical Engineers



Mechanistic Model-Based Design with Case Studies

Federico Galvanin University College London, UK

Mathematical modelling and statistical tools are used by chemical engineers for

Book series



Popular
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About the series

ISSN: 2056-9335

Editor-in-chief

Keith S Taber University of Cambridge, UK

Series editors

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Books in this series review developments in areas of chemistry education internationally or report on a single educational context where the work has clear international significance; cover formal education, informal education, teacher education/development or public understanding of chemistry; and cover innovations in chemical education practice where suitable evidence of research-based evolution is included.

Professional Development of





Electrochemistry at Nano-interfaces

Faraday Discussion

The active nano-interface is important in electrochemistry because it constitutes the place where electron/ion transfer reactions occur coupled to extremely fast mass transport and under exquisite control of local conditions. Electrochemistry at nano-interfaces poses major fundamental and conceptual challenges in physical electrochemistry, while also being central to the emergence of real applications. This volume discusses the theme of understanding the electrochemistry at nano-interfaces, including electron- and ion-transfer. Topics explored include the modern methods used to design new nano-interfaces, probe the charge/energy transferring processes at the nano-interface, and promote applications including those involving single-molecule studies, single-nanoparticle electrochemistry and single-cell analysis.

Hardback | 450 pages | 9781788013758 | 2019 | £170.00 | \$238.00



Ionic Liquids: From Fundamental Properties to Practical Applications

Faraday Discussion

Understanding of the fundamental aspects of ionic liquids has grown rapidly in recent years, with significant advances being made in their utilisation. This Faraday Discussion discusses a range of topics, such as ionicity, structure, electrochemistry, phase behaviour, and interactions with liquid and solid interfaces. The book provides a foundation for future fundamental challenges and theories which need to be developed to move the subject area forward.

Hardback | 450 pages | 9781782629412 | 2018 | £170.00 | \$238.00

Methods and Applications of Crystal Structure Prediction

Faraday Discussion

The prediction of crystal structures from first principles has been one of the grand challenges for computational methods in chemistry and materials science. They have been used to study organic molecules such as polymorphism of pharmaceutical molecules or inorganic materials where the discovery and computational design are necessary. However, the communities addressing methods and applications in organic and inorganic crystal structure prediction have largely remained separate, due to the different approaches that have been used in these two areas. This book will encompass the cross-fertilisation of ideas and methods that result from a Faraday Discussion meeting which brought together these theoreticians and interested experimentalists. It will appeal to researchers from computational chemistry, crystallography and crystal engineering and materials science in the development of methods.

Hardback | 450 pages | 9781788011709 | 2019 | £170.00 | \$238.00

Photoinduced Processes in Nucleic Acids and Proteins

Faraday Discussion

Light induced chemical and physical processes in small organic-/inorganic-/bio-molecules have been a subject of experimental and theoretical research for several decades. Photochemical and photophysical processes in biomolecules are intimately involved in a multitude of functional processes, that include vision, photosynthesis, molecular recognition, gene replication, etc., and can be used in areas such as photodynamic therapy. Such processes in DNA are also of interest to both the biological and materials communities as memory devices and structural building blocks. In this volume, the topics covered include light induced

Our engaging and ever-growing collection of popular science books put chemistry into the context of daily life. Entertaining and accessible, they offer summaries on a wide range of chemical science subjects. This year, look out for a new approach to food fraud, distillation through the ages and potential poisons with fascinating stories to tell.

Before you became a science writer, what did your career look like?

I joined Kings College Chemistry Department in 1966 as a junior lecturer specialising in non-metal chemistry. In 1984 I was promoted to Reader in Chemistry and got a DSc degree on the basis of my years of research with several PhD students and writing more than 100 original research papers.

What inspired you to write your Molecules of Murder books?

When I wrote the The Shocking History of Phosphorus in 2000 I included a chapter about its misuse in domestic murders. People said that they found this to be the most interesting chapter in the book! I then suggested to my agent that I write a series of books about those elements of the periodic table which are inherently dangerous. He said I should write a single book devoted to them all and this came out in 2005 as Elements of Murder. But why just stick to elements? Why not extend the story to cover molecules? So I wrote Molecules of Murder.

What advice would you give someone wanting to become a science writer?

Don't be afraid of having a go. Write something and let your non-chemist family and friends read it before you submit it for publication, even if it's only to the



From Crime Scene to Kidney Stones

RSC Periodic Table

Wallchart, A0 - 2A0

Murray Robertson Visual Elements, UK

Updated for 2017, the Royal Society of Chemistry's bold and clear representation of the periodic table now includes the four new elements, completing the seventh period. The poster is two-sided: on one side, a Visual Elements version, with fascinating element artwork by Murray Robertson based on scientific data provided by the chemist and science writer John Emsley; on the other, a bold colour-coded version, emphasising readability and clarity. Printed in full colour, the wallchart measures A0. Information for each element includes the name, chemical symbol, atomic number, and relative atomic mass. The groups are readily identifiable by colour. We've designed the wallchart to be readable, visually engaging, and an excellent addition to any classroom, laboratory, or office. Price shown does not include VAT in the EU.

A0 Poster | 9781788011938 | 2014 | £10.95 | \$16.00

2A0 Poster | 9781788011921 | 2014 | £33.00 | \$49.50

A0 (1189 x 841 mm)

2A0 (1682 x 1189 mm)



Visual Elements Jigsaw

Murray Robertson Visual Elements, UK

With 550 pieces and a stunning full-colour design, this jigsaw puzzle beautifully illustrates the periodic table in all its glory. The jigsaw would be an attractive gift for any puzzle-loving friends or relatives, and might even spark an interest in chemistry. Price shown does not include VAT in the EU.

Non Book / Merchandise | 9780854048434 | 2006 | £12.08 | \$24.00



China, Taiwan & Hong Kong

Wayne Tian | Royal Society of Chemistry

5th Floor, South Block, Tower C,

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