Just published – October 2018

**The Science of Sugar Confectionery**
William P Edwards Bardfield Consultants

Since the first edition of The Science of Sugar Confectionery (2000), the confectionery industry has responded to ever-changing consumer habits. This new edition has been thoroughly revised to reflect industry’s response to market driven nutrition and dietary concerns, as well as changes in legislation, labelling, and technology. Building on the strengths of the first edition, the author’s personal knowledge and experience of the sugar confectionery industry is used to provide a thorough and accessible account of the field. Requiring the reader to have no more than a rudimentary level of chemistry, this book covers the basic definitions and commonly used and new ingredients in the industry, before discussing the various types of sugar confectionery. Featuring expanded coverage of special dietary needs, covering topics such as vegetarianism and veganism, religious requirements, and supplemented products, this new edition reflects current and evolving needs in the sugar confectionery field.

Paperback | 222 pages | ISBN 9781788011334 | £28.99 | $43.00 | 26/10/2018

**Post-combustion Carbon Dioxide Capture Materials**
Qiang Wang Beijing Forestry University, China

The book covers the use of inorganic materials for post-combustion carbon dioxide capture materials including carbon-based adsorbents; zeolite- and silica- based adsorbents; metal–organic framework (MOF)-based adsorbents; alkali-metal-carbonate and ionic-liquid-based adsorbents. The emphasis is on the design, synthesis, characterization, performance, mechanism, and application of these different inorganic materials.

Hardback | 308 pages | ISBN 9781788011099 | £99.99 | $140.00 | 24/10/2018

**Biodegradable Thermogels**
Xian Jun Loh A*STAR (Agency for Science, Technology and Research), Singapore
David James Young University of the Sunshine Coast, Australia

Biodegradable thermogels are a promising class of stimuli-responsive polymers. This book summarizes recent developments in thermogel research with a focus on synthesis and self-assembly mechanisms, gel biodegradability, and applications for drug delivery, cell encapsulation and tissue engineering. A closing chapter on commercialisation shows the challenges faced bringing this new material to market. Edited by leading authorities on the subject, this book offers a comprehensive overview for academics and professionals across polymer science, materials science and biomedical and chemical engineering.

Hardback | 186 pages | ISBN 9781782629405 | £149.00 | $205.00 | 02/10/2018

All information is subject to change without notice.

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Just published – October 2018

Field-cycling NMR Relaxometry
Instrumentation, Model Theories and Applications
Rainer Kimmich University of Ulm, Germany

Field-cycling NMR relaxometry is evolving into a methodology of widespread interest with recent technological developments resulting in powerful and versatile commercial instruments. Many materials can be studied by this tool. This book will summarise the expertise of leading scientists in the area and the Editor is well placed, after four decades of working in this field, to edit a book on this area being familiar with both the contributors work and them personally. Newcomers to the field will find this book invaluable for successful use of the technique and excellent background reading. Researchers in academic and industrial settings interested in molecular dynamics and magnetic resonance are finding it an invaluable addition to the literature.

Hardback | 563 pages | ISBN 9781788011549 | £179.00 | $250.00 | 15/10/2018

Raman Spectroscopy in Archaeology and Art History
Volume 2
Peter Vandenabeele University of Ghent, Belgium
Howell Edwards University of Bradford, UK

Ten years after the first volume, this book highlights the important contribution Raman spectroscopy makes as a non-destructive method for characterising the chemical composition of objects with archaeological and historical importance. The original book was ground-breaking in its concept, but the last ten years has seen some advancement into new areas, consolidation of some of the older ones and novel applications involving portable instrumentation, on site in museums and in the field. This new volume maintains the topic at the cutting edge with the Editors having approached prominent contributors to provide case-studies. Aimed at scientists involved in conservation, conservators/curators who want to better understand their collections at a material level and researchers of cultural heritage.

Hardback | 350 pages | ISBN 9781788011389 | £199.00 | $279.00 | 31/10/2018

Complete Science Communication
A Guide to Connecting with Scientists, Journalists and the Public
Ryan C Fortenberry University of Mississippi, USA

Written as a textbook to support advanced level undergraduate and postgraduate courses, the book brings together all aspects of science communication. Focus is on the four key areas of writing for non-technical audiences and science journalism; writing for technical audiences and peer-reviewed journals; public speaking of science; and public relations. This text will provide science students with an appreciative understanding of accepted human communication theories and practices. Potential assignments are also provided at the end of each chapter as additional resources.

Paperback | 192 pages | ISBN 9781788011105 | £29.99 | $41.99 | 19/10/2018
Just published – October 2018

Fatty Alcohols
Anthropogenic and Natural Occurrence in the Environment
Stephen M Mudge NILU, Norway Scott E Belanger Procter and Gamble, USA
Paul C DeLeo Integral Consulting, USA

Fatty alcohols are mainly used in the production of detergents and surfactants. They are components also of cosmetics, foods, and as industrial solvents. This expanded edition includes new information regarding synthesis together with many aspects relating to the inclusion of these compounds in the EU bio-based economy drive. Significant advances have been made since the first edition and no other book brings together all the disparate information regarding this group of chemicals that are of interest to environmental scientist (as biomarkers), to industry (as surfactants) and regulators.

Hardback | 202 pages | ISBN 9781788013628 | £125.00 | $175.00 | 03/10/2018

Artificial Water Channels
Faraday Discussion 209

Evolving rapidly, the field of artificial water channels is expected to offer new strategies to generate highly selective, advanced materials for water purification systems. The development of synthetic biomimetic artificial water-channels and pores is key to a better understanding of the natural function of protein channels. This book will have a strong emphasis on the key challenges in the area for example in the biophysics of protein water channels, biomimetics and what we may learn from natural proteins and synthesis and design of highly selective water channels.

Hardback | 450 pages | ISBN 9781788013741 | £170.00 | $238.00 | 31/10/2018

Electrochemistry
Volume 15

Craig Banks Manchester Metropolitan University, UK
Steven McIntosh Lehigh University, USA

Providing the reader with an up to date digest of the most important research currently carried out in the field, Electrochemistry Volume 15 is compiled and written by leading experts from across the globe. This volume is a key reference for researchers providing a timely overview of this exciting and developing area.

Hardback | 208 pages | ISBN 9781788013734 | £314.95 | $441.00 | 17/10/2018
The Chemical Biology of Human Vitamins
Christopher T Walsh Stanford University, USA
Yi Tang University of California Los Angeles, USA
As humans evolved from primordial organisms they lost the capacity to make certain essential molecules. This textbook provides a thorough chemocentric view on the key small molecules of life, the human vitamins and their active coenzyme forms. Authored by leading educators, this text will serve as an ideal guide and reference point for chemists in both academia and industry, graduates and advanced undergraduate students in biochemistry, chemical biology, metabolism and metabolomics.

Energy Storage Options and Their Environmental Impact
R E Hester University of York, UK
R M Harrison University of Birmingham, UK
The growth of renewable energy technologies, mainly wind and solar, demands the development of practical and economically viable energy storage technologies. This book explores the current state-of-the-art of large-scale energy storage and examines the likely environmental impacts of the main categories based on the types of energy stored.

Rubber Recycling
Challenges and Developments
Jin Kuk Kim Gyeongsang National University, South Korea, Prosenjit Saha Indian Institute of Engineering Science and Technology, Shibpur India, Sabu Thomas, Mahatma Gandhi University, India, Józef T Haponiuk Gdansk University of Technology, Poland, M K Aswathi, Mahatma Gandhi University, India
This book presents an up-to-date overview of the fundamental and applied aspects of renewability and recyclability of rubber materials, emphasizing existing recycling technologies with significant potential for future applications along with a detailed outline of new technology based processing of rubber to reuse and recycle. This book will be of interest to researchers, in both academia and industry, and postgraduate students working in polymer chemistry, materials processing, materials science and engineering.
Dioxygen-dependent Heme Enzymes
Masao Ikeda-Saito Tohoku University, Japan
Emma Raven University of Leicester, UK
This book covers the varied catalytic activities of O₂-dependent heme enzymes. Heme proteins are distributed widely in biological systems and are involved in a wide range of processes that are essential to the cell. Edited and authored by the leading global researchers in this area, this text will be a useful resource for postgraduate students and researchers in biochemistry and metallobiology working in or moving into research areas involving heme proteins.

Metallomacrocycles
From Structures to Applications
Hai-Bo Yang East China Normal University, China
Metallomacrocycles are organic macrocycles with metal moieties that endow interesting properties and allow diverse applications, such as in sensing, drug delivery and catalysis. This book will provide the background, design and construction, higher order systems, and applications of metallomacrocycles. This will be primarily useful for postgraduate students and researchers, and particularly to those interested in coordination driven self-assembly, supramolecular chemistry and nanoscience.

Steviol Glycosides
Cultivation, Processing, Analysis and Applications in Food
Ursula Wölwer-Rieck Friedrich-Wilhelms-Universität Bonn, Germany
The visibility of the plant Stevia rebaudiana has increased in the last few years due to its sweet constituents called steviol glycosides. As they were approved all over the world as food additives in the category sweetener, they received more attention and their use in food has increased significantly. This book presents some of the new techniques for growing stevia which have resulted in varieties with interesting steviol glycoside profiles, new techniques to analyse the content of sweeteners in different matrices, the use of the sweeteners in new food formulations and last but not least totally new manufacturing methods to produce well tasting sweeteners. Unique in the breadth of information presented, this book will appeal to food scientists, analytical chemists and health professionals.
Chemical Health Threats
Assessing and Alerting
Raquel Duarte-Davidson Public Health England, UK
Samuel Collins Centre for Radiation, Chemical and Environmental Hazards, Public Health England, UK

This book covers recent developments in the implementation of a European collaboration for assessing cross-border toxicological threats. It discusses the European guidelines for the risk assessment and management of serious international public health dangers. It covers REACH (Registration, Evaluation, Authorisation; Restriction of Chemicals) directives and the work of the ASHT (Alerting System for Chemical Health Threats) project. It will be useful to public health regulators, toxicologists, poisons centres, industrialists and COSHH (Control of Substances Hazardous to Health) specialists.

Hardback | 310 pages | ISBN 9781782620716 | £179.00 | $251.00 | 19/10/2018