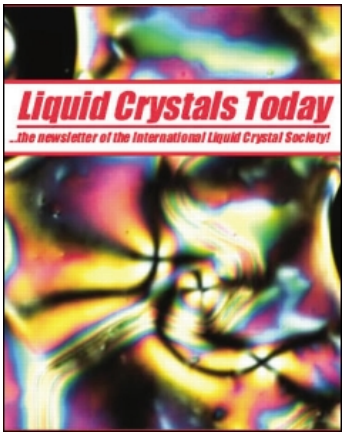

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Liquid Crystals - Frontiers in Biomedical Applications

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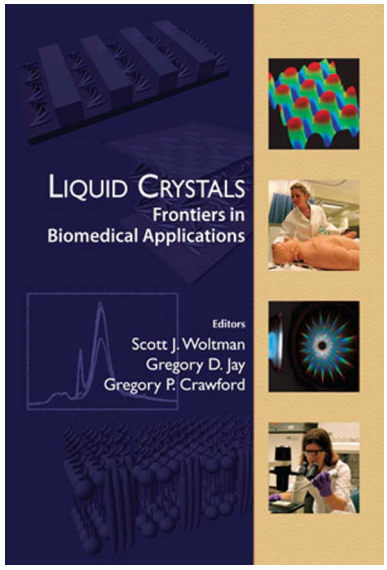
Book Review

Liquid Crystals - Frontiers in Biomedical Applications, edited by Scott J. Woltman, Gregory D. Jay and Gregory P. Crawford, World Scientific, 2007, 516 pp., (hardback), ISBN: 9812705457 or 978–9812705457

Reports of my death have been greatly exaggerated... Mark Twain



Has liquid crystal research reached a turning point? With more and more comments coming back from funding bodies justifying the reasons that a liquid crystal grant was not funded because 'it has all been done, hasn't it? Everyone can now buy a LCD TV or computer monitor, so what else is there to do?', anyone would be forgiven for thinking that these are indeed worrying times. Well, it has not all been done, and this book is one of the first compilations of a new, distinct research direction in liquid crystals, that moves away from just displays and undoubtedly proves our field is thriving and has an exciting future.

This book, Liquid Crystals – Frontiers in Biomedical Applications, published by World Scientific, concerns a broad range of liquid crystal research areas that have the potential to revolutionise aspects of biomedical imaging, bio-sensors and medical control and delivery systems. In structure, the book is divided into several review chapters that collate the current knowledge and, in general, the beginnings of several new areas of liquid crystal science. It begins with a succinct preparatory chapter on liquid crystals that is well tailored to provide an introduction to the concepts used in the rest of the book. What then follows are separate chapters that deal with liquid crystal biosensors, liquid crystal lasers, biomimicry and advances in specific medical displays. The chapter on biosensors provides an example of the excellent way much of the book has been structured. It offers a well-grounded sense of context of both the current non-liquid crystal technologies and their limitations and large scale challenges the new liquid crystal work has the capabilities of addressing. Although the work described sometimes seems solely geared towards the authors own research, this is wholly understandable as several research areas are still in their infancy and the authors are indeed the leaders.

The only minor reservations I have about this book are centred on a cautiousness in its ambition. Some of the book, such as the biomimicry in liquid crystals chapter, has very little connection to biomedical applications specifically. This is not a bad thing, but a different title of, for example, 'Liquid Crystals - Frontiers in Biomedical and Biological Applications' would have given the book a greater profile in some areas where liquid crystals deserve more recognition in the foundation of a subject or the potential applications. I would not like to see any undergraduates new to liquid crystals go away from this book thinking that animal photonic structures are directly related to biomedical systems.

Nevertheless, the book's strengths far outnumber such small weaknesses, and on the whole, this is a fantastic book. Containing new and important information, this is a worthwhile purchase both for postgraduates, and for more seasoned liquid crystal researchers and bio-engineers who want to be inspired in a new research direction. In the last 40 years, liquid crystals have revolutionised day-to-day life, and hopefully, in this book, are the beginnings of a new area of profound influence for liquid crystals.

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