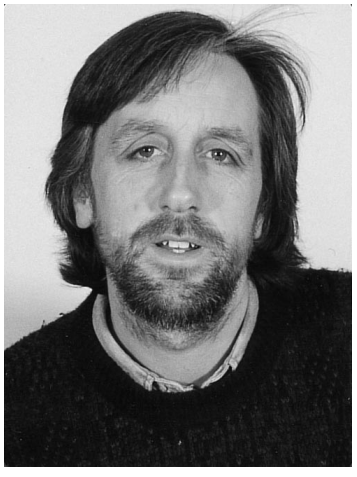
Editorial

This Special Issue on Functional Organic Materials for Devices is the latest in the series of Special Issues of *J. Mater. Chem.* devoted to topics of current interest. Previous topics covered are: Molecular Conductors, 1995, **5**, Issue 10; Liquid Crystals, 1995, **5**, Issue 12; and Molecular Assemblies and Nanochemistry, 1997, **7**, Issue 7.

The aim of this current Issue is to provide a state-of-the-art view of the important area of Materials Chemistry, embracing the design and synthesis of functional organic materials, their properties, structures, processing and device operation. Many of the articles were submitted by invitation, and the Issue comprises 19 Feature (Review) Articles together with 27 Articles describing original research; the unifying theme is the exploration of structure–property relationships with the goal of exploiting organic materials as active components in functional devices. This area of research has expanded dramatically over the last decade in academic and industrial research laboratories alike. Topics covered in this Issue include: liquid crystals, light emitting materials and devices, nonlinear optics, photochromics, photovoltaics, ferroelectrics, field effect transistors, materials for information storage, and sensors. The materials studied are based on discrete molecules, oligomers and polymeric systems. The development of this field of research can be traced back to the success of liquid crystals in display technologies in the 1970s; many other topics were spawned by the rather nebulous theme of 'molecular electronics' which was prominent in the 1980s. Over the last two decades, the broad-based topics of supramolecular science and conducting organic materials have also been instrumental in promoting the cross-fertilisation of ideas between scientists of different disciplines (chemists, physicists, materials scientists) leading to functional materials with new applications: the emergence of new materials for organic light-emitting devices is a prime example.

The cover artwork illustrates some of the themes covered by Feature Articles in this Issue. Ladder polymers, reviewed by Ullrich Scherf (p. 1853), are an important class of organic polymers for light emitting devices and optically pumped solid state lasers. Peter van de Witte *et al.* (p. 2087) discuss many advances in the manipulation of the organisation of liquid crystals by light: the two cats provide an appealing illustration of contemporary LCD technology. The incorporation of azobenzene chromophores into polymer films has been widely investigated for optical applications: the AFM image, from the article by Sukant Tripathy *et al.* (p. 1941), shows the surface relief grating formed on an epoxy-based azo polymer film (Tripathy, Fig. 2). Geoffrey Ashwell (p. 1991) addresses molecular engineering of non-centrosymmetric structures for second-order nonlinear optical applications, and long-range structural order in Langmuir–Blodgett films is controlled by interdigitating arrangements (molecular zips) and interlayer hydrogen bonding.



Professor Martin R. Bryce (Associate Editor, Organic Materials Chemistry)

This Special Issue is a timely compilation of authoritative articles from leading scientists from around the world, and our hope is that it will serve to provide an insight into the exciting current and future directions of this field, stimulating new (and at present unforseen) developments. Finally, I would like to thank all the authors who by submitting top quality science to *J. Mater. Chem.* have made it possible for us to publish this Issue.

Martin Bryce