

# MOLECULAR CHEMISTRY FOR ELECTRONICS

*Organized and edited by:*

P. Day, F.R.S., D.C. Bradley, F.R.S., and D. Bloor

The science and technological applications of electronic materials is multidisciplinary, engaging the activities of materials scientists, electronic engineers, physicists and, last but not least, chemists. In fact chemists have only recently responded to the challenges in this field but increasing numbers of chemists of all kinds are now seriously committed to research in the electronics area. Therefore, it seemed timely to convene a Discussion Meeting entitled Molecular Chemistry for Electronics and this was held at the Royal Society in March 1989.

The wide breadth of chemical interests is illustrated by the main topics which were discussed by leading workers in several fields ranging from liquid crystals, nonlinear optical materials, Langmuir–Blodgett films, inorganic precursors and decomposition pathways in metal-organic chemical vapour deposition, to novel magnetic materials.

The meeting attracted a large gathering of scientists from industry and academia and will surely have stimulated future collaboration in research. This book constitutes a valuable record of an important and successful Discussion Meeting.

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# ***THE EARTH'S CLIMATE AND VARIABILITY OF THE SUN OVER RECENT MILLENNIA: GEOPHYSICAL, ASTRONOMICAL, AND ARCHAEOLOGICAL ASPECTS***

**Organized and edited by:  
J.-C. Pecker and S.K. Runcorn, F.R.S.**

The calibration of  $^{14}\text{C}$  dating by dendrochronology has yielded evidence of an approximate 200-year period in the  $^{14}\text{C}$  generation rate in the high atmosphere. Measurements of  $^{10}\text{Be}$  in ice cores have provided additional evidence for this variation in cosmic rays, which must be attributed to changes in the magnetic activity of the Sun. Historical observations also show such a modulation of the 11-year sunspot cycle with a similar period. Therefore, the question is whether variations in the total energy output of the Sun have had effects on the climate. Such variations are of increasing interest for archaeologists and historians. This new evidence is relevant to interpreting global temperature changes over the past 100 years and to discussions on the greenhouse effect.

The volume contains the contributions to the Discussion Meeting held at the Royal Society in February 1989, organized jointly by the Académie des Sciences and the Royal Society. This historic meeting brought together physicists, geologists and archaeologists, and provided a forum where scientists working in many different areas could meet and exchange ideas.

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## THE FAST-NEUTRON BREEDER FISSION REACTOR

*Organized by Sir Peter Hirsch, F.R.S., T.N. Marsham†, F.R.S.,  
R.S. Pease, F.R.S., and B.L. Eyre*

*Edited by G. McHugh and A.R. Merrick*

The fast-neutron breeder reactor is the principal means now envisaged of exploiting the very large resource of energy residing in the naturally abundant isotope of uranium,  $^{238}\text{U}$ . Extensive research and development programmes are being carried out in a number of countries to realize this potential. There are about a dozen substantial reactors operating; and wide-ranging supporting programmes include fuel processing and development, and safety and environmental issues.

This Discussion Meeting, held at the Royal Society in May 1989, brought together experts from all participating countries. The technical sessions included:

- basic science and engineering;
- the present state-of-the-art, with reports on progress in the U.S.S.R., U.S.A., Japan and Western Europe;
- the fuel cycle, including fuel design, reprocessing and environmental aspects;
- reactor safety and engineering;
- economics

A concluding session summarized participants' thoughts on the future of fast reactors.

† Died 12 October 1989

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