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## FOREWORD

CCD '74 is the first European-based conference devoted entirely to the Technology and Applications of the Charge-Coupled Device. These Conference Proceedings contain the papers of the five sessions; two on the device operation and technology; a further two on the key applications areas of imaging, memories and signal processing; and a session on future developments. An essential feature of CCD '74 is the inclusion of an invited review paper in each session, and we are very fortunate to have seven such well-known speakers to present the reviews, including Dr Gil Amelio and Dr Mike Tompsett who tested the original charge-coupled device, less than five years ago. The Steering Board and the Programme Committee are convinced that CCD '74 will prove a timely and informative event, and that these Proceedings will constitute an authoritative reference volume on the status of CCD development in 1974.

The performance of the CCD depends on the speed and efficiency with which information, in the form of signal charge, can be propagated along the device. Session 1 describes advances in the modelling and operation of charge transfer in charge-coupled devices. Many innovations have been made in CCD technology since its inception to optimise the charge transfer process and notable successes being the buried channel and peristaltic CCD featured in Session 2. The further developments of the charge-coupled device are presented in the papers in Session 5.

The CCD has come of age, and its full impact is being felt not only as an intriguing, analogue, shift register but as a unique component which will revolutionise the approach to the design of many systems. This is particularly evident in low-light level imaging applications which are included in Session 3, whilst in Session 4, the considerable potential of charge-coupled devices in signal processing and the radar field is presented with reference to several papers on the very important correlation and filtering functions realisable in CCD technology.

We take great pleasure in thanking the members of the Programme Committee for their skills in producing this programme and in particular the U.S. and European Advisors for their assistance.

We would also like to express our appreciation to the Institution of Electrical Engineers and the Royal Radar Establishment for their support and to the University of Edinburgh's Centre for Industrial Consultancy and Liaison for organising the event.

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