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Foreword

Power Sources 18 is an edited record of the papers and posters submitted for presentation at the 22nd International Power Sources Symposium that was held at the Crowne Plaza — The Midland Hotel in Manchester, England, during 9–11 April 2001.

Manchester was chosen for the 22nd Symposium following an extensive, country-wide survey by the Board of Trustees who were seeking a venue which met the needs of presenters, delegates and exhibitors with regard to facilities, comfort and accessibility coupled with good value for money.

As in previous years, the call for papers produced an overwhelming response. Forty-eight papers from 14 countries are contained in these Proceedings. This has once again confirmed the variety of work being undertaken into research, development and advancement of battery and fuel cell technology on a worldwide basis.

The number and variety of topics submitted for presentation enabled the Board to organize not only a 3-day programme covering a wide range of electrochemical topics including basic and applied research, development and applications, but also a day-long parallel session concentrating on power sources for communications equipment — ranging from military manpack radios to remote telemetry.

A key event of these symposia is the Bourner Lecture — in memory of our previous secretary, Sheila Bourner — given this time by Gunder Karlsson of Emerson Energy Systems ASB of Sweden. His lecture was entitled: *Do standby batteries need to have a new chemistry?* — a topic with implications for any application where an uninterrupted power supply is critical.

The production of the Symposium Proceedings has always been considered by the Board as one of its prime duties. It also considers that the quality of the publication and its academic content should enhance both the reputation of its contributors and that of the Symposium. As editor since 1993, Austin Attewell has achieved both of these aims with distinction. His international reputation as a battery

expert has given confidence to the Board of Trustees, and to authors that their work would be published to the highest standards. It is therefore, with regret, that the Board has accepted his request to retire as editor, following the publication of *Power Sources 18*.

As a tribute to Austin's outstanding contribution to the advancement of power sources during his career with the U.K. Ministry of Defence at the Royal Aircraft Establishment (later Defence Research Agency) at Farnborough, coupled with his furtherance of the effectiveness of the Symposia, both as an author of several papers and as editor of five volumes of Proceedings, the Board of Trustees have awarded him the Frank M. Booth medal for 2001.

I am pleased to announce the appointment of a new editor in the person of Martin Crowther. Martin is currently a member of the Board of Trustees and is a recognised battery expert — having worked for many years in the U.K. Scientific Civil Service.

As in previous years, I should like to take this opportunity to thank all of the authors who submitted papers and posters for publication. Their efforts not only enhance the reputation of these Symposia but also justify their existence.

I have to report the retirement of several members of the Board since the 21st Symposium in Brighton 2 years ago. These were Dr. B.L. Jones (past Treasurer), Dr. J. Knight and W.R. Young (past Vice Chairman). All three undertook extra responsibilities during their period as Trustees. I should like to express my personal gratitude and that of the other Trustees to them for the support they gave to the Symposia over many years.

I deem it a great privilege to chair the Board of the International Power Sources Symposium. The 22nd meeting in Manchester in 2001 represented the culmination of 2 years of work by my fellow Trustees and professional officers. This effort, in combination with the support of presenters and delegates, ensured the success of this important scientific gathering.

T. Keily (Chairman)