

Foreword

Power Sources 17 is an edited record of the papers and posters submitted for presentation at the 21st International Power Sources Symposium held at the Brighton Metropole Hotel, Brighton, U.K. from the 10th to the 12th May, 1999.

The Symposium has returned to the Metropole Hotel after an absence of thirteen years. This has enabled the Trustees to take advantage of increased conference space and other facilities, including a greatly enlarged exhibition area.

This is the second set of proceedings published in conjunction with Elsevier Science S.A., a partnership which has proved to be not only a successful publishing event, but also popular with the authors of papers and delegates to the Symposium.

Power Sources 17 is representative of the global activity and variety of work being undertaken into research and the advancement of battery and fuel cell technology. The Trustees would like to thank all of the authors that responded to their call for papers and posters. Their efforts have yet again made the 21st Symposium possible.

The Trustees have retained their commitment to organize International Symposia which cover the widest range of battery and fuel cell technology, wherein research can be reported from fields not covered by specialist conferences.

Notwithstanding, it has become the practice of the Trustees to provide a session which highlights a feature of technology which is of special significance to those working in these disciplines, or to the public. For 1999, it was agreed to focus on non-mechanical power sources for electric vehicles. However, the great interest in this topic, coupled with the number of papers submitted, required the Trustees to allocate, for the first time, a day-long parallel event devoted to this important subject.

The Bourner Lecture, given by Professor G. Callow, chief scientist of the Motor Vehicle Research Association, U.K. entitled *Electric Vehicles: can we get there from here* represents the centre piece of a programme dedicated to existing and emerging technologies, users' experiences (including safety aspects) and the infrastructure that would be required in the U.K. to support the mass use of electric vehicles.

Over the years, the size and importance of the exhibition hosted by the Symposium has increased. The ability, within the Metropole Hotel, to exhibit an array of electric vehicles, including the record-breaking *Bluebird*, alongside the products of leading companies dedicated to the development, manufacture and marketing of batteries and support equipment, represents a major attraction of the 1999 conference.

The International Power Sources Symposium is registered in the U.K. as a non-profit making educational charity devoted to the furtherance of information on non-mechanical power sources. In pursuing this objective, the Trustees have made a special effort to reach out to Educational Institutions. So, invitations were issued to students in schools and Universities in the south-east of England to take part in a programme of lectures in the exhibition area.

It is to be hoped that those who took part in this exercise will have been attracted into the exciting field of electrochemical power sources. It is also to be hoped that some of these students will be delegates to Symposia in the next millennium.

I should like to take this opportunity to congratulate Mr Sidney Goodman and Professor Alvin Salkind, this year's recipients of the coveted Frank Booth Award, and to thank them for their support of the Symposium and the battery industry over many years.

At the end of the 1997 Symposium, Mr Chris Ford of the U.K. Defence Evaluation and Research Agency, Aquila, retired from the Board. I should like to express my gratitude to him for his years of commitment to the Symposium.

All of the Trustees, together with the professional officers, are owed a special vote of thanks for their dedication and hard work, which has been vital to the staging of this, the 21st International Power Sources Symposium.

T. Keily
Chairman
January 1999