

## EDITORIAL

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Of the many high energy battery systems under development in the past 10 - 15 years, several of the various lithium–nonaqueous systems have progressed fairly rapidly through development to applications testing and early commercialization. Already over 200 000 solid state lithium cells are being successfully employed to power implanted pacemakers. In specialized and military applications several of the other lithium–nonaqueous systems are gaining a foothold in areas requiring high energy, and long shelf-life performance. In the public sector, lithium cells are beginning to be used in some watches and calculators, while in Japan various lithium cell configurations are being readied for more general consumer applications.

With the maturing of lithium–nonaqueous battery technology, it was thought appropriate to devote a special, single issue of the *Journal* to lithium battery research, development, production and applications. This issue is by no means comprehensive but does give an extensive overview of lithium–nonaqueous battery types that are in different stages of development, ranging from early research through to pilot line production for use in the public sector.

The first three papers cover solid state cells used in pacemaker applications and the following three cover high energy lithium cells with liquid cathodes. The next four papers are concerned with various cathode systems tailored to the voltage requirements of existing electronic equipment needs. To round out the issue, a paper covering the production and preparation of lithium for battery use is presented and the final contribution looks to the future to suggest new directions of research which could be fruitful in solid state lithium battery research.

It is hoped that this issue of the *Journal* will be both helpful and interesting to those involved in lithium battery research and development, and will also outline new power sources which applications engineers may find appropriate for some of their specialized needs.

J. Broadhead