Preface

The papers included in this issue of *ECS Transactions* were originally presented in the symposium “Electrochemistry of Novel Materials for Energy Storage and Conversion”, held during the 218th meeting of The Electrochemical Society, in Las Vegas, Nevada from October 10 to 15, 2010.
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Facts about ECS

The Electrochemical Society (ECS) is an international, nonprofit, scientific, educational organization founded for the advancement of the theory and practice of electrochemistry, electrothermics, electronics, and allied subjects. The Society was founded in Philadelphia in 1902 and incorporated in 1930. There are currently over 7,000 scientists and engineers from more than 70 countries who hold individual membership; the Society is also supported by more than 100 corporations through Corporate Memberships.

The technical activities of the Society are carried on by Divisions. Sections of the Society have been organized in a number of cities and regions. Major international meetings of the Society are held in the spring and fall of each year. At these meetings, the Divisions and Groups hold general sessions and sponsor symposia on specialized subjects.

The Society has an active publications program that includes the following.

*Journal of The Electrochemical Society* — JES is the peer-reviewed leader in the field of electrochemical and solid-state science and technology. Articles are posted online as soon as they become available for publication. This archival journal is also available in a paper edition, published monthly following electronic publication.

*Electrochemical and Solid-State Letters* — ESL is the first and only rapid-publication electronic journal covering the same technical areas as JES. Articles are posted online as soon as they become available for publication. This peer-reviewed, archival journal is also available in a paper edition, published monthly following electronic publication. It is a joint publication of ECS and the IEEE Electron Devices Society.

*Interface* — Interface is ECS’s quarterly news magazine. It provides a forum for the lively exchange of ideas and news among members of ECS and the international scientific community at large. Published online (with free access to all) and in paper, issues highlight special features on the state of electrochemical and solid-state science and technology. The paper edition is automatically sent to all ECS members.

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*ECS Transactions* — This online database provides access to full-text articles presented at ECS and ECS-sponsored meetings. Content is available through individual articles, or as collections of articles representing entire symposia.

Monograph Volumes — The Society sponsors the publication of hardbound monograph volumes, which provide authoritative accounts of specific topics in electrochemistry, solid-state science, and related disciplines.

For more information on these and other Society activities, visit the ECS website:

[www.electrochem.org](http://www.electrochem.org)
In most electrochemical energy technologies, the electrode and electrolyte materials must possess the required ionic and electronic transport properties and a great deal of research is still to be performed at a fundamental level to study and optimize the electrochemistry of candidate materials, composites, and assemblies (such as catalyst and interface designs). Electrochemical energy storage can be one solution for this problem. Moreover, increase in usage of off-grid portable devices and electrifying traffic increase the need for electrochemical energy conversion and storage devices. Thus, the Electrochemical Energy Conversion research group investigates and develops materials and devices for these applications. Our aim is to understand functioning of these to improve the existing ones and to develop alternative solutions. Our research is focused on investigating polymer electrolyte fuel cells (PEFC) and electrolyzers as well as lithium ion batteries.