

---

# Industrial Electrochemistry and Electrochemical Engineering General Session

---

**Editors:**

**J. A. Staser**

**V. R. Subramanian**

**D. Riemer**

**M. Morimitsu**

**Sponsoring Division:**



**Industrial Electrochemistry and Electrochemical Engineering**



Published by

**The Electrochemical Society**

65 South Main Street, Building D  
Pennington, NJ 08534-2839, USA

tel 609 737 1902

fax 609 737 2743

[www.electrochem.org](http://www.electrochem.org)

**ecs**transactions™

**Vol. 75, No. 37**

---

Copyright 2017 by The Electrochemical Society.  
All rights reserved.

This book has been registered with Copyright Clearance Center.  
For further information, please contact the Copyright Clearance Center,  
Salem, Massachusetts.

Published by:

The Electrochemical Society  
65 South Main Street  
Pennington, New Jersey 08534-2839, USA

Telephone 609.737.1902  
Fax 609.737.2743  
e-mail: [ecs@electrochem.org](mailto:ecs@electrochem.org)  
Web: [www.electrochem.org](http://www.electrochem.org)

ISSN 1938-6737 (online)  
ISSN 1938-5862 (print)  
ISSN 2151-2051 (cd-rom)

ISBN 978-1-62332-428-5 (CD-ROM)  
ISBN 978-1-60768-786-3 (PDF)

Printed in the United States of America.

---

## Table of Contents

<i>Preface</i>	<i>iii</i>
On the Dynamics of Solid Oxide Fuel Cell Stacks: Preliminary Model-Driven Monitoring <i>C. Boigues Muñoz, S. J. McPhail, G. Comodi</i>	1
Experimental and Numerical Study of Small Lead Acid Batteries Regeneration <i>P. Mandin, F. Astier, G. Boyer, O. Merdrignac, N. Noiret</i>	9
An Analysis of the Effects of Test Bench Architecture on Solid Oxide Fuel Cell and Electrolysis Characterization and the Role of International Standards <i>M. Graziadio, B. Conti, A. Giannini, C. B. Munoz, S. J. McPhail, M. Carlini</i>	15
Electrochemical Behaviour of Industrial IrO <sub>2</sub> -Ta <sub>2</sub> O <sub>5</sub> Anodes for Copper Electrowinning <i>W. Xu, G. M. Haarberg, S. Sunde, F. Seland, A. P. Ratvik, E. Zimmerman, T. Shimamune, T. Åkre</i>	23
Investigation of the Optimum Operative Conditions for a Parallel Plate Electrochemical Reactor <i>G. Litrico, C. B. Vieira, E. Askari, P. Proulx</i>	37
Corrosion Resistance Properties of Cu-Sn Electrodeposited from a Cyanide-Free Bath <i>T. Nakamura, Y. Konno, T. Yamamoto, T. Nagayama</i>	59
Electrodeposition of Invar Fe-Ni Alloy/SiC Particle Composite <i>T. Nagayama, T. Yamamoto, T. Nakamura</i>	69
Author Index	79