

Battery Power Conference 2014

**Denver, Colorado, USA
6 - 7 August 2014**

ISBN: 978-1-63439-276-1

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2014) by Webcom Communications
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact Webcom Communications
at the address below.

Webcom Communications
7355 E. Orchard Road, Suite 100
Greenwood Village, Colorado 80111

Phone: 800-803-9488
Fax: 702-528-3771

softpub@infowebcom.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

The Dawning Age of Flexible Battery Design	1
<i>S. Jaffe</i>	
The Very Long and Very Winding Road to New Lithium Battery Transport Regulations	16
<i>G. Kerchner</i>	
Design Considerations of Advanced Batteries for Portable Power Applications and Consumer Electronic Devices	26
<i>D. Shen, S. Chen</i>	
Preventing Counterfeiting - Challenges and Selection Criteria for the Ideal Authentication Solution	39
<i>R. Rozario</i>	
Market Trends, Opportunities and Challenges for Implantable and Portable Medical Device Batteries	47
<i>H. Yun</i>	
Simplifying Characterization of Energy Drain for Battery Powered Medical Devices	59
<i>B. Griffith</i>	
Wireless Power Over Distance	64
<i>N/A</i>	
The Dynamics of Lithium Battery Shipping, Will the Changes Keep Coming? A Constant State of Flux: An Ex-Regulator's Perspective	78
<i>B. Richard</i>	
Battery Diagnostics and Monitoring: Battery Power 2014	96
<i>I. Buchmann</i>	
Recent Changes to Global Regulatory Requirements for Batteries	113
<i>I. Jilani</i>	
Achieving Compliance to Small Format Battery Pack Standards	129
<i>J. Copeland</i>	
Battery Testing- Estimating State of Charge	137
<i>J. Bloch</i>	
Safe Large-Scale Synthesis of Advanced Battery Materials	143
<i>T. Dzwiniel, G. Krumdick, K. Pupek</i>	
Using Printing to Enhance Battery Structure and Increase Energy Density	155
<i>S. Gamer</i>	
Fabrication Processes for Aperiodic 3-D Solid-State Lithium-Ion Cells	167
<i>D. Johnson</i>	
Aqueous Binders for Lithium Ion Battery	177
<i>W. Lu</i>	
System Level Considerations in the Design of Battery Packs and Chargers	186
<i>C. Gallenson</i>	
MIPI Alliance Battery Interface (BIF) Specifications	195
<i>G. Carta, W. Furtner, J. Rajala</i>	
Converting Designs from Lithium-Ion to Primary Battery Power	204
<i>A. Jakubiak, J. Haroian</i>	
The Future of Batteries	213
<i>H. Zeine</i>	
Magnetic Components for Inductive Coupled Wireless Power Systems: Impact of Coil Design on Systems Performance	221
<i>D. Stacey</i>	
Practical Implementation of Wireless Charging	237
<i>V. Singh</i>	
Author Index	