

International Symposium on Portable Energy 2009

Innovations in Alternative Energy Sources for Portable Devices

Documentation

**Orlando, Florida, USA
6 May 2009**

ISBN: 978-1-61738-198-0

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© (2009) by the Knowledge Foundation
All rights reserved.

Printed by Curran Associates, Inc. (2010)

For permission requests, please contact the Knowledge Foundation
at the address below.

Knowledge Foundation
18 Webster Street
Brookline, Massachusetts 02446-4938

Phone: (617) 232-7400
Fax: (617) 232-9171

custserv@knowledgefoundation.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 Paradigm of Alternative Energy	1
<i>Katrijn Coninx</i>	
New Breakthrough in Photovoltaic Module with Transparent Polymers to Replace Glass	21
<i>Elena Shembel, Alexandra Shmyreyva, Volodymyr Redko, Tamara Todosiychuk, Lydmyla Kocynchuk</i>	
Photosynthetic Based Photovoltaic Devices	51
<i>Chanoch Carmeli, Larry Love</i>	
Light Energy Conversion by Photosynthetic Reaction Center Proteins at Inorganic Electrodes	77
<i>Nikolai Lebedev</i>	
Thin-Film Lithium Ion Microbattery	107
<i>Emmanuel Peled, Larry Love, D. Golodnitsky, M. Nathan</i>	
Thin Film Electrode and Solid Electrolyte for Li-Batteries, Materials, Technologies, and Apparatus	135
<i>Volodymyr Redko, E. Shembel, I. Maksuta, V. Tutyk, A. Nosenko, N. Klyui, A. Markevich, V. Khandetskyy, A. Tron</i>	
Bioelectrocatalysis for Fuel Cells	185
<i>Shelley D. Minteer</i>	
MWCNT Based Metal Matrix Composite for Micro-Bio-Fuel Cells	220
<i>Norman Munroe, P. K. S. Gill, Y. Gao, K. Jones, S. Amruthaluri, C. Pulletikurti, W. Haider</i>	
Fuel Cells Hybrids: Minimizing Failure at the Concept Design Stage	247
<i>Bas Flipsen</i>	
Author Index	