

The Electrochemical Society

# Integrated Optoelectronics 4

at the 214<sup>th</sup> ECS Meeting

ECS Transactions Volume 16 No.41

October 12-17, 2008  
Honolulu, Hawaii, USA

Printed from e-media with permission by:

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
[www.proceedings.com](http://www.proceedings.com)

ISBN: 978-1-61567-313-1

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

---

Copyright 2009 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)

Printed in the United States of America.

---

## Table of Contents

*Preface*

A Smart Nanopore for Bio-Detection <i>L. Gu</i>	1
High-Speed Photodetectors: Self-Biasing and High-Power Behaviour <i>H. Bach</i>	9
Photonic Devices in Some Low Dimensional Systems <i>M. Willander, A. Wadeasa, L. Yang, Q. Zhao and O. Nour</i>	17
Photonic Crystal and Quantum Dot Technologies for Ultra-small and Ultra-fast All-optical Flip-flop <i>N. Ozaki, N. Ikeda, Y. Watanabe, Y. Takata, Y. Kitagawa, S. Ohkouchi, S. Nakamura, A. Watanabe, A. Mizutani, Y. Sugimoto and K. Asakawa</i>	31
High-Power High-Linearity InGaAs/InP Photodiodes <i>A. Beling, H. Pan and J. C. Campbell</i>	39
Electronics and Photonics Integration on Non-Crystalline Substrates via Nanoheteroepitaxy <i>L. Vj and M. Islam</i>	49
Three-Dimensional Femtosecond Laser Fabrication <i>S. Juodkazis, V. Mizeikis, Y. Nishijima, W. Ebina, H. Misawa, M. Kondo and V. Švrcek</i>	57
Author Index	65