

# Asian Power Electronics Journal

**PERC, HK PolyU**

Asian Power Electronics Journal, Vol. 9, No.1, Aug. 2015

Copyright © The Hong Kong Polytechnic University 2015. All right reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying recording or any information storage or retrieval system, without permission in writing form the publisher.

First edition Aug. 2015 Printed in Hong Kong by Reprographic Unit  
The Hong Kong Polytechnic University

**Published by**

Power Electronics Research Centre  
The Hong Kong Polytechnic University  
Hung Hom, Kowloon, Hong Kong

**ISSN 1995-1051**

**Disclaimer**

Any opinions, findings, conclusions or recommendations expressed in this material/event do not reflect the views of The Hong Kong Polytechnic University

## **Editorial board**

### **Honorary Editor**

Prof. Fred C. Lee Electrical and Computer Engineering, Virginia Polytechnic Institute and State University

### **Editor**

Prof. Yim-Shu Lee  
Victor Electronics Ltd.

### **Associate Editors and Advisors**

Prof. Philip T. Krien  
Department of Electrical and Computer Engineering, University of Illinois

Prof. Keyue Smedley  
Department of Electrical and Computer Engineering, University of California

Prof. Muhammad H. Rashid  
Department of Electrical and Computer Engineering, University of West Florida

Prof. Dehong Xu  
College of Electrical Engineering, Zhejiang University

Prof. Hirofumi Akagi  
Department of Electrical Engineering, Tokyo Institute of Technology

Prof. Xiao-zhong Liao  
Department of Automatic Control, Beijing Institute of Technology

Prof. Wu Jie  
Electric Power College, South China University of Technology

Prof. Hao Chen  
Dept. of Automation, China University of Mining and Technology

Prof. Danny Sutanto  
Integral Energy Power Quality and Reliability Centre, University of Wollongong

Prof. S.L. Ho  
Department of Electrical Engineering, The Hong Kong Polytechnic University

Prof. Eric K.W. Cheng  
Department of Electrical Engineering, The Hong Kong Polytechnic University

Dr. Norbert C. Cheung  
Department of Electrical Engineering, The Hong Kong Polytechnic University

Dr. Edward W.C. Lo  
Department of Electrical Engineering, The Hong Kong Polytechnic University

Dr. David K.W. Cheng  
Department of Industrial and System Engineering, The Hong Kong Polytechnic University

Dr. Martin H.L. Chow  
Department of Electronic and Information Engineering, The Hong Kong Polytechnic University

Dr. Frank H.F. Leung  
Department of Electronic and Information Engineering, The Hong Kong Polytechnic University

Dr. Chi Kwan Lee  
Department of Electrical and Electronic Engineering, The University of Hong Kong

**Publishing Director:**

Prof. Eric K.W. Cheng, Department of Electrical Engineering, The Hong Kong Polytechnic University

**Communications and Development Director:**

Ms. Anna Chang, Department of Electrical Engineering, The Hong Kong Polytechnic University

**Production Coordinator:**

Ms. Xiaolin Wang and Dr. James H.F. Ho, Power Electronics Research Centre, The Hong Kong Polytechnic University

**Secretary:**

Ms. Kit Chan, Department of Electrical Engineering, The Hong Kong Polytechnic University