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Professional Profile

Dr. Fok's expertise is in lithium-ion batteries and other energy storage systems. His primary focus is to help clients deliver safe and reliable lithium-ion energy storage solutions through the use of battery safety and reliability testing, battery modeling, and advanced battery characterization techniques such as pulsed current methods, electrochemical impedance spectroscopy, and differential capacity analysis.

Dr. Fok's professional experience includes product design and development for a global battery manufacturing company. He has been involved in projects at all stages of the product lifecycle, including fundamental research, IP analysis, product conception, prototype development, and new product introduction. He also has extensive experience in lithium-ion battery management systems, electrochemical testing of battery active materials, and nickel metal-hydride batteries.

Academic Credentials & Professional Honors

Ph.D., Electrical and Computer Engineering, University of British Columbia, 2016

M.A.Sc., Electrical and Computer Engineering, University of British Columbia, 2006

B.A.Sc., Engineering Physics, University of British Columbia, 2003

Prior Experience

Engineering Manager, GP Batteries, 2018

Assistant Engineering Manager, GP Batteries, 2016-2018

Senior Engineer, GP Batteries, 2014-2016

Engineer, HK University of Science and Technology, 2013-2014

Languages

Mandarin Chinese

Cantonese Chinese

Publications

Ren MS, Fok ECW, Madden JDW, Dunford WG, Measurement and equivalent circuit modeling of a lithium-ion cell, IEEE 36th International Telecommunications Energy Conference, 2014.

Fok ECW, Madden JDW, Measurement of the Diffusion Coefficient of Lithium in Tin Thin Films Including Phase Transformation Effects, ECS Transactions, 2013.

Yoo DS, Mahmoudzadeh A, Fok ECW, Walus K, Madden JDW, Multiple Time Constant Modelling of a Printed Conducting Polymer Electrode, Electrochimica Acta, 2011.

Shoa T, Yoo DS, Fok E, Madden J, Analytical Impedance Model for Electrochemically Driven Conducting Polymer Devices, ECS Transactions, 2010.

Mirfakhrai T, Oh J, Kozlov M, Fok ECW, Zhang M, Fang S, Baughman RH, Madden JDW, Carbon Nanotube Yarns as High Load Actuators and Sensors, 3rd International Conference of Smart Materials, Structures and Systems, 2008.

Shoa T, Madden JD, Fok ECW, Mirfakhrai T, Rate limits in Conducting Polymers, Advances in Science and Technology, 2008.

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Mirfakhrai T, Oh J, Kozlov M, Fok ECW, Zhang M, Fang S, Baughman RH, Madden JDW, Electrochemical Actuation of Carbon Nanotube Yarns, Smart Materials & Structures, 2007.

Takshi A, Madden JD, Fok, ECW, Warren M, Time Dependent Parallel Resistance in an Organic Schottky Contact, MRS Transactions, 2005.

Fok CW, Pulfrey DL, Full-Chip Power-Supply Noise: The Effect of On-Chip Power-Rail Inductance, International Journal of High Speed Electronic Systems, 2002.

Presentations

Fok, ECW, Usgaocar AR, Mahmoudzadeh A, Madden JDW, Measuring the Lithium Ion Diffusion Coefficient in Tin Thin Films: Comparisons Between Using Impedance Spectroscopy and Galvanostatic Intermittent Titration Technique, Meeting of the ECS, San Francisco, CA, 2013.

Fok ECW, Madden JD, Measuring the Diffusion Coefficient of Lithium in Tin Thin Films Including Phase Transformation Effects, Meeting of the ECS, Toronto, Canada, 2013.