Name	Xianguo Li
Affiliation	University of Waterloo, Canada

Invited Plenary Lecture

Presentation Title	**Design of Bipolar Plate and Flow Field for PEM Fuel Cells**
Abstract (150 words)	Design of bipolar plate and flow field is critical for PEM fuel cell stacks. This talk will highlight the evolution and innovation in the bipolar plate and flow field design, from the fundamentals to the latest developments and state of the art knowledge and technology for practical applications, including i) functions and requirements of bipolar plates; ii) flow field designs as the major structural features fulfilling one of the key functions for reactant gas distribution to active cell surfaces; iii) fundamental designs and principal design improvement features; iv) their incorporation leading to the state-of-the-art designs; v) proper selection of materials; and vi) manufacturing methods utilizing the unique properties of the selected materials. The talk will end with a discussion of comparison of the various bipolar plates used in practice today. Proper combinations of bipolar plate materials, flow field designs and methods of manufacturing allow the achievement of commercial targets, especially for zero-emission propulsion systems for aviation applications.
Biographical Sketch (150 words)	**Xianguo Li** is a Professor of Mechanical and Mechatronics Engineering at the University of Waterloo. He received his Bachelor of Engineering degree from Tianjin University, China, Master and PhD degree from Northwestern University, USA. His research interest and activities are in the area of hydrogen generation and fuel cells, liquid fuel atomization and sprays, and green energy systems. He has published extensively, including *Principles of Fuel Cells*, the world's first textbook on fuel cells. Dr. Li serves as the editor in chief for the *International Journal of Green Energy*, Field Chief Editor for the journal *Frontiers in Thermal Engineering*, and also on the editorial/advisory board for many journals, book series, encyclopedia and handbooks; initiated/co-initiated International Green Energy Conference series and World Fuel Cell Conference series; and serves as Vice President, Technical Program, Canadian Society for Mechanical Engineering (CSME); President of the Fuel Cell Division, International Association for Hydrogen Energy; and President of the International Association for Green Energy. He is a fellow of Canadian Academy of Engineering, Engineering Institute of Canada, and CSME.