University of Waterloo
Department of Chemical Engineering

Department of Chemical Engineering

Seminar

Thursday, June 6, 2013

3:30PM – E6 2024

"Ambipolar Carrier Transport in Organic Semiconductors"

Dr. Richard Klenker

The mobility of holes versus electrons in organic semiconducting materials is a long-standing issue in the field of organic electronics. Some theoretical predictions indicate dissimilar mobility between holes and electrons for a range of materials. Whereas, arguments have been presented to suggest that in general organic semiconductors are intrinsically as good electron transporters as they are hole transporters. In this talk, carrier transport in several widely used materials will be discussed from both a theoretical and practical standpoint.

Biography: Richard received a B.Eng. in Materials Engineering from McMaster University in 2001. During his graduate studies in the Materials program at McMaster, he had the unique opportunity to gain industrial experience by carrying out his thesis research at the Xerox Research Centre of Canada (XRCC), in Mississauga. After completing his Ph.D. in 2007, Richard joined XRCC as a research engineer, where he has been involved with the development of materials-based technology for next generation products. He is currently leading a team in designing and integrating performance enhancing materials for opto-electronic devices used in laser printers. Richard has 3 US patents, over 20 US patents pending, and over 15 technical publications.