

2012-2013

Graduate Seminar Series

The Department of Mechanical Engineering – Engineering Mechanics

Proudly Presents

Christopher S. Johnson, Ph.D.
Chemical Sciences and Engineering Division
Argonne National Laboratory



Dr. Christopher S. Johnson is currently a chemist at Argonne National Laboratory, specializing in the research & development of battery materials and battery systems with over 20 years of experience. His education background is the University of North Carolina at Chapel Hill (B.S. Chem.) and Northwestern University earning his Ph.D. in 1992. He has been active in the lithium battery materials field having published over 90 publications and 10 patents issued. He is cathode projects leader at Argonne, and has managed several DOE, AFRL contracts and work-for-others programs. He was elected a Member-at-Large of the Battery Division of The Electrochemical Society (ECS) in 2008, and the Treasurer in 2010. He is active in organizing battery subject symposia at biannual ECS meetings. He is a member of the American Chemical Society, Materials Research Society, the Society for Electroanalytical Chemistry, and The Electrochemical Society-Battery Division since 1993. He has received research awards from the

International Battery Association in 2006, and a R&D-100 award for the commercialization of lithium battery materials in 2009. Currently he is developing room-temperature Na-ion batteries for niche applications.

Thursday, Dec. 13, 2012 4:00 – 5:00 p.m. Room 112, ME-EM Bldg.

Advanced Materials to Enable High-Energy Li and Na-Ion Batteries

The need for energy storage and its rising demand has become a major issue that the world faces today and going forward in the future. Lithium-ion (Li-ion) batteries are widely used for energy storage in a myriad of portable consumer applications and now are being introduced in transportation technologies, such as plug-in hybrid (PHEV) electric vehicles. The small size and low weight of the batteries have enabled new devices for many applications. The specific energy and power of Li-ion batteries continues to grow as high-performance anode and cathode materials become commercially available. This presentation will focus on advanced materials and their chemistry for Li-ion battery applications and also emerging low-cost Na-ion batteries as energy storage chemistry for electrical grid applications.

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