

Chemical Sciences and Engineering Division
Argonne National Laboratory
9700 South Cass Avenue, Bldg. 200
Argonne, IL 60439

Phone: 1-630-252-4787
E-mail: cjohnson@anl.gov

Christopher S. Johnson, Ph.D.

Education

- Ph. D. Inorganic Chemistry** Northwestern University **1992**
Evanston, IL U.S.A.
Thesis: Interfacial Electron Transfer Reactions of Metal Oxide Electrodes and the Synthesis and Characterization of cis-Dioxorhenium(V) Complexes
Advisor: Morrison Professor Dr. Joseph Hupp
- B.S. Chemistry** University of North Carolina **1987**
Chapel Hill, NC U.S.A.
Advisor: Kenan Professor Dr. Royce Murray

Professional Body of Work/Output

Google Scholar : 11555 citations ("Christopher Johnson"; h-index 47) (as of November 2016)
Web of Science peer reviewed publications: 109
US Patents issued : 23
Presentations (worldwide) invited international conferences: 22

Professional Experience/Positions Held

- 2014-present Argonne National Laboratory
Group Leader
Materials Research, Chemical Sciences and Engineering Division (CSE)
- 2016-present Argonne National Laboratory
Senior Chemist
- 1997-2016 Argonne National Laboratory
Chemist
- 1994-1997 Argonne National Laboratory
Assistant Chemist
- 1992-1994 Argonne National Laboratory
Postdoctoral Appointee
- 1987-1992 Northwestern University
Graduate Associate
- 1987 The Procter & Gamble Company
Summer ACS Analytical Program - Intern
- 1983-1987 University of North Carolina at Chapel Hill
Undergraduate researcher

Honors and Awards

- Professional Recognition
- Fellow of The Electrochemical Society, 2017

- R&D 100 Award (“Composite Cathode Materials”), 2009
- Chemical & Engineering News (C&EN) Science Technology Highlight “News of the Week”; May 14, 2007 “Anomalous Capacity of High-Energy Cathodes”, 2007
- International Battery Materials Association (IBA) Research Award, 2006
- DOE Technical Poster Award – Argonne summer 2009 intern Ms. Emma Wisniewski-Barker
- Argonne National Laboratory Pacesetter Award, 2000
- Argonne National Laboratory Pacesetter Award, 1995
- DOE Summer Fellowship Award, The Electrochemical Society, 1991

Professional Activities

- Organizer and Concept Originator, 25th Silver Anniversary of the Commercialization of the Li-Ion Battery, 230th Electrochemical Society (PRiME 2016) Meeting, Honolulu, HI, October 2016
- Organizer, Symposium AO3, Li-ion Batteries Symposium, 230th Electrochemical Society (PRiME 2016) Meeting, Honolulu, HI, October 2016
- Co-organizer and Scientific Advisory Committee, International Battery Association IBA 2016, March 20-26, 2016, Nantes, France
- Lead organizer, 2nd International Conference on Sodium Batteries, October 7-9, 2015, Phoenix, Arizona
- NSF Panel Member, Spring 2015, Division of Materials, DEMREF SSC Funding Panel
- Organizer, “Beyond Li-Ion Batteries: Chemistry, Materials, and Characterization”, 2014 Advanced Photon Source-CNM-EMC Users Meeting, Argonne, IL, May 12-14, 2014
- Lead battery symposium co-organizer, “Batteries Beyond Li-ion”, 226th The Electrochemical Society Meeting, Cancun, Mexico, October 2014
- Lead battery symposium organizer, invited, “Challenges and Developments in Transportation Batteries”, 221st The Electrochemical Society Meeting, Boston, MA, October 2011
- Lead battery symposium organizer, invited, “Materials for Energy Storage”, Spring Meeting of the American Physical Society (APS), Baltimore, MD, March 2013
- Lead battery symposium organizer, invited, “Nanoarchitectures for Energy Storage”, 223rd the Electrochemical Society Meeting, Toronto, Canada, May 12-17, 2013
- Lead battery symposium organizer, invited, “Battery Chemistry Beyond Li-ion”, 224th the Electrochemical Society Meeting, San Francisco, CA, Oct. 27 – Nov. 1, 2013
- Co-organizer battery symposium, “Emerging Materials and Processes for Energy Storage and Conversion”, 224th the Electrochemical Society Meeting, San Francisco, CA, Oct. 27 – Nov. 1, 2013
- Lead battery symposium organizer, invited, “Na Batteries”, 222nd The Electrochemical Society Meeting, Honolulu, October 2012.
- Science Advisory Board – Center for Electrochemical Energy Research (CEER; Ohio University). 2010-2013
- Elected Vice-chairman, Battery Division, The Electrochemical Society (ECS), 2014
- Elected Treasurer, Battery Division, The Electrochemical Society (ECS), 2010
- Elected Secretary, Battery Division, The Electrochemical Society (ECS), 2012
- CSE Colloquium Committee Chair, 2011-present
- Co-organizer, program subcommittee, IBA-HBC2003, E. B. Yeager Memorial Symposium (2003)
- Co-organizer, IBA Manganese Oxide Battery Materials Symposium, Argonne, (2000)
- Chairman and Organizer, NATO Advanced Carbon Research Workshop and Conference (October 2003, ANL)
- Active Member: The Electrochemical Society (ECS), Society for Electroanalytical Chemistry (SEAC), Materials Research Society (MRS), American Chemical Society (ACS), International Battery Association (IBA), and International Society of Electrochemistry (ISE)
- Technical Reviewer – DOE EERE SBIR proposals, and DOE BES EpSCOR proposals, ACS PRF proposals
- Reviewer for various peer-reviewed journals
 Angewandte Chemie, J. American Chemical Society, Nature Materials, Nature, Nature Communications, Chemistry of Materials, Electrochemical and Solid State Letters, J. of Phys. Chemistry-B, J. of Phys. Chem. C, Journal of the Electrochemical Society,

Electrochimica Acta, J. of Vacuum Technology, and Electrochemistry Communications, J. Solid State Electrochemistry, Materials Chemistry and Physics, Advanced Materials, Advanced Energy Materials, Proceedings of the National Academy of Sciences

- Numerous session chairs at national and international conferences and symposiums
- Over 30 students and postdoctoral fellows supervised and mentored

Editorial Boards and Books

- Editorial Board, Scientific Reports, Topic: Energy materials (Nature Publishing Group), 2013-2014
- Editor, NATO ARW Series Book (Springer, published 2006), "New Carbon Materials for Electrochemical Energy Storage: Batteries, Fuel Cells, and Supercapacitors"
- Board Member, International Battery Association (IBA), (2003-present)
- ITE Battery Letters, Editorial Board (1999-present)
- ISRN Electrochemistry, Hindawi Publishers, Editorial Board (2012-present)
- Advances in Chemistry, Hindawi Publishers, Editorial Board (2013-present)

Issued Worldwide PCT Patents

"Manganese Oxide Composite Electrodes for Lithium Batteries", PCT/US2004/038377, Nov. 17, 2004, M. M. Thackeray, C. S. Johnson, Naichao Li

Issued U.S Patents

"Hollow nanoparticle cathode materials for sodium electrochemical cells and batteries" U. S. 9,391,319 issued July 12, 2016, E. Shevchenko, T. Rajh, C. S. Johnson, B. Koo

"Surface Stabilized Electrodes for Lithium Batteries", U.S. 9,130,226, issued Sept. 8, 2015, M. M. Thackeray, S.-H. Kang, and C. S. Johnson

"Electrode Materials for Rechargeable Battery" U. S. Patent 9,126,844, issued Sept. 8, 2015, C. S. Johnson; S.-H. Kang,

"Positive Electrodes for Lithium Batteries" U.S. 8,835,027, issued Sept. 16, 2014, M. M. Thackeray, C. S. Johnson, Sun-Ho Kang

"Electrode Materials for Sodium Batteries" U.S. 8,835,041, issued Sept. 16, 2014. C. S. Johnson, S.-H. Kang, M. Balasubramanian, D. Kim

"Electrode Materials for Rechargeable Battery" U. S. 8,557,438, issued Oct. 15, 2013, C. S. Johnson and S.-H. Kang

"Lithium-Oxygen (Air) Electrochemical Cells and Batteries" U.S. 8,313,721, issued Nov. 20, 2012. M. M. Thackeray, C. S. Johnson, S.-H. Kang, L. Trahey, J.T. Vaughey

"Manganese Oxide Composite Electrodes for Lithium Batteries", U.S. 8,080,340, issued Dec. 20, 2011. M. M. Thackeray, S.-H. Kang, C. S. Johnson

"Surface Stabilized Electrodes for Lithium Batteries" U.S. 8,383,077, issued Feb. 26, 2013. M. M. Thackeray, S.-H. Kang, C. S. Johnson

"Surface Stabilized Electrodes for Lithium Batteries" U.S. 8,148,011, issued Apr. 3, 2012. M. M. Thackeray, S.-H. Kang, C. S. Johnson

"Manganese Oxide Composite Electrodes for Lithium Batteries" U.S. 7,635,536 issued Dec. 22, 2009. C. S. Johnson, S.-H. Kang, and M. M. Thackeray

"Manganese Oxide Composite Electrodes for Lithium Batteries" U.S. 7,790,308, issued Sept. 7, 2010. C. S. Johnson, S.-H. Kang, and M. M. Thackeray

"Lithium Metal Oxide Electrodes for Lithium Batteries" U.S. 7,732,096, issued June 8, 2010. M. M. Thackeray, C. S. Johnson, K. Amine, S.-H. Kang

"Lithium Metal Oxide Electrodes for Lithium Batteries" U.S. 7,468,223, issued Dec. 23, 2008, M. M. Thackeray, C. S. Johnson, Khalil Amine

"Lithium Metal Oxide Electrodes for Lithium Cells and Batteries", U.S. 6,680,143, issued January 20, 2004, Michael M. Thackeray, Christopher S. Johnson, Khalil Amine, Jaekook Kim

"Lithium Metal Oxide Electrodes for Lithium Cells and Batteries", U.S. 6,677,082, issued January 13, 2004, Michael M. Thackeray, Christopher S. Johnson, Khalil Amine, Jaekook Kim

"Lithium Metal Oxide Electrodes for Lithium Batteries" U.S. 7,135,252, issued November 14, 2006, M. M. Thackeray, C. S. Johnson, K. Amine, J. Kim

"Intermetallic Negative Electrodes for Non-Aqueous Lithium Cells and Batteries", U.S. 6,730,429, issued May 4, 2004, M. M. Thackeray, J. T. Vaughey, C. S. Johnson, L. M. L. Fransson, K. Edstrom and G. Henriksen

"Protective Coating on Positive Lithium-Metal-Oxide Electrodes for Lithium Batteries", U.S. 7,049,031, issued May 23, 2006, Christopher Johnson, Michael Thackeray, Arthur J. Kahaian

"Layered Electrodes for Lithium Cells and Batteries", U.S. 7,358,009, issued April 15, 2008, C. S. Johnson, M. M. Thackeray, J. T. Vaughey, A. J. Kahaian, J.-S. Kim

"Manganese Oxide Composite Electrodes for Lithium Batteries", U.S. 7,303,840, issued Dec. 4, 2007, M. M. Thackeray, C. S. Johnson, Naichao Li

"Lithium Metal Oxide Electrodes for Lithium Batteries", U.S. 7,314,682, issued Jan. 1, 2008, M. M. Thackeray, J.-S. Kim, C. S. Johnson

**U.S Patent
Applications
(published)**

U.S. 201402725633, "High voltage, High Volumetric Energy Density Li-ion Battery using Advanced Cathode Materials", published Sept. 18, 2014, Inventors: H. Dai, C. S. Johnson, H. Wu

U.S. 20110104576, "Lithium-Oxygen Electrochemical Cells and Batteries", published May 5, 2011. Inventors: C. S. Johnson, V. Pol, Z. Zhang

U.S. 20100143784, "Manganese Composite Oxide Electrodes for Lithium Batteries", published June 10, 2010. Inventors: C. S. Johnson, S.-H. Kang, and M. M. Thackeray

U.S. 20090081529, "Positive Electrodes for Lithium Batteries", published March 26, 2009. Inventors: M. M. Thackeray, S.-H. Kang, C. S. Johnson

U.S. 20070111094, "Synthesis of Intermetallic Negative Electrodes for Lithium Cells and Batteries", published May 17, 2007. Inventors: M. M. Thackeray and C. S. Johnson

U.S. 20040191633, "Electrodes for Lithium Batteries", published September 30, 2004. Inventors: C. S. Johnson, M. M. Thackeray, J.-S. Kim, M. A. Anderson, W. A. Zeltner

U.S. 20130130095, "Surface Stabilized Electrodes for Lithium Batteries, published May 23, 2013, Inventors: M.M Thackeray, S.-H. Kang, C. S. Johnson

U.S. 20120141860, "Surface Stabilized Electrodes for Lithium Batteries, published February 14, 2012, Inventors: M.M Thackeray, S.-H. Kang, C. S. Johnson

U.S. 20110281154, "Materials for Electrochemical Device Safety", published May 10, 2011, Inventors: D. Vissers, K. Amine, M. M. Thackeray, C. S. Johnson

U.S. 20120052375, "Electrode Materials for Rechargeable Battery", published March 1, 2012, Inventors: C. S. Johnson, Sun-Ho Kang

U.S. 20120183837, "Electrode Materials for Sodium Battery", published July 19, 2012, Inventors: C. S. Johnson, S.-H. Kang, D. Kim, M. Balasubramanian

U.S. 2013048597, "High-Capacity Electrode Materials and Process for Their Manufacture", published April 4, 2013, Inventors: C. S. Johnson, H. Xiong, T. Rajh, M. Slater, E. Shevchenko

Invited Oral Presentations

C. S. Johnson, *Reversibility of Anti-Fluorite Cathode Materials for Li-Ion Batteries*, International Battery Association IBA2018, Jeju Island, Korea, Mar.11-16, 2018

C. S. Johnson, *Pre-lithiation strategies to enable high energy density Li-ion batteries*, DGIST Global Innovation Forum (DGIF), Daegu, Korea, Nov. 30- Dec. 1, 2017

C.S. Johnson, *Phase interplay in layered Ni-Mn based sodium transition metal oxide cathodes*, The 4th International Conference on Sodium Batteries, Tokyo, Japan, Nov. 28-30, 2017

C. S. Johnson, *Renaissance of LiMn₂O₄ Spinel*, 253rd American Chemical Society Conference (ACS), San Francisco, CA, April 2-6, 2017

C. S. Johnson, *Sodium-ion Batteries (SIB): Battery Systems Poised for Grid Storage* 253rd American Chemical Society Conference (ACS), San Francisco, CA, April 2-6, 2017

C. S. Johnson, *The Renaissance of LiMn₂O₄ Spinel*, 2017 International Battery Association Conference (IBA), Nara, Japan, Mar. 2-7, 2017

C. S. Johnson, *Nexus of Light and Batteries: Harnessing Sun Power*, NASA Glenn Research Center, Cleveland, OH, Dec. 9, 2016

C. S. Johnson, *Electrochemical Behavior of Li₅FeO₄ in Energy Storage Applications*, 18-IMLB (International Meeting on Lithium Batteries), Chicago, IL, June 24, 2016

C. S. Johnson, *Interfacial and Bulk Operando Studies of LiMn₂O₄ Spinel Cathodes*, SIRBATT Workshop, Orlando, FL, May 28, 2016

C. S. Johnson, *Li-rich Li₅FeO₄ (LFO) Cathode Material as Pre-lithiation Additive for Enabling High-Energy Si/C/NMC Batteries*, 2016 international Battery Association Conference (IBA), Nantes, France Mar.20-25, 2016

C. S. Johnson, *Energy Storage using Sodium-ion Batteries (SIB)*, Beyond Li-ion Batteries VIII, Oak Ridge National Laboratory, Oak Ridge TN, June 2-4, 2015

C. S. Johnson, *Na-Ion Battery Technologies: Present Status and Update*, 226th Meeting, The Electrochemical Society (ECS), Cancun, Mexico, Oct. 8, 2014

C. S. Johnson, *Na-ion Batteries: A New Energy Storage Focus*, 65th Annual International Society of Electrochemistry (ISE) Meeting, Lausanne, Switzerland, Aug. 31 – Sept. 5, 2014

C. S. Johnson, *Emergence of Na-Ion Battery Technologies*, 248th American Chemical Society (ACS) Meeting, San Francisco, CA, Aug. 10-14, 2014

C. S. Johnson, *Li-ion Batteries: A Look Back and a Look Forward*, Department of Chemistry Seminar, Michigan State University, MI, Feb. 3, 2014

C. S. Johnson, *Li-ion Batteries: A Look Back and a Look Forward*, Department of Chemistry Seminar, Oregon State University, OR, Sept. 23, 2014

C. S. Johnson, *Synthetic Solutions for Correcting Voltage Fade in LMR-NMC Cathodes*, DOE EERE VTP Merit Review, Washington D.C, June 2014

C. S. Johnson, *Nanoarchitecture Electrodes for Li- and Na-ion Batteries*, 246th American Chemical Society (ACS) Meeting, Indianapolis, IN, Sept. 8-12, 2013

C. S. Johnson, *Oxide and Sulfide Nanostructured Materials for Na-ion Batteries*, 1st International Symposium on Na Batteries, Vitoria, Spain, Oct. 16-17, 2013

C. S. Johnson, *Composite Sodium-Lithium-Transition Metal Cathode Materials for Alkali Ion Batteries*, 2013 international Battery Association Conference (IBA), Barcelona, Spain, Mar.11-15, 2013

C. S. Johnson, *Our Nearly 20 Years of Battery Research with Michael Thackeray at Argonne*, Special Symposium in Honor of Michael Thackeray, Barcelona, Spain, Mar. 10, 2013

C. S. Johnson, *Nanoarchitecture Electrodes for Energy Storage*, 142nd TMS Meeting, San Antonio, TX Mar. 3-7, 2013

C. S. Johnson, *In Situ Evaluation of Batteries Using the APS/CNM Hard X-ray Nanoprobe*, 2012 APS-CNM-EMC Users Meeting, Argonne IL May 7-10, 2012

C. S. Johnson, *Ion Exchange Synthesis and Intercalation Process of $\text{Li}_x\text{Ni}_{0.25}\text{Mn}_{0.75}\text{O}_y$ Cathode for Li-ion Batteries*, 222nd The Electrochemical Society Meeting (ECS), Honolulu, HI, Oct. 8, 2012

C. S. Johnson, *Li-Ion Batteries*, 64th International Society of Electrochemistry (ISE) Meeting, Santiago de Queretaro, Mexico, Sept. 8-13, 2013

C. S. Johnson, *Li-Ion Batteries: a Look Back and a Look Forward*, Department of Chemistry Seminar, Ohio University, Athens, OH, Oct. 25, 2012

C. S. Johnson, *Advanced Materials to Enable High-Energy Li- and Na-ion Batteries*, Department of Materials and Metallurgical Engineering Seminar, Michigan Technological University, Houghton, MI, Dec. 13, 2012

C. S. Johnson, *Na-ion Batteries*, 62nd International Society of Electrochemistry (ISE), Niigata, Japan, Sept. 11- 16, 2011

C. S. Johnson, *Novel Composite Cathode Structures for High-Rate Applications in Li-ion Batteries*, 5th International Conference on Polymer Batteries and Fuel Cells (PBFC 5), Argonne National Laboratory, August 1-5, 2011

C. S. Johnson, *Battery Material Concepts*, Argonne Brainstorming Session on Energy Storage Initiative, Argonne National Laboratory, ALD office, July 19, 2011

C. S. Johnson, *Battery Material Concepts: Cathodes*, Argonne-Lawrence Berkeley Laboratory Energy Storage Hub Meeting, Lawrence Berkeley Laboratory, July 7, 2011

C. S. Johnson, *Argonne High-Energy Cathodes for Li-ion Batteries*, 12th Electrochemical Power Sources Conference, Monterey, CA, June 22, 2011

C. S. Johnson, *High-Energy and High-Power Composite Li Battery Cathodes Synthesized from Ion-Exchange Reactions*, Materials Research Society Meeting, San Francisco CA, April 26, 2011

C. S. Johnson, *Novel Cathodes Synthesized from Ion-Exchange Reactions*, Argonne Strategic Initiatives Workshop – Energy Storage, Argonne National Laboratory, April 4, 2011

C. S. Johnson, *High-Energy and High-Power Li-rich Nickel Manganese Oxide Electrode Materials*, Argonne-PNNL Energy Storage Workshop, Argonne National Laboratory, Nov. 18, 2010

C. S. Johnson, *High-Energy and High-Power Li-rich Nickel Manganese Oxide Electrode Materials*, Argonne/Japan NEDO Workshop, October 7, 2010

C. S. Johnson, *Li-Ion Batteries: Electrode Material Design and Development*, Illinois Institute of Technology, Chicago, Illinois, September 29, 2010

C. S. Johnson, *Materials for Li-Ion Batteries*, University of Texas at Arlington, Arlington, Texas, January 22, 2010

C. S. Johnson, *Research and Development of Lithium Transition Metal Composite-Oxide Cathodes for Li-ion Batteries*, University of Notre Dame, South Bend, IN, October 6, 2009

C. S. Johnson, *Invention and Development of Composite Oxide Cathodes for Lithium-Ion Batteries*, Illinois Institute of Technology (IIT), Chicago Illinois, September 25, 2008

C. S. Johnson, *Development and Utility of Manganese Oxides as Cathodes in Lithium Batteries*, **Award Lecture**, IBA 2006 Battery Research Award Address, IBA –HBC 2006, Waikoloa, Hawaii, 9-12 January 2006

C. S. Johnson, *New Electrode Materials for Rechargeable Lithium Batteries*, University of Wisconsin – Madison, Madison, WI, May 11, 2001

C. S. Johnson, J. T. Vaughey, M. M. Thackeray, *Cycling Performance of Intermetallic Insertion Electrodes in Lithium Batteries*, 4th Chicago Battery Workshop, Illinois Institute of Technology, Chicago, IL, April 13, 2000

C. S. Johnson, *Structure and Insertion Chemistry of New Composite Electrodes for Lithium Batteries*, Society of Advanced Battery Technology, Osaka National Research Institute, Osaka, Japan, November 17, 1999

C. S. Johnson, *Intermetallic Insertion Electrodes for Li-ion Batteries*, The 40th Battery Symposium of Japan, Kyoto, Japan, November 14, 1999

Additional Recent invitations (declined): 2014 IBA Conference, March 3-7, 2014 Brisbane, Australia, The Minerals, Metals and Materials Society (TMS) 143rd Annual Meeting Feb. 16-20, 2014, San Diego, CA, American Physical Society (APS) March Meeting March 18-22, 2013, Baltimore, Maryland, Kettering University, Fall 2013

Dehua Zhou and C. S. Johnson, *SnO Carbon Composite as Superior Anode in Sodium-ion Batteries*, 230th The Electrochemical Society Meeting/PRIME Conference, Honolulu, HI, October 2-8, 2016

Chi-Kai Lin, Xin Su, Xiaoping Wang, Wnequan Lu, C. S. Johnson, *Li₅FeO₄ Li Source Additive: Fixing Irreversibility in LIBs*, 230th The Electrochemical Society Meeting/PRIME Conference, Honolulu, HI, October 2-8, 2016

Chi-Kai Lin, Yang Ren, Xiaoping Wang, Victor Maroni, Michael Krumpelt, C. S. Johnson, *Probing the electrochemical mechanism of Li₅FeO₄ (LFO) cathodes in Li-ion cell*, 228th The Electrochemical Society Meeting, Phoenix, AZ, October 7-10, 2015

C. S. Johnson, *Ion-Exchanged Li-Ni-Mn-O Materials: a New High Rate Stable Li-ion Battery Cathode*, Presented to BASF Co., Argonne, IL Sept. 18, 2014

C. S. Johnson, *Ion-Exchanged Li-Ni-Mn-O Materials: a New High Rate Stable Li-ion Battery Cathode*, Presented to LG Chemical Co., Argonne, IL Oct. 22, 2013

C. S. Johnson, *New Ion-Exchange Cathodes for Li-Ion Batteries*, Presented to Bosch Corp., Argonne, IL, May 20, 2011

C. S. Johnson, B. Koo, M. Slater, S. Tepavecic, H. Xiong, H. Yildirim, E. Shevchenko, T. Rajh, *Nanoarchitectures for Energy Storage*, 219th Electrochemical Society Meeting, Montreal, Canada, May 2, 2011

C. S. Johnson, Emma Wisniewski-Barker, *Synthesis of a Series of High-Energy Cathodes via an Ion-Exchange Reaction*, 218th Electrochemical Society Meeting, Las Vegas, NV, October 10, 2010

C. S. Johnson, *Design and Evaluation of Novel High-Capacity Cathode Materials*, DOE EERE VTP Merit Review, Washington D.C, June 2010

C. S. Johnson, M. M. Thackeray, *Electroactivity and characterization of defect antiferroite Li₅Fe_{1-x}Co_xO₄ and Li₆MnO₄ electrodes for lithium-ion batteries*, 216th Electrochemical Society Meeting, Vancouver, Canada, April 26, 2010

C. S. Johnson, *Invention and Development of Composite Oxide Cathodes for Li-Ion Batteries*, CSE Technical Seminar, Argonne, Illinois, September 10, 2008

C. S. Johnson, N. Li, C. Lefief, J.-S. Kim, A. J. Kropf, J. T. Vaughey, M. M. Thackeray *Anomalous Capacity and Cycling Stability of xLi₂MnO₃•(1-x)LiMO₂ Electrodes (M=Mn, Ni, Co) in Lithium Batteries at 50 °C*, The Electrochemical Society Meeting, Chicago, IL, May 6-11, 2007

C.S. Johnson, S. O'Deen, J. T. Vaughey, S. H. Kang, M. M. Thackeray, S. A. Hackney, J. Bréger, C.P. Grey, *Electrochemical Analysis and Characterization of Layered Spinel "Composite" Electrodes for Lithium-Ion Batteries*, 210th Meeting of the Electrochemical Society, Cancun, Mexico, October, 2006

C. S. Johnson, J. T. Vaughey, S.-H. Kang, N. Li, S. A. Hackney, C. P. Grey, and M. M. Thackeray, *Novel Cathode Materials*, DOE BATT Annual Merit Review, Lawrence Berkeley National Laboratory, Berkeley, CA, May 31-June 2, 2005

C.S. Johnson, J. T. Vaughey, S. A. Hackney, T. Sarakonsri, N. Li, and M. M. Thackeray, *A Solution Technique for Depositing Nano-particulate Metals or Intermetallic Compounds in Composite Electrodes*, DOE Anode Workshop Symposium, Lawrence Berkeley National Laboratory, Berkeley, CA, May 25, 2004.

C. S. Johnson, Xiaoqing Qian, *Substituted Li-Ni-Mn Spinel Oxide Cathodes for High-Voltage Lithium Batteries*, "New Carbon Based Materials for Electrochemical Energy Storage Systems", NATO Science for Peace Program, NATO-CARWC, October 19-23, 2003, Argonne, IL

C. S. Johnson, Xiaoqing Qian, *Cation Substitution Strategies for 5 V LiNi_{0.5}Mn_{1.5}O₄ Spinel Electrodes in Lithium Batteries*, 203rd Meeting of the Electrochemical Society, Paris, France. April 27-May 2, 2003

C. S. Johnson, Kevin Lauzze, Daniel Abraham, Nancy Dietz, Michael M. Thackeray, Walter Zeltner, and Marc A. Anderson, *Enhanced Electrochemical Stability of Colloidal Metal Oxide Coated Spinel LiMn₂O₄ Electrodes*, 203rd Meeting of the Electrochemical Society, Paris, France. April 27-May 2, 2003

C. S. Johnson, Jeom-Soo Kim, A. Jeremy Kropf, Arthur J. Kahaian, John T. Vaughey, Linda Fransson, Kristina Edström, Michael M. Thackeray, *Redox Reactions of Mixed-Metal Layered Oxide Compounds*, IBA-HBC2003, The Ernest Yeager Memorial Symposium, Big Island of Hawaii, Hawaii, Jan. 7-10, 2003

C. S. Johnson, A. J. Kropf, J. T. Vaughey, and M. M. Thackeray *Structural Characterization of Anode and Cathode Materials for Lithium Batteries*, International Workshop on Industrial Application of SR, Argonne, IL, USA., September 5, 2002,

C. S. Johnson, A. J. Kropf, J. T. Vaughey, and M. M. Thackeray, *Structural Characterization of Anode and Cathode Materials for Lithium Batteries*, International Workshop on Industrial Application of SR, Argonne, IL, USA, September 5, 2002

C. S. Johnson, J. T. Vaughey, A. J. Kahaian, M. M. Thackeray, *Long-Range Battery Materials Research*, Presentation to Dow Chemical, Argonne, June 22, 2001

C. S. Johnson, A. J. Kropf, H. Tostmann, J. T. Vaughey, M. M. Thackeray, *Analysis of InSb Electrode Phase Conversion by In Situ X-Ray Absorption Spectroscopy*, 11th Users Meeting for the Advanced Photon Source, , Argonne, IL, October 9-11, 2001

C. S. Johnson, J. T. Vaughey, and M. M. Thackeray *Cycling Performance of Stabilized Alpha Manganese Dioxide Electrode Materials*, 198th Meeting of the Electrochemical Society, Phoenix, AZ, October 22–27, 2000

C. S. Johnson, and M. M. Thackeray, *Recent Developments and Prospects for Layered Manganese Oxide Electrodes for Lithium Batteries*, 198th Meeting of the Electrochemical Society, Phoenix, AZ, October 22–27, 2000

C. S. Johnson and M. M. Thackeray, *Electrochemical Processes of Manganese Oxide Materials*, The Workshop on Interfaces, Phenomena, and Nanostructures in Lithium Batteries, Argonne National Laboratory, Argonne, IL, December 11–13, 2000

C. S. Johnson, A. J. Kropf, J. T. Vaughey, and M. M. Thackeray, *Measurement of Structure and Structural Change for Li-Insertion Electrodes at Argonne's Advanced Photon Source*, The Second Hawaii Battery Conference, Waikoloa, HI, January 4-7, 1999

C. S. Johnson, J. T. Vaughey, M. M. Thackeray, T. E. Bofinger, and S. A. Hackney, *Layered Lithium-Manganese Oxide Electrodes Derived from Rock-Salt $\text{Li}_x\text{Mn}_y\text{O}_z$ ($x+y=z$) Precursors*, 194th Meeting of the Electrochemical Society, Boston, MA, Nov.1-6, 1998.

C. S. Johnson, L. D. Noailles, J. T. Vaughey, and M. M. Thackeray, *Microporous Titanium Oxide Anodes for Rechargeable Lithium Batteries*, 194th Meeting of the Electrochemical Society, Boston, MA, Nov.1-6, 1998

C. S. Johnson and M. M. Thackeray. *Manganese Oxide Materials for Lithium Batteries*, The 1997 Chicago-Midwest Battery Workshop at IIT, Chicago, IL April 15, 1997

C. S. Johnson, D. W. Dees, M. F. Mansuetto, M. M. Thackeray, D. R. Vissers, D. Argyriou, C.-K. Loong, and L. Christensen, *Lithium-Oxide-Stabilized Alpha Manganese Dioxide Electrode for Rechargeable Lithium Batteries*, The 190th Electrochemical Society Meeting, San Antonio, TX, October 6-11, 1996

C. S. Johnson , M. M. Thackeray, *Preparation and Characterization of $\alpha\text{-MnO}_2$ for Rechargeable Lithium Batteries*, 1995 International Battery Association Meeting, Chicago, IL October 7, 1995

Book Chapters and Proceedings Papers

1. Reference Electrodes for Solid Polymer Electrolytes

C. S. Johnson and Dennis W. Dees

Proc. of the Symposium on Lithium Batteries, Battery Division of the Electrochemical Society, **94-4**, 225-231, (1993)

2. Novel Carbonaceous Materials for Lithium Secondary Batteries

G. Sandi, R. E. Winans, K. A. Carrado, and C. S. Johnson

Proc. of the Second International Symposium on New Materials for Fuel Cell and Modern Battery Systems, 415-425 (1997)

3. Intermetallic Insertion Electrodes for Li-Ion Batteries

C. S. Johnson, M. M. Thackeray, J. T. Vaughey, K. D. Kepler, A. J. Kahaian, and K. Amine

Proceedings of the 40th Japan Battery Symposium, Kyoto, Japan, November 14–16, 1999, pp. 55–56 (1999)

4. **Carbons for Lithium Ion Cells Prepared Using Sepiolite as Inorganic Template**
G. Sandi, K. A. Carrado, R. E. Winans, C. S. Johnson, and K. D. Kepler
Proc. of the Symp. on Lithium Batteries, Electrochemical Society, Pennington, NJ, **98-16**, pp. 11–18 (1999)
5. **Small Angle X-Ray Scattering Studies of Carbon Anodes Used in Lithium Rechargeable Batteries**
G. Sandi, K. A. Carrado, R. E. Winans, S. Seifert, and C. S. Johnson
Proc. of the 219th Am. Chem. Soc. Meeting, Division of Fuel Chemistry, San Francisco, CA, March 26–31, 2000, **Vol. 45**, p. 370 (2000)
6. **Intermetallic Insertion Electrodes for Lithium Batteries**
J. T. Vaughey, K. D. Kepler, C. S. Johnson, T. Sarakonsri, R. Benedek, J. O'Hara, S. Hackney, and M. M. Thackeray
Proc. of the 196th Meeting of Electrochem. Soc., Honolulu, HI, October 17–22, 1999, **99-24**, pp. 280–289 (2000); **1 citation**
7. **Electrochemical Performance of Ni/Cu-Metallized and Carbon-Coated Graphites for Lithium Batteries**
Christopher S. Johnson, Kevin Lauzze, Nick Kanakaris, Arthur Kahaian, Michael M. Thackeray, Giselle Sandi, Stephen A. Hackney, and Robert O. Rigney
"New Carbon Based Materials for Electrochemical Energy Storage Systems", NATO Science Series, II. Mathematics, Physics and Chemistry, Vol. 229, pp. 357-376, Co-editors, C. S. Johnson, J. Doninger, I. Barsukov, and V. Barsukov, Kluwer Publishers, Netherlands, (2006)
8. **In Situ XAFS of the $\text{Li}_x\text{Ni}_{0.8}\text{Co}_{0.2}\text{O}_2$ Cathode for Lithium Batteries**
A. J. Kropf and C. S. Johnson
Mat. Res. Soc. Symp. Proc., **590**, 17-26 (2000); **3 citations**
9. **Layered $(1-x)\text{Li}_2\text{MnO}_3 \cdot x\text{LiMO}_2$ (M=Ni, Co, Cr, or Mn) Electrodes for Lithium Batteries**
C. S. Johnson and M. M. Thackeray
Interfaces, Phenomena, and Nanostructures in Lithium Batteries, A. R. Landgrebe and R. J. Klingler, eds., Proceedings of the International Workshop on Electrochemical Systems, The Electrochemical Society, **PV 2000-36**, 47-60 (2001)
10. **Lithium-Ion Conducting Channel**
L. G. Scanlon, L. R. Lucente, W. A. Feld, G. Sandi, D. J. Campo, A. E. Turner, C. S. Johnson, and R. A. Marsh
Interfaces, Phenomena, and Nanostructures in Lithium Batteries, A. R. Landgrebe and R. J. Klingler, eds., Proceedings of the International Workshop on Electrochemical Systems, The Electrochemical Society, **PV 2000-36**, 326-339 (2001)
11. **Intermetallic Negative Electrodes for Lithium Batteries**
M. M. Thackeray, J. T. Vaughey, C. S. Johnson, A. J. Kropf, H. Tostmann, R. Benedek, A. J. Kahaian, T. Sarakonsri and S. A. Hackney
Interfaces, Phenomena, and Nanostructures in Lithium Batteries, A. R. Landgrebe and R. J. Klingler, eds., Proceedings of the International Workshop on Electrochemical Systems, The Electrochemical Society, **PV 2000-36**, 92-101 (2001)
12. **Cation Substitution Strategies for 5-V $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$ Spinel Electrodes in Lithium Batteries**
Xiaoqing Qian and Christopher S. Johnson
New Trends in Intercalation Compounds for Energy Storage, K. Zaghbi and C. Julien, Editors, *Proceedings of The Electrochemical Society*, **PV2003-20**, 405-414 (2003)

Publication List

Publication List – total 112; Total Citations (Google Scholar): over 11688 (as of February 2018)

1. **Enabling the high capacity of lithium-rich anti-fluorite lithium iron oxide by simultaneous anionic and cationic redox**
C. Zhan, Z. Yao, J. Lu, L. Ma, V. Maroni, L. Li, E. Lee, E. Alp, T. Wu, J. G. Wen, Y. Ren, C. S. Johnson, M. M. Thackeray, M. Chan, C. Wolverton, K. Amine
Nature Energy, **2**, 963 (2017)
2. **Microwave-Assisted Synthesis of NaCoPO₄ Red-Phase and Initial Characterization as High Voltage Cathode for Sodium-Ion Batteries**
A Gutierrez, S Kim, TT Fister, CS Johnson
ACS applied materials & interfaces **9** (5), 4391-4396 (2017)

3. **A High Power Rechargeable Nonaqueous Multivalent Zn/V₂O₅ Battery**
P.. Senguttuvan, S.-D. Han, S. Kim, A. L. Lipson, S. Tepavcevic, T. Fister, I. Bloom, A. K. Burrell, C. S. Johnson
Adv. Energy Mater., **5**, 1600826 (2016)
4. **A New Strategy to Mitigate the Initial Capacity Loss in Lithium-ion Batteries**
Xin Su, Chi-Kai Lin, Xiaoping Wang, Victor Maroni, Yang Ren, Christopher Johnson, Wenquan Lu
J. Power Sources, **324**, 150-157, (2016)
5. **Oxidation induced Doping of Nanoparticles Revealed by In Situ X-Ray Absorption Studies**
S.-G. Kwon, S. Chattopadhyay, B. Koo, P. dos Santos Claro, T. Shibata, F. Requejo, L. Giovanetti, Y. Liu, C. S. Johnson, V. Prakapenka, B. Lee, E. Shevchenko
NanoLett., accepted, As soon as publishable, (2016)
6. **Long Cycle Life Microporous Spherical Carbon Anodes for Sodium-ion Batteries Derived from Furfuryl Alcohol**
Dehua Zhou, Maryam Peer, Zhenzhen Yang, Vilas Pol, Fulya Dogan Key, Jacob Jorne, Henry Foley, Christopher Johnson
J. Mater. Chem. A, **4**, 6271 (2016)
7. **Nanostructured Layered Cathode for Rechargeable Mg-ion Batteries**
Sanja Tepavcevic, Yuzi Liu, Dehua Zhou, Barry Lai, Jorg Maser, Xiaobing Zuo, Henry Chan, Petr Kral, Christopher Johnson, Vojislav Stamenkovic, Nenad Markovic, Tijana Rajh
ACS Nano, **9**, 9194 (2015)
8. **New insights into the Performance Degradation of Fe-Based Layered-Oxides in Sodium-Ion Batteries: Instability of Fe³⁺/Fe⁴⁺ Redox in α-NaFeO₂**
Eungje Lee, Dennis E. Brown, Esen E. Alp, Yang Ren, Jun Lu, Jung-Je Woo, and Christopher S. Johnson
Chem. Materials, **27**, 6755, (2015)
9. **First –charge Instabilities of layered-layered lithium-ion battery materials**
J. R. Croy, H. Iddir, K. Gallagher, C. S. Johnson, R. Benedek, M. Balasubramanian
Phys. Chem. Chem. Phys., **17**, 24382 (2015)
10. **First-Cycle Evolution of Local Structure in Electrochemically Activated Li₂MnO₃**
J. R. Croy, J.-S. Park, F. Dogan, C. S. Johnson, B. Key, M. Balasubramanian
Chem. Mater., **26**, 7091 (2015)
11. **Solid State NMR Studies of Li₂MnO₃ and Li-Rich Cathode Materials: Proton Insertion, Local Structure, and Voltage Fade**
F. Dogan, J. R. Croy, M. Balasubramanian, M. D. Slater, H. Iddir, C. S. Johnson, J. T. Vaughey, B. Key
J. Electrochem. Soc., **162**, A235 (2015)
12. **Rechargeable Seawater Battery and Its Electrochemical Mechanism**
J. K. Kim, E. Lee, H. Kim, C. S. Johnson, J. Cho, Y. Kim
ChemElectrochem., **2**, 328 (2015)
13. **Role of Cr³⁺/Cr⁶⁺ Redox in Chromium-Substituted Li₂MnO₃•LiNi_{1/2}Mn_{1/2}O₂ Layered Composite Cathodes: Electrochemistry and Voltage Fade**
E. Lee, J.-S. Park, T. P. Wu, C. J. Sun, H. Kim, P. C. Stair, J. Lu, D. H. Zhou, C. S. Johnson
J. Mater. Chem. A, **3**, 9915 (2015)
14. **Aluminum and Gallium Substitution into 0.5Li₂MnO₃ •0.5LiNi_{0.375}Mn_{0.375}Co_{0.25}O₂ Layered Composite and the Voltage Fade Effect**
E. Lee, R. Koritala, D. J. Miller, C. S. Johnson
J. Electrochem. Soc., **162**, A322 (2015)
15. **Layered P2/O3 Intergrowth Cathode: Toward High Power Na-Ion Batteries**
E. Lee, J. Lu, Y. Ren, X. Luo, X. Zhang, J. Wen, D. Miller, A. DeWahl, S. Hackney, B. Key, D. Kim, M. Slater, C. S. Johnson
Adv. Energy Mater., **4**, 1400458.(2015) **Inside Front Cover Artwork for this work**
16. **Asynchronous Crystal Cell Expansion During Lithiation of K⁺-stabilized α-MnO₂**
Y. Yuan, A. Nie, G. M. Odegard, D. Zhou, S. Santhanagopalan, K. He, D. D. Meng, R. Klie, C. S. Johnson, R. Shahbazian-Yassar
Nano Lett., **15**, 2998 (2015)
17. **Comparative Electrochemical Sodium Insertion/Extraction Behavior in Layered Na_xVS₂ and Na_xTiS₂**
E. Lee, S. Sahgong, C. S. Johnson, Y. Kim
Electrochim. Acta, **143**, 272 (2014)
18. **Operando Structural Characterization of the Lithium-Substituted Layered Sodium-Ion Cathode Materials P2-Na_{0.85}Li_{0.17}Ni_{0.21}Mn_{0.64}O₂ by X-Ray Absorption Spectroscopy**
N. Karan, M. Slater, F. Dogan, D. Kim, C. S. Johnson, M. Balasubramanian
J. Electrochem. Soc., **161**, A1107 (2014)
19. **SnSb Carbon Composite Anode in a SnSb₂C/NaNi_{1/3}Mn_{1/3}Fe_{1/3}O₂ Na-Ion Battery**
D. Zhou, M. Slater, D. Kim, E. Lee, J. Jorne, C. S. Johnson
ECS Transactions, **58**, 59 (2014)

20. **Toward Lithium Ion Batteries with Enhanced Thermal Conductivity**
B. Koo, P. Goli, A. V. Sumant, P. C. D. Claro, T. Rajh, C. S. Johnson, A. Balandin, E. V. Shevchenko
ACS Nano, 8, 7202 (2014)
21. **Insight into the Structural Evolution of a High-Voltage Spinel for Lithium-Ion Batteries**
Q. Wu, Y. Z. Liu, C. S. Johnson, Y. X. Li, D. W. Dees, W. Q. Lu
Chem. Mater., 26, 4750 (2014)
22. **Spherical Carbon as a New High-Rate Anode for Sodium-ion Batteries**
V. Pol, E. Lee, D. Zhou, F. Dogan, J. Calderon-Moreno, C. S. Johnson
Electrochim. Acta, 127, 61 (2014)
23. **Characterization of Novel Lithium Battery Cathode Materials by Spectroscopic Methods: the $\text{Li}_{5+x}\text{FeO}_4$ System**
V. Maroni, C. S. Johnson, S. Rood, A. J. Kropf, D. Bass
Applied Spectroscopy, 67, 903 (2013)
24. **Intercalation of Sodium Ions into Hollow Iron Oxide Nanoparticles**
B. Koo, S. Chattopadhyay, T. Shibata, V. Prakapenka, C.S. Johnson, T. Rajh, E. Shevchenko
Chem. Mater., 25, 245 (2013)
25. **Study of Thermal Decomposition of $\text{Li}_{1-x}(\text{Ni}_{1/3}\text{Mn}_{1/3}\text{Co}_{1/3})_{0.9}\text{O}_2$ Using In-situ High-Energy X-ray Diffraction**
Z. Chen, Y. Ren, E. Lee, C. S. Johnson, Y. Qin, K. Amine
Adv. Energy Materials, 3, 729, (2013)
26. **Composite "Layered-Layered-Spinel" Cathode Structures for Lithium-Ion Batteries**
D. Kim, G. Sandi, J. R. Croy, K. G. Gallagher, S.-H. Kang, E. Lee, M. D. Slater, C. S. Johnson, M. M. Thackeray
J. Electrochem. Soc., 160, A31 (2013)
27. **Reversible NaVS_2 (De)Intercalation Cathode for Na-Ion Batteries**
E. Lee, W. Chao Lee, N. Mahootcheian Asl, D. Kim, M. Slater, C. S. Johnson, Y. Kim
ECS Electrochem. Lett., 1, A71 (2012)
28. **Amorphous TiO_2 Nanotube for Rechargeable Sodium Batteries**
H. Xiong, M.D. Slater, M. Balasubramanian, C. S. Johnson, T. Rajh
J. Physical Chemistry Letters, 2, 2560 (2011)
29. **Na-ion Batteries**
M. D. Slater, D. Kim, E. Lee, C. S. Johnson
Adv. Funct. Mater., 23, 947 (2013)
30. **Hollow Iron Oxide Nanoparticles for Application in Lithium –Ion Batteries**
B. Koo, H. Xiong, M. D. Slater, V. B. Prakapenka, M. Balasubramanian, P. Posdiadlo, C. S. Johnson, T. Rajh, E. Shevchenko
NanoLetters, 12, 2429 (2012)
31. **Layered $\text{Na}(\text{Ni}_{1/3}\text{Fe}_{1/3}\text{Mn}_{1/3})\text{O}_2$ Cathode for Sodium Battery Application**
D. Kim, E. Lee, M. D. Slater, W. Lu, S. Rood, C. S. Johnson
Electrochem. Commun., 18, 66-69 (2012)
32. **Electronic Structure of Lithium Battery Interphase Compounds: Comparison Between Inelastic X-ray Scattering Measurements and Theory**
T. T. Fister, M. Schmidt, P. Fenter, C. S. Johnson, M. D. Slater, M. K. Y. Chan, E. Shirley
The Journal of Chemical Physics, 135, 224513 (2011)
33. **Self-Improving Anode for Lithium-Ion Batteries Based on Amorphous to Cubic Transition in TiO_2 Nanotubes**
H. Xiong, H. Yildirim, E. V. Shevchenko, V. B. Prakapenka, B. Koo, M. D. Slater, M. Balasubramanian, S.R.K.S, Sankaranarayan, J. P. Greeley, S. Tepavcevic, N. M. Dimitrijevic, P. Posdiadlo, C. S. Johnson, T. Rajh
J. Physical Chemistry C, 116, 3181 (2012)
34. **Nanostructured Bilayered Vanadium Oxide Electrodes for Rechargeable Sodium-Ion Batteries**
S. Tepavcevic, H. Xiong, V. R. Stamenkovic, X. B. Zou, M. Balasubramanian, V. B. Prakapenka, C. S. Johnson, T. Rajh
ACS Nano, 6, 530 (2012)
35. **Activated Lithium-Metal-Oxides as Catalytic Electrodes for Li-O_2 cells**
L. Trahey, C. S. Johnson, J. T. Vaughey, S.-H. Kang, L. J. Hardwick, S. A. Freunberger, P. G. Bruce, M. M. Thackeray
Electrochem. and Solid State Lett., 14, A64 (2011)
36. **Enabling Sodium-Ion Batteries Using Lithium-Substituted Sodium Layered Transition Metal Oxide Cathodes**
D. Kim, S.-H. Kang, M. Slater, S. Rood, J. Vaughey, N. Karan, M. Balasubramanian, C.S. Johnson
Advanced Energy Materials, 1, 333 (2011)
37. **High-Energy and High-Power Li-rich Nickel and Manganese Oxide Electrode Materials**
D. Kim, S.-H. Kang, M. Balasubramanian, C. S. Johnson
Electrochem. Commun., 12, 1618-1621 (2010)

38. **Elevated Temperature Cycling Stability and Electrochemical Impedance of LiMn_2O_4 Cathodes with Nanoporous ZrO_2 and TiO_2 Coatings**
K. A. Walz, C. S. Johnson, J. Genthe, L. C. Stoiber, W.A. Zeltner, M.A. Anderson, M. M. Thackeray
J. Power Sources, 195, 4943-4951 (2010)
39. **Autogenic Reactions for Preparing Carbon-encapsulated, Nanoparticulate TiO_2 Electrodes for Lithium-Ion Batteries**
V.G. Pol, S.-H. Kang, J.M. Calderon-Moreno, C. S. Johnson, M. M. Thackeray
J. Power Sources, 195, 5039-5043 (2010)
40. **Li_2O Removal from Li_5FeO_4 : A Cathode Precursor for Lithium-Ion Batteries**
C. S. Johnson, S.-H. Kang, J. T. Vaughey, S. V. Pol, M. Balasubramanian, M. M. Thackeray
Chemistry of Materials, 22, 1263-1270 (2010)
41. **Structural Complexity of Layered-Spinel Composite Electrodes for Li-ion Batteries**
Jordi Cabana, Christopher S. Johnson, Xiao-Qing Yang, Kyung-Yoon Chung, Won-Sub Yoon, Sun-Ho Kang, Michael M. Thackeray and Clare P. Grey
J. Materials Research, 25, 1601 (2010) Special Issue No. 8 Materials for Electrical Energy Storage
42. **Structural and Electrochemical Characterization Composite Layered-Spinel Electrodes Containing Ni and Mn for Li-Ion Batteries**
J. Cabana, S.-H. Kang, C. S. Johnson, M. M. Thackeray, C. P. Grey
J. Electrochem. Soc., 156, A730-736 (2009)
43. **Synthesis, Characterization and Electrochemistry of Lithium Battery Electrodes: $x\text{Li}_2\text{MnO}_3 \cdot (1-x)\text{LiMn}_{0.333}\text{Ni}_{0.333}\text{Co}_{0.333}\text{O}_2$ ($0 \leq x \leq 0.7$)**
Christopher S. Johnson, Naichao Li, Christina Lefief, John T. Vaughey, and Michael M. Thackeray
Chemistry of Materials, 20, 6095-6106 (2008)
44. **Studies of Layered Lithium Metal Oxide Anodes in Lithium Cells**
J.T. Vaughey, Andrea M. Geyer, Nathanael Fackler, Christopher S. Johnson, K. Edström, H. Bryngelsson, Roy Benedek, Michael M. Thackeray
J. Power Sources, 174, 1052-1056 (2007)
45. **Li_2MnO_3 -Stabilized LiMO_2 (M = Mn, Ni, Co) Electrodes for Lithium-ion Batteries**
Michael M. Thackeray, Sun-Ho Kang, Christopher S. Johnson, John T. Vaughey, Roy Benedek and S. A. Hackney
J. Mater. Chem. 17, 3112-3125 (2007) **Feature article**
46. **Anomalous Capacity and Cycling Stability of $x\text{Li}_2\text{MnO}_3 \cdot (1-x)\text{LiMO}_2$ Electrodes (M = Mn, Ni, Co) in Lithium Batteries at 50 °C**
Christopher S. Johnson, Naichao Li, Christina Lefief and Michael M. Thackeray
Electrochemistry Communications, 9, 787-795 (2007)
47. **Effects of Li Content on the Structure and Electrochemical Properties of $\text{Li}_{1+x}(\text{Ni}_{0.5}\text{Mn}_{0.5})_{1-x}\text{O}_2$ ($0 \leq x \leq 0.15$) Electrodes in Lithium Cells (1.0-4.8V)**
Sun-Ho Kang, Sang-Ho Park, Christopher S. Johnson, Khalil Amine
J. Electrochem. Soc., 154, A268-A274 (2007)
48. **Lithium-manganese-nickel-oxide Electrodes with Integrated Layered-spinel Structures for Lithium Batteries**
S.-H. Park, S.-H. Kang, C. S. Johnson, K. Amine, and M. M. Thackeray
Electrochem. Commun., 9, 262-268 (2007)
49. **Development and Utility of Manganese Oxides as Cathodes for Lithium Batteries**
C. S. Johnson
J. Power Sources, 165, 559-565 (2007)
50. **Evaluation of SiO_2 and TiO_2 coated BaFeO_4 cathode materials for zinc alkaline and lithium non-aqueous primary batteries**
K. A. Walz, A. Handrick, J. R. Szczech, L. C. Stoiber, A. N. Suyama, W. F. Suyama, W. A. Zeltner, C. S. Johnson, M. A. Anderson
J. Power Sources, 167, 545-549 (2007)
51. **Fine Structure and Chemical Shifts in Nonresonant Inelastic X-ray Scattering from Li-intercalated Graphite**
M. Balasubramanian, T. T. Fister, S. O. Mariager, T. T. Fister, C. Hamner, C. S. Johnson, G. T. Seidler, and J. O. Cross
Appl. Phys. Lett., 91, 031904 (2007)
52. **Comments on the Structural Complexity of Li-rich $\text{Li}_{1+x}\text{M}_{1-x}\text{O}_2$ (M=Mn, Ni, Co) Electrodes for Lithium Batteries**
M. M. Thackeray, S.-H. Kang, C. S. Johnson, J. T. Vaughey, S. A. Hackney
Electrochem. Commun., 8, 1531-1538 (2006)

53. **Demonstrating oxygen loss and associated structural reorganization in the lithium battery cathode $\text{Li}[\text{Ni}_{0.2}\text{Li}_{0.2}\text{Mn}_{0.6}]\text{O}_2$**
A Robert Armstrong, Michael Holzapfel, Petr Novak, Christopher S. Johnson, Sun-Ho Kang, Michael M Thackeray and Peter G Bruce
J. Am. Chem. Soc., **128** (26), 8694-8698 (2006)
54. **First-principles Calculations for Co-doped $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$ and LiMn_2O_4 Battery Electrodes**
R. Benedek, C. S. Johnson and M. M. Thackeray
Electrochem. and Solid State Letters, **9**, A289-291 (2006)
55. **Effect of Cathode Composition on Impedance Rise in High-Power, Lithium-Ion Cells: Long-term Aging Results**
Ira Bloom, Benjamin G. Potter, Christopher S. Johnson, Kevin L. Gering and Jon P. Christophersen
J. Power Sources, **155**, 415-419 (2006)
56. **The Effects of Acid Treatment on the Electrochemical Properties of $0.5\text{Li}_2\text{MnO}_3 \bullet 0.5\text{LiNi}_{0.44}\text{Co}_{0.25}\text{Mn}_{0.31}\text{O}_2$ Electrodes in Lithium Cells**
S.-H. Kang, C. S. Johnson, J. T. Vaughey, K. Amine and M. M. Thackeray
J. Electrochem. Soc., **153**, A1186-A1192 (2006)
57. **Preconditioned Layered Electrodes for Lithium Batteries**
J.-S. Kim, C. S. Johnson, J. T. Vaughey, and M. M. Thackeray
J. Power Sources, **153**, 258-264 (2006)
58. **Solution Route Synthesis of Nanosized InSb , Cu_6Sn_5 , Cu_2Sb for Lithium Batteries**
T. S. Sarakonsri, C. S. Johnson, S. A. Hackney, J. T. Vaughey, M. M. Thackeray
J. Power Sources, **153**, 317329 (2006)
59. **XAFS Analysis of Layered $\text{Li}_x\text{Ni}_{0.5}\text{Mn}_{0.5}\text{O}_2$ ($0 < x \leq 2$) Electrodes for Lithium Batteries**
A. J. Kropf, C. S. Johnson, J. T. Vaughey, and M. M. Thackeray
Physica Scripta, **T115**, 274-277 (2005)
60. **Lithium-manganese Oxide Electrodes with Layered-spinel Composite Structures $x\text{Li}_2\text{MnO}_3 \bullet (1-x)\text{Li}_{1+y}\text{Mn}_{2-y}\text{O}_4$ ($0 < x < 1$, $0 \leq y \leq 0.33$) for Lithium Batteries**
C. S. Johnson, N. Li, J. T. Vaughey, S. A. Hackney, M. M. Thackeray
Electrochem. Commun., **7**, 528-536 (2005)
61. **Advances in Manganese-Oxide 'Composite' Electrodes for Lithium-Ion Batteries**
Michael M. Thackeray, Christopher S. Johnson, John T. Vaughey, N. Li and Stephen A. Hackney
The Journal of Materials Chemistry (Feature Article), **15**, 2257-2267 (2005)
62. **Synthesis and Electrochemical Analysis of Vapor-deposited Carbon Coated LiFePO_4**
I. Belharouak, C. Johnson and K. Amine
Electrochem. Commun., **7**, 983-988 (2005)
63. **Electrochemical and Structural Properties of $x\text{Li}_2\text{M}'\text{O}_3 \bullet (1-x)\text{LiMn}_{0.5}\text{Ni}_{0.5}\text{O}_2$ Electrodes for Lithium Batteries ($\text{M}'=\text{Ti}, \text{Mn}, \text{Zr}$; $0 \leq x \leq 0.3$)**
Jeom-Soo Kim, Christopher S. Johnson, John T. Vaughey and M. M. Thackeray, Stephen A. Hackney, Wonsub Yoon, Clare P. Grey
Chem. Mat., **16**, 1996-2006, (2004)
64. **The Significance of the Li_2MnO_3 Component in 'Composite' $x\text{Li}_2\text{MnO}_3 \bullet (1-x)\text{LiMn}_{0.5}\text{Ni}_{0.5}\text{O}_2$ Electrodes**
C. S. Johnson, J.-S. Kim, C. Lefief, N. Li, J. T. Vaughey, and M. M. Thackeray
Electrochem. Commun., **6**, 1085 (2004)
65. **Electrochemical Performance of Sepiolite-Derived Carbon with Lithium Transition Metal Oxides**
G. Sandi, C. S. Johnson, R. E. Gerald, R. Klingler, K. A. Carrado, R. E. Winans
Electrochemistry of Carbon Materials, **2000**, 162 (2004)
66. **The Electrochemical Stability of Spinel Electrodes Coated with ZrO_2 , Al_2O_3 , and SiO_2 from Colloidal Suspensions**
J-S. Kim, C. S. Johnson, J. T. Vaughey, S. A. Hackney, K. A. Walz, W. A. Zeltner, M. A. Anderson and M. M. Thackeray
J. of Electrochemical Society, **151**, A1755, (2004)
67. **ZrO_2 - and Li_2ZrO_3 -Stabilized Spinel and Layered Electrodes for Lithium Batteries**
M. M. Thackeray, C. S. Johnson, J.-S. Kim, K.C. Lauzze, J. T. Vaughey, N. Dietz, D. Abraham, S. A. Hackney, W. Zeltner, and M. A. Anderson
Electrochem. Commun., **5**, 752 (2003)
68. **Significance of the Tetrahedral A-site in the Electrochemical Performance of Substituted $\text{Li}_{1.05}\text{M}_{0.05}\text{Mn}_{1.95}\text{O}_4$ Spinel Electrodes ($\text{M}=\text{Li}, \text{Mg}, \text{Zn}, \text{Al}$) in Lithium Cells**
J.-S. Kim, J. T. Vaughey, C. S. Johnson, and M. M. Thackeray
J. Electrochem. Soc., **150**, A1498-A1502, (2003)
69. **Divalent-dopant Criterion for the Suppression of Jahn-Teller Distortion in Mn oxides: First-principles Calculations and XAS measurements for Co in LiMnO_2**
R. Prasad, R. Benedek, A. J. Kropf, C. S. Johnson, A. D. Robertson, P. G. Bruce and M. M. Thackeray

- Phys. Rev. B*, **68**, 012101 (2003)
70. **Structural and Electrochemical Evaluation of $(1-x)\text{Li}_2\text{TiO}_3 \bullet (x)\text{LiMn}_{0.5}\text{Ni}_{0.5}\text{O}_2$ as an Electrode Material for Lithium Batteries**
C. S. Johnson, J.-S. Kim, A. J. Kropf, A. J. Kahaian, J. T. Vaughey, and M. M. Thackeray
J. Power Sources, **119-121**, 139-144 (2003)
 71. **The Electrochemical Behavior of $x\text{LiNiO}_2 \bullet (1-x)\text{Li}_2\text{RuO}_3$ and $\text{Li}_2\text{Ru}_{1-y}\text{Zr}_y\text{O}_3$ Electrodes in Lithium Cells**
 G. J. Moore, C. S. Johnson and M. M. Thackeray
J. Power Sources, **119-121**, 216-220 (2003)
 72. **Structural Characterization of Layered $\text{Li}_x\text{Ni}_{0.5}\text{Mn}_{0.5}\text{O}_2$ ($0 < x \leq 2$) Oxide Electrodes for Li Batteries**
Christopher S. Johnson, Jeom-Soo Kim, A. Jeremy Kropf, Arthur J. Kahaian, John T. Vaughey, Linda Fransson, Kristina Edstrom, and Michael M. Thackeray
Chemistry of Materials, **15**, 2313-2322 (2003)
 73. **Lithium and Deuterium NMR Studies of Acid-Leached Layered Lithium Manganese Oxides**
 Y. Paik, C. P. Grey, C. S. Johnson, J.-S. Kim, and M. M. Thackeray
Chemistry of Materials, **14**, 5109-5115 (2002)
 74. **Structural Considerations of Intermetallic Electrodes for Lithium Batteries**
 M. M. Thackeray, J. T. Vaughey, C. S. Johnson, A. J. Kropf, R. Benedek, L. M. L. Fransson and K. Edström
J. Power Sources, **113**, 124 (2003)
 75. **In Situ X-ray Absorption Studies of Electrochemically Induced Phase Changes in Lithium-doped InSb**
 H. Tostmann, A. J. Kropf, C. S. Johnson, J. T. Vaughey, and M. M. Thackeray
Phys. Rev. B **66**(1), 4106-4106 (2002)
 76. **The Role of Li_2MO_2 Structures (M=Metal ion) in the Electrochemistry of $(x)\text{LiMn}_{0.5}\text{Ni}_{0.5}\text{O}_2 \bullet (1-x)\text{Li}_2\text{TiO}_3$ Electrodes for Lithium-Ion Batteries**
C. S. Johnson, J.-S. Kim, A. J. Kropf, A. J. Kahaian, J. T. Vaughey, M. M. Thackeray
Electrochem. Commun., **4**, 492-498, (2002)
 77. **Layered $x\text{LiMO}_2 \bullet (1-x)\text{Li}_2\text{M}'\text{O}_3$ Electrodes for Lithium Batteries: A Study of $0.95\text{LiMn}_{0.5}\text{Ni}_{0.5}\text{O}_2 \bullet (1-x)\text{Li}_2\text{TiO}_3$**
 J.-S. Kim, C. S. Johnson, M. M. Thackeray
Electrochem. Commun., **4**, 205-209, (2002)
 78. **In situ XAFS Analysis of the $\text{Li}_x\text{Ni}_{0.8}\text{Co}_{0.2}\text{O}_2$ Cathode During Cycling in Lithium Batteries**
C. S. Johnson and A. J. Kropf
Electrochim. Acta., **47**, 3187-3194 (2002)
 79. **In Situ NMR Investigations of Lithium Ions in Carbon Electrode Materials Using a Novel Detector**
 R. E. Gerald II, J. Sanchez, C. S. Johnson, R. J. Klingler, and J. W. Rathke
J. of Physics: Condensed Matter, **13**, 8269-8285, (2001)
 80. **An In Situ X-Ray Absorption Study of InSb Electrodes in Lithium Batteries**
 A. J. Kropf, H. Tostmann, C. S. Johnson, J. T. Vaughey and M. M. Thackeray
APS Forefront, **1**, 113-116, (2001) (not indexed in the Web of Science)
 81. **Electrodeposition of Copper from Sulfate Electrolytes: Effects of Thiourea on Resistivity and Electrodeposition Mechanism of Copper**
 V. S. Donepudi, R. Venkatachalapathy, P. O. Ozemoyah, C. S. Johnson, and J. P. Prakash
Electrochemical and Solid-State Letters, **4**, C13-C16 (2001)
 82. **An In Situ X-Ray Absorption Spectroscopy Study of InSb Electrodes in Lithium Batteries**
 A. J. Kropf, H. Tostmann, C. S. Johnson, J. T. Vaughey and M. M. Thackeray
Electrochemical Communications, **3**(5), 244-251 (2001)
 83. **Ammonia-and-Lithia-Doped Manganese Dioxide for 3 V Lithium Batteries**
C. S. Johnson and M. M. Thackeray
J. Power Sources, **97-98**, 437-442 (2001)
 84. **Structural and Mechanistic Features of Intermetallic Materials for Lithium Batteries**
 J. T. Vaughey, C. S. Johnson, A. J. Kropf, R. Benedek, M. M. Thackeray, H. Tostmann, T. Sarakonsri, S. Hackney, L. Fransson, K. Edström, and J. O. Thomas
J. Power Sources, **97-98**, 194-197 (2001)
 85. **Molecular Orbital and Li-7 NMR Investigation of the Influence of Curved Lattices in Lithium Intercalated Carbon Anodes**
 G. Sandi, R. E. Gerald, L. Scanlon, C. S. Johnson, R. J. Klingler, and J. W. Rathke
J. of New Materials for Electrochemical Systems, **3**, 13-19 (2000)
 86. **^7Li NMR Study of Intercalated Lithium in Curved Carbon Lattices**
 R. E. Gerald, R. J. Klingler, G. Sandi, C. Johnson, L. Scanlon, J. Rathke

- J. Power Sources*, **89-2**, 237-243 (2000)
87. **Electrochemistry and In-Situ X-Ray Diffraction of InSb in Lithium Batteries**
C. S. Johnson, J. T. Vaughey, M. M. Thackeray, T. Sarakonsri, S. A. Hackney, L. Fransson, K. Edstrom, and J. O. Thomas
Electrochem. Comm. **2**, 595-600 (2000)
 88. **Composite Electrodes for Lithium Batteries**
M. M. Thackeray, C. S. Johnson, A. J. Kahaian, K. D. Kepler and J. T. Vaughey
ITE Battery Letters, **1**, No.1, 22 (1999); **not indexed in Web of Science**
 89. **Structural Characterization of Layered LiMnO₂ Electrodes by Electron Diffraction and Lattice Imaging**
Y. Shao-Horn, S. A. Hackney, A. R. Armstrong, P. G. Bruce, R. Gitzendanner, C. S. Johnson and M. M. Thackeray
J. Electrochem. Soc., **146**, 2404 (1999)
 90. **Stabilization of Insertion Electrodes for Lithium Batteries**
M. M. Thackeray, C. S. Johnson, A. J. Kahaian, K. D. Kepler, J. T. Vaughey, Y. Shao-Horn and S. A. Hackney
J. Power Sources, **81-82**, 60-66, (1999)
 91. **Structural and Electrochemical Analysis of Layered Compounds from Li₂MnO₃**
C. S. Johnson, S. D. Korte, J. T. Vaughey, M. M. Thackeray, T. E. Bofinger, Y. Shao-Horn and S. A. Hackney
J. Power Sources, **81-82**, 491-495, (1999)
 92. **Lithium Insertion into Hollandite-Type TiO₂**
L. D. Noailles, C. S. Johnson, J. T. Vaughey, and M. M. Thackeray
J. Power Sources, **81-82**, 259-263, (1999)
 93. **Carbons for Lithium Batteries Applications Prepared Using Sepiolite as Inorganic Template**
G. Sandi, K. A. Carrado, R. E. Winans, C. S. Johnson, and R. Csencsits
J. Electrochem. Soc., **146**, 106-110, (1999)
 94. **Microstructural Features of α -MnO₂ Electrodes for Lithium Batteries**
Y. Shao-Horn, S. A. Hackney, C. S. Johnson, and M. M. Thackeray
J. Electrochem. Soc., **145**, 582-589 (1998)
 95. **Spectroscopic Study of the Proton Dynamics in Manganese Dioxide Electrode Materials**
C. S. Johnson, M. M. Thackeray, J. C. Nipko, and C.-K. Loong
Physica B, **241-243**, 1252-1254 (1998)
 96. **Structural Features of Low-Temperature LiCoO₂ and Acid-Delithiated Products.**
Y. Shao-Horn, S. A. Hackney, C. S. Johnson, A. J. Kahaian, and M. M. Thackeray
J. Solid State Chem., **140**, 116-127 (1998)
 97. **Electrochemical and Spectroscopic Studies of Novel Carbonaceous Materials Used in Lithium Ion Cells**
G. Sandi, R. E. Winans, K. A. Carrado, C. S. Johnson, and P. Thiyagarajan
Journal of New Materials for Electrochemical Systems, **1**, 83-88 (1998); **not indexed in Web of Science**
 98. **Stabilized α -MnO₂ Electrodes for Rechargeable 3-V Lithium Batteries**
C. S. Johnson, M. F. Mansuetto, M. M. Thackeray, Y. Shao-Horn, and S. A. Hackney
J. Electrochem. Soc., **144**, 2279 (1997)
 99. **Structural and Electrochemical Studies of Alpha Manganese Oxide (α -MnO₂)**
C. S. Johnson, D. W. Dees, M. F. Mansuetto, M. M. Thackeray, D. R. Vissers, D. Argyriou, C.-K. Loong, and L. Christensen
J. Power Sources, Vol. **68/2**, 570-577, (1997)
 100. **Microstructural Stability of Electrochemically Active \square -MnO₂**
Y. Shao-Horn, S. A. Hackney, C. S. Johnson, and M. M. Thackeray
Prog. Batteries & Battery Mater. **16**, 141 (1997); **(not indexed in Web of Science)**
 101. **Materials for Electrochemical Energy Storage**
D. R. Vissers, V. S. Battaglia, D. W. Dees, A. N. Jansen, C. S. Johnson, A. J. Kahaian, M. F. Mansuetto, K. M. Myles, J. Prakash, and M. M. Thackeray
Electric & Hybrid Vehicle Technology '96. 119-121 (1996); **(not indexed in Web of Science)**
 102. **Thermal Stability of Li₄Mn₅O₁₂ Electrodes for Lithium Batteries.**
M. M. Thackeray, M. F. Mansuetto, and C. S. Johnson
J. Solid State Chem. **125**, 274-277 (1996)
 103. **High-Valent Oxo, Methoxorhenium Complexes: Models for Intermediates and Transition States in Proton-Coupled Multi-Electron Transfer Reactions**
M. S. Ram, L. M. Skeens-Jones, C. S. Johnson, X. L. Zhang, C. Stern, D. I. Yoon, D. Selmarten, and J. T. Hupp
J. Am. Chem. Soc., **117**, pp. 1411-1421, (1995)
 104. **Unexpected Redox Rectification by an Electrochemically Prepared Iridium Oxide Electrode/Aqueous Electrolyte Interface**
C. S. Johnson and Joseph T. Hupp

- J. Electroanal. Chem.*, **345**, 351-362, (1993)
- 105. Resonance Raman Spectroscopic Studies of *trans*-Dioxorhenium(V) Tetrapyridyl Species**
 C. S. Johnson, C. Mottley, and J. T. Hupp
Inorg. Chem., **31**, 5143-5145, (1992)
- 106. Applications of Time-Dependent Raman Scattering Theory to the One-Electron Reduction of 4-Cyano-N-Methylpyridinium Cation**
 C. S. Johnson
J. Electrochem. Soc., **139**, 58c, (1992)
- 107. A Complete Experimental Assessment of Franck-Condon Structural Effects for an Irreversible Outer-Sphere Electron Transfer Reaction: Applications of Time-Dependent Raman Scattering Theory to the One-Electron Reduction of 4-Cyano-N-Methylpyridinium Cation**
 R. L. Blackburn, C. S. Johnson, M. Bryant, R. Sobocinski, J. Pemberton, and J. T. Hupp
J. Phys. Chem., **95**, 10535-10537, (1991)
- 108. Solvent Induced and Polyether-Ligand Induced Redox Isomerization within an Asymmetrically Coordinated Mixed Valence Dimeric Ion: *trans*-[(pyridine)(NH₃)₄Ru(4-cyanopyridine)Ru(2,2'-bpy)₂Cl]⁴⁺**
 J. A. Roberts, J. C. Curtis, R. L. Blackburn, Y. Dong, C. S. Johnson, and J. T. Hupp
Inorg. Chem., **30**, 3856-3860, (1991)
- 109. Experimental Assessment of Dynamic Structural Parameters for Homogenous and Interfacial Charge-Transfer Reactions: Case Studies Based on Time-Dependent Raman Scattering Methods**
 S. K. Doorn, R. L. Blackburn, C. S. Johnson, and J. T. Hupp
Electrochim. Acta, **36**, 1775-1785, (1991) (invited paper, Asilomar Conference (Proceedings issue))
- 110. Ligand Tuning Effects upon the Multielectron Reduction and Single Electron Oxidation of (Bi)pyridyl Complexes of *cis*- and *trans*-Dioxorhenium(V): Redox Thermodynamics, Preliminary Electrochemical Kinetics, and Charge-Transfer Absorption Spectroscopy**
 M. S. Ram, L. M. Jones, H. J. Ward, Y.-H. Wong, C. S. Johnson, P. Subramanian, and J. T. Hupp
Inorg. Chem., **30**, 2928-2938, (1991)
- 111. Surface Intervalence Enhanced Scattering from [Fe(CN)₆]⁴⁻ on Colloidal Titanium Dioxide. A Mode-by-Mode Description of the Franck-Condon Barrier to Interfacial Charge Transfer**
 R. L. Blackburn, C. S. Johnson, and J. T. Hupp
J. Am. Chem. Soc. (communication), **113**, 1060-1062, (1991). Highlighted in *Chemtracts: Inorganic Chemistry*, **5**, 312-314, (1991)
- 112. Synthesis and Electrochemistry of 2,2'-Bipyridyl Complexes of Dioxorhenium(V)**
 M. S. Ram, C. S. Johnson, R. L. Blackburn, and J. T. Hupp
Inorg. Chem., **29**, 238-244, (1990)