

I. Lectures, Technical Presentations and Symposia

Invited Lectures & Technical Presentations

E. E. Kalu, “Adapting and Using Polymer-Stabilized Zero-Valent Metal Nanoparticles”, presented at College of Science & Technology, Covenant University, Ota, Ogun State Nigeria July 24, 2011.

E. E. Kalu, S. Pannala, "Electric Field Effects: Lithium ion Transport in Phase-Change LiPO₄/FePO₄ Particles", presented at Oak-Ridge National Laboratory Aug. 2010

E. Kalu, “Fuel Cell in Railway Transportation”, Presented at the Colegio Oficial de Ingenieros Superiores Industriales de la Comunidad Valenciana, Spain, March 13, 2009

E. Kalu, “Electrodeposition and Characterization of Metal Layers on Flexible Polymer Thin Films”, presented at Faculty of Industrial Engineering, Universtat Polytecnica, Valencia, Spain, March 11, 2009.

E. Kalu, “Metal Nanoclusters for Clean Energy, Environmental and Biomedical Applications”, Presented at the Department of Chemical Engineering, FAMU-FSU COE, Jan 30, 2009

E. E. Kalu, “Nigeria and its people – an African country”, invited presentation to Hawks Rise Elementary School Kindergarten Class, Spring (2002)

E. E. Kalu, "*Printable Catalyst Ink for Electroless Metallization*", invited lecture Presented to the Honors Chemistry Class, Department of Chemistry Florida State University, (March, 22, 2000)

E. E. Kalu, "*Thermal Analysis of Printable Catalyst Ink for Electroless Metallization*", Presented at Department of Chemical Engineering, University of Kansas, Fall (1998)

E. E. Kalu, “Electroless Plating: A Low Tech Thin Film Metallization for High Tech Applications”, Presented at the Department of Chemical Engineering, FAMU-FSU COE, Spring (1997)

Technical Presentations and Symposia

48. S. Anderson and **E. E. Kalu**, “Synthesis of Electroless CuPd Catalyst for Glycerol Hydrogenolysis”, to be presented at NOBChE 39th Annual Conference, Washington D.C, Sep. 25 – 28, 2012

47. J Gomez and **E. E. Kalu**, “Binderless Composite Oxide for Ultracapacitor Applications”, to be presented at NOBChE 39th Annual Conference, Washington D.C, Sep. 25 – 28, 2012

46. J. Gomez, **E. E. Kalu**, R. Nelson, M. Weatherspoon, J. P. Zheng, ”Thin film Co-MnO₂ by combined electroless-electrolytic techniques for Ultracapacitor and Li-air Battery Applications”, to be presented at 221st Electrochemical Society Meeting, Seattle, WA, May 6 – 11, 2012

45. L. Martin, L. Wilson, E. E. Kalu, M. E. McHenry, “Thermal Behavior of Electroless CNT-FeCo composite in Simulated Body Fluid in Applied RF magnetic field”, presented at AIChE Annual Meeting Conference, Minneapolis, MN, Oct 16 – 21, 2011

44. J. Gomez, **E. E. Kalu**, R. Nelson, M. Weatherspoon, J. P. Zheng “Evaluation of Ni-Mo oxide (Ni-MoOx) Electrocatalyst for Li-Air Battery”, presented at AIChE Annual Meeting Conference, Minneapolis, MN, Oct 16 – 21, 2011

43. J. Gomez, **E. E. Kalu**, R. Nelson, M. Weatherspoon, J. P. Zheng, "Synthesis of Composite Metal Oxide Catalyst for Li-Air Battery", presented at 220th Electrochemical Society Meeting, Boston, MA, Oct 9 – 14, 2011
42. J. Gomez, **E. E. Kalu**, R. Nelson, "Composite Metal Oxide Catalysts for Li-Air Battery", *242nd ACS National Meeting, Denver, CO*, Aug. 28 – Sept. 1, 2011
41. S. Pannala, S. K. Martha, J. Nanda, J. Kiggans, A. Kercher, H. Wang, W. D. Porter, **E. E. Kalu**, and N. J. Dudney Thermal and electrochemical behavior of high energy density carbon fiber paper (CFP)-LiFePO₄ positive electrodes, *MRS Fall meeting*, 2010
40. M. Covin, **E. E. Kalu**, S. Pannala, "Characterization of Pitch Material for Lithium ion Batteries", Presented at Oak-Ridge National Laboratory, August 2010
39. S. Anderson, **E. E. Kalu**, "Electroless Nickel Based Catalysts for Hydrogen Generation by Hydrolysis of NaBH₄", Presented at NOBCCChE Annual Meeting, Atlanta, April 2010
38. S. Austin, **E. E. Kalu**, C. A. Moore, G. D. Wesson, D. Stephens, "Direct Numerical Simulation in Open-Cell Mesophase Pitch Derived Carbon Foams", presented at NOBCCChE Meeting, Atlanta GA. April 2010
37. **E. E. Kalu**, K. S. Chen and T. Gedris, "A Continuous Flow Biodiesel Reactor: Reaction Enhancement with a Slit-Channel Reactor", to be presented at AIChE Annual Meeting Conference, Nashville TN, Nov 8 – 13, 2009
36. S. Anderson, A. Samuel, **E. E. Kalu**, "Electroless Based Catalysts for Hydrogen Generation by Hydrolysis of NaBH₄", to be presented at AIChE Annual Meeting Conference, Nashville TN, Nov 8 – 13, 2009
35. **E. E. Kalu**, M. Daniel and M. Bockstaller, "Synthesis, Characterization and Electrocatalytic Activity of Polymer-Stabilized Metal Nanoparticles", to be presented at AIChE Annual Meeting Conference, Nashville TN, Nov 8 – 13, 2009
34. M.D. Reyes-Tolosa, **E. E. Kalu**, J. Orozco-Messana, A. Erb, P. N. Kalu, M.A. Hernández-Fenollosa, H.J. Bolina, "Corrosion Resistance, Morphological and Electrical Properties of Electroless Ni-Mo-P thin films deposited on Ceramic and Kapton Substrates" presented at 216th Electrochemical Society Meeting, Viena Austria, Oct 4 – 9, 2009
33. P.L. Moss, M.H. Weatherspoon, **E. E. Kalu** and J.P. Zheng, "Investigation of Solid electrolyte interfacial layer development during continuous cycling", Proceedings of NSF-ERC FREEDM conference, NCSU, May 18 – 21 (2009)
32. V. J. Witherspoon¹, **E. E. Kalu**, R. Nelson, M. H. Weatherspoon, J. P. Zheng, "Dynamic Modeling of Ultra-Capacitors", Proceedings of NSF-ERC FREEDM conference, NCSU, May 18 – 21 (2009)
31. S. Anderson, A. Samuel and **E. E. Kalu**, "Electroless Nickel-based Catalysts for Hydrogen Generation by Hydrolysis of Borohydride", NOBCCChE Annual Meeting St Louis MO, April 18, 2009
30. **E. E. Kalu**, K. S. Chen, T. Gedris, "Continuous-Flow and Enhancement of Reaction Rates of Biodiesel Production Using a Slit-Channel Reactor", NOBCCChE Annual Meeting St Louis MO, April 18, 2009
29. S. A. Whitelocke, **E. E. Kalu**, "Catalytic Activity and Stability of Tungsten Oxide Electrocatalyst for Fuel cell Applications", AIChE Annual Meeting Conference, Philadelphia PA, Nov 16 – 21, 2008
28. Kaw, A., Hess, M., **Kalu, E.**, Barnicki, S., and Nguyen, D.,

- "Dissemination of Numerical Methods, Beyond the Textbook, Conference and a Paper", 2008 CCLI Conference, Washington DC, Aug 13-15, 2008.
27. Hess, M., Kaw, A., Owens, C., **Kalu, E.** Barnicki, S., "Assessing Impact of Web Based Resources on Student Learning and Satisfaction in a Numerical Methods Course", 2008 ASEE Annual Conference and Exposition, Pittsburg, PA, June 22-25, 2008.
26. S. A. Whitlocke, **E. E. Kalu**, "Catalytic Activity and Stability of Tungsten Oxide Electrocatalyst for Fuel cell Applications", 2008 AIChE Annual Meeting PA, Nov 16 – 21, 2008
25. C. Dozier, D. Waryoba, P. Kalu, **E. E. Kalu**, "Supported Bimetallic Zerovalent Metal Nanoparticles in the Remediation of Chlorinated Organic Contaminated Water", 211th Electrochemical Society Meeting, Chicago IL, May 6 –10, 2007.
24. K. Ramos, **E. E. Kalu**, D. Waryoba, P. Kalu, "Synthesis and Characterization of Polymer-Stabilized Multi-metallic nanoparticles for Electrocatalysis", 211th Electrochemical Society Meeting, Chicago IL, May 6 –10, 2007.
23. H. –H. Chen*, C. Davy, P. N. Kalu and **E. E. Kalu**, "Influence of Ni-P and Ni-Mo Back Contacts on the Properties of CuInSe₂ Solar Cell on Flexible Substrates", 209th Electrochemical Society Meeting, Denver CO, May 7 –12, 2006.
22. D. Foxx* and **E. E. Kalu**, "A New Approach to the Fabrication of Mediator-Free Biosensor Using Polymer Stabilized Nanocomposite Particles 209th Electrochemical Society Meeting, Denver CO, May 7 –12, 2006.
21. **E. E. Kalu**, "Environmental Application of Polymer-Stabilized Zero-Valent Metal Nanoclusters", 209th Electrochemical Society Meeting, Denver CO, May 7 – 12, 2006.
20. **E. E. Kalu**, "Methanol-Tolerant Oxygen Electrocatalysts: Synthesis and Characterization of Pd-based Alloys", 209th Electrochemical Society Meeting, Denver CO, May 7 –12, 2006.
19. D. Foxx* and **E. E. Kalu**, " Fabrication of Mediator-Free Biosensor Using Polymer Stabilized Nanocomposite Particles", XXIII Southeastern Conference on Theoretical and Applied Mechanics, Mayaguez, Puerto Rico, May 21-23, 2006.
18. Huei-Hsin Chen, P. N. Kalu, A. Shaba and **E. E. Kalu**, " Characterization and Nonoscale Analysis of Electrodeposited CuInSe₂ on Flexible Polymer for Applications in Thin Film Solar Cells", presented at The Electrochemical Society 204th meeting, San Antonio, TX, May. 9 - 14, 2004.
17. Huei-Hsin Chen, P. N. Kalu, A. Shaba and **E. E. Kalu**, " Electrodeposition and Characterization of CuInSe₂ on Flexible Polymer for Applications in Thin Film Solar Cells", presented at The Electrochemical Society 203rd meeting, Orlando, FL, Oct. 12 - 17, 2003.
16. **Kalu, E. E** and Trayanova, N. A. "Modeling Electric Field Stimulation of Single Cardiac Cell: Electrodiffusive Approach", presented at The Electrochemical Society 201st Meeting, Philadelphia , PA , May 12 – 17 (2002)
15. **Kalu, E. E** and Trayanova, N. A Single cell electrodiffusive model. Poster presentation at 9th annual NHLBI Cardiovascular Minority Research Supplement Awardee Session, Anaheim,CA. November, 10 (2001)
14. R. Bell and **E. E. Kalu**, "Influence of Phosphorous on the Corrosion Properties of Electrodeposited CoFeCu Soft Magnetic Thin Films", presented at The Electrochemical Society Fall Meeting, Phoenix, AZ, October 22 – 27, 2000.

13. D. De, J. Englehardt and **E. E. Kalu**, “Cyclic Voltammetric Studies of Nitrate and Nitrite Ion Reduction at the Surface of Nobel Metal Modified Carbon Fiber Electrode” presented at The Electrochemical Society Spring Meeting, Toronto, Ontario Canada, May 8 – 14, 2000
12. D. De, J. Englehardt and **E. E. Kalu**, “Cyclic Voltammetric Studies of Nitrate and Nitrite Ion Reduction at the Surface of Nobel Metal Modified Carbon Fiber Electrode” presented at The Electrochemical Society Spring Meeting, Toronto, Ontario Canada, May 8 – 14, 2000
11. **E. E. Kalu**, “Structure and Magnetic Properties of Electroplated Co-Fe-P Thin Films”, Presented at The Electrochemical Society Fall Meeting, Boston, MA, October 2 -6, 1998
10. **E. E. Kalu**, and R. N. Itoe, “Determination of Oxygen Transport Properties in Methanol/Sulfuric Acid Mixture”, presented at the annual AIChE meeting in Miami Beach, Florida, November 11 - 16, 1998
9. V. Srinivasan, T. Nwaoga, **E. Kalu** and T. W. Weidner, “The Effects of Annealing Temperature and Time on the Performance of Porous Nickel Oxide Capacitors”, Presented at The Electrochemical Society Fall Meeting, Boston, MA, October 2 -6, 1998
8. **E. E. Kalu**, “*Electroextraction of Citric Acid from Aqueous Solutions*”, Presented at the annual AIChE meeting in Chicago, Illinois, November 10 - 15, 1996
7. **E. E. Kalu**, “Influence of Plating Conditions on the Microstructure and the Magnetic Properties of Co-P thin Films, Presented at The Electrochemical Society Fall Meeting, San Antonio, Texas, October 6 -11, 1996.
6. **E. E. Kalu**, “Ageing Effects of Electroless Cobalt Bath on the Microstructure of Co-P Films, Presented at The Electrochemical Society Fall Meeting, Chicago, Illinois, October 8 -13, 1995.
5. **E. E. Kalu** and R. E. White, “*Water and Heat Management in PEM Fuel Cell*”, Presented at the annual AIChE meeting in Miami Beach, Florida, November 12 - 17, 1995
4. **E. E. Kalu**, R. E. White and D. T. Hobbs, “*Use of Sodium Sulfate in Sulfuric Acid Anolyte for a Nitrate Cell Employing a Hydrogen Gas Consuming Anode*”, Presented at The Electrochemical Society Fall Meeting, Chicago, Illinois, October 8 -13, 1995.
3. D. Thirumalai, **E. E. Kalu** and R. E. White, “*Design of Flow Fields for Fuel Cells*”, Presented at The Electrochemical Society Fall Meeting, Chicago, Illinois, October 8 - 13, 1995
2. E. C. Darcy, **E. E. Kalu** and R. E. White, “*Calorimetric Determination of Thermal Parameters for the Li/BrCl in SOCl₂ (BCX) Chemistry*”, Presented at the 34th International Power Sources Symposium, Cherry-Hill, New Jersey, July 1990
1. **E. E. Kalu**, and R. E. White, “*The Effects of Variable Channel Width on the Performance of the Zinc-Bromine Battery*”, Presented at the annual AIChE meeting in Chicago (Nov. 1990)