Egwu Eric Kalu, Ph.D.

Professor
Department of Chemical & Biomedical Engineering
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EDUCATION

Ph.D.	Texas A&M University, College Station, Texas, 1991 Major: Chemical Engineering Dissertation: "*A* Study of Li/BrCl in $SOCl_2$ (Li/BCX) and $ZnBr_2$ Cells" Dissertation Supervisor: Ralph E. White
M.A.Sc	University of British Columbia, Vancouver Canada, 1988 Major: Chemical Engineering Thesis: "Simultaneous Electrosynthesis of Alkaline Hydrogen Peroxide and Sodium Chlorate" Thesis Supervisor: Colin W. Oloman
B.Sc (Hons, 1st. Class)	University of Lagos, Lagos, Nigeria, 1984 Major: Chemical Engineering Thesis: "Studies on Properties of Cellulose Triacetate-Cellulose Acetate Butyrate Blends Thesis Advisor: O. O. Omatete

PROFESSIONAL EXPERIENCE

08/2012 – Present	Professor – Department of Chemical & Biomedical Engineering, Florida A&M University and Florida State University
8/2001 – 07/2012	Associate Professor – Department of Chemical & Biomedical Engineering, Florida A&M University and Florida State University.
09/2010 – 08/2011	Visiting Associate Professor, Department of Chemical Engineering, Covenant University, Ota, Ogun State, Nigeria.
08/1995 – 07/2001	Assistant Professor, Department of Chemical Engineering, Florida A&M University and Florida State University
01/1994 -07/1995	Research Associate, Department of Chemical Engineering, University of South Carolina, Columbia, SC 29208.
01/1988 - 05/1991	Graduate Research Assistant, Department of Chemical Engineering, Texas A&M University, College Station.
09/1985 -12/1987	Graduate Research Assistant, Department of Chemical Engineering, University of British Columbia, Vancouver, Canada
07/1984 -06/1985	Mathematic & Physical Science Teacher, Hussey College, Warri, Delta State, Nigeria.

INDUSTRIAL WORK EXPERIENCE

06/2004 - 08/2004	Faculty Fellow, NASA Glen Research Center, Cleveland, OH.
06/2007 - 08/2007	Summer Faculty Researcher, Sandia National Laboratories, Albuquerque,
06/2010 - 08/2010	Faculty Fellow, Oak Ridge National Laboratory, Oak Ridge, TN.
06/1991 - 12/1993	Senior Research Engineer, Monsanto Company, St. Louis, MO 63167
03/1983 - 09/1983	Trainee Engineer (Internship), A. J. Seward, Lagos, Nigeria.

HONORS AND AWARDS

Fulbright Scholar, Nigeria, 2010 – 2011
Faculty Research Fellowship Award, Oak Ridge National Lab, 2010
High Merit Award for Pioneering Nanotechnology Research, Masscal Sci. Instruments, 2007
NASA Faculty Fellowship Award, 2004
Recipient of Lockheed Martin E&M Minority Institution of the Year Award, 1998
Recipient of Black Faculty Grant from Florida State University Committee,1997
Recipient of FSU First-Year Assistant Professor Research Award, 1996
Best graduating Chemical Engineering Student award, University of Lagos, 1984
First Prize: 1984 NSChE National Design Contest for all graduating seniors in Nigeria.
Recipient of UAC and Federal Government of Nigeria Scholarships, 1980 - 1984

Membership in Professional Organizations

Member – American Institute of Chemical Engineers, 1986 - Present
Member – The Electrochemical Society, 1988 - Present
Member – National Organization of Black Chemists and Chemical Engineers (NOBChE), 2004
Member – American Electroplaters & Finishers Society, 1998 - 2009
Member – NSChE, 2006 - present

TEACHING ACTIVITIES

Kinetics and Reactor Design
Introduction to Chemical Engineering
Mass & Energy Balances
Electrochemical Engineering
Directed Individual Studies
Honors Research in Chemistry
Honors Research in ChE
Advanced Kinetics and Reactor Design*
Chemical Engineering Materials
Chemical Engineering Computations
Computer Applications in Chemical Engineering
Research Methods*
Thermodynamics
Chemical Engineering Environmental
Introduction to Process Analysis and Design
Mass and Energy Balance I

Electrochemical Engineering Science
Advanced Electrochemical Engineering Science*
First year Engineering Laboratory
* = Graduate level courses

New Courses Developed
ECH 5937 Advanced Electrochemical Engineering Science (graduate)
ECH 4937r Electrochemical Engineering Science (undergraduate)
ECH 4781 Chemical Engineering Environmental

STUDENT ADVISING AND SUPERVISION

Chair of Master's Thesis Supervisory Committee
Aruna Kuraganti, "Feasibility Study of One-step Fully Adaptive Plating Technique for Electronic Inter-connect Applications", - *1998*
Renata Itoe, "Analysis of Simultaneous Oxygen Reduction and Methanol Oxidation Processes in a Direct Methanol Fuel Cell", - *1999*
Huei-Hsin Chen, "Characterization and Nanostructure Analysis of Electrodeposited $CuInSe_2$ Thin Film for Applications in Flexible Solar Cells", - *2006*
Leelarani Katam, "Hydrogen Generation from Sodium Borohydride using Polymer-stabilized Catalyst", *2007*
Shamalee Whitelocke, "Electrocatalysis of oxygen reduction in Fuel Cells: Tungsten Oxide Substrate Stability", - *2009*
Tiffany Long, "Electroless deposited composite zero-valent metal nanoparticles for thermotherapy applications, - *expected, 2012*

Chair of Doctoral Dissertation Supervisory Committee
Dibyendu De, "Characterization of Kinetics and Mechanisms of Electrochemical Nitrate Reduction Using Surface Modified Carbon Fiber Electrode", *1999 (UM)*
Shawn Austin, "Numerical Simulation of Transport in Open-Cell Mesophase Pitch Derived Carbon Foams", *2010*
Jamie Gomez, "Studies and Characterization of Composite Li-Air Electrocatalysts", *expected 2013*
Shannon Anderson, "Zero-valent Metal Environmental Catalysis of TCE", *expected 2014*
Valesha Scott (Co-Chair), "Patterned Dye Sensitized Solar Cell (DSSC)", *expected 2013*

Member of Master's Thesis Supervisory Committee
Tara Dean, "Convective-Diffusive Model in Spin Coating", *1997*
David Grymonpre, "The Effects of Carbon Particles on Aqueous Phase Pulsed Streamer Corona", 1996
Kamishan Martin, "Application of Nanotechnology", *2002 (IE)*
Kai-Fan Wang, "Design, installation and performance assessment of solar energy using dual axis tracker", *2008 (IE)*

Member of Doctoral Dissertation Supervisory Committee

Maria Bosse Fuenzahda, "Role of Joule Heating on the Free Convection Process in a Batch Electrophoretic Cell", *1998*
Sahid Smith, "Computational Fluid Dynamics Investigations of Blood Flow through a Bi-leaflet Mechanical Heart Valve and Left Coronary Artery System", *2006*
Selma Medeđović , "Degradation of Atrazine in Pulsed Corona Reactors", *2007*
Nekeisha S. Sweeney, "Acute Pancreastitis: A Study of Possible Initiating Mechanisms", 2007
Antonio Soares, "Electrical – Modeling of single tin dioxide nanobelt structures for chemical sensors", *2008 (EE)*
Samuel T. Adedokun, "Texture and Strength of Aluminum Alloys", 2008 (ME)
Shellikeri Annadanesh, "Lithium-Air and Lithium-Air Flow batteries for high energy density and marine propulsion", expected Summer 2013
Renee E. Gordon, "Low Cost Pack Cyaniding Method Using Cassava Leaves to case-Harden Mild Steel", expected Spring 2013(ME)
Ruben Nelson, "Investigation of Polarization Behavior in Lithium-Air Batteries via Electrochemical Impedance Spectrscopy, Equivalent Circuit Modeling and Simulation", expected Summer 2013 (E&CE)

Postdoctoral Fellows Supervised

M.D. Reyes-Tolosa, "Corrosion of metalized Ceramics", 2009
Rakap Murat, "Hydrolysis of ammonia borane for hydrogen generation", 2010

Undergraduates Research Projects Supervised (Mentored Undergraduate Students)

1. [*] Terry Ake, "Study of Transport Parameters of Diatomic Oxygen in a Sulfuric Acid/Methanol Mixture", 1997
2. [*] Tochi Nwoga, "Thermal Treatment of Electrodeposited Nickel-Hydroxide Film", 1999
3. Yolanda Stokes, "Electroextraction of Citric Acid", 1996
4. Arlissa Lee, "Liquid-Liquid Extraction of Nickel Metal: A Modeling Approach", 1996
5. Francesco Whittenberger, " Heart Defibrillation", 1996
6. Corey Hayes, "Mechanisms of Heart Fibrillation", 1996
7. Robert Bell, "Infuence of Phosphorus on the Corrosion Properties of Electrodeposited CoFeCu Soft Magnetic Thin Films", 2000
8. Gretchen Achenbach, "Structural and Compositional Studies of Electrochemically Deposited and Thermally Optimized Nickel Hydroxide Thin Films", 2000
9. Tanya Hicks Tanya Hicks, "Numerical Simulations of Calcium Current in a Single Cardiac Cell", 2001
10. [*] Monique Dupree, "Electrodeposition and Characterization of CuInSe thin Films for Solar Cell Applications", 2003
11. Abdulsomad Shaba, "Electroless Synthesis and Characterization of zero-valent metal-alloy composites", 2004
12. Paul Chin-Fook, "Numerical Simulations of Calcium Current in cardiac Cell", 2004
13. [*] Celina Dozier, "Synthesis and Characterization of Polymer-stabilized zero valent metal nanoparticles for TCE dechlorination", 2007

[*] Honors Thesis in ChE

14. D. Foxx, “Fabrication and Characterization of glucose biosensor based on polymer-stabilized transition metal nanoparticles”, 2007
15. Diana Gomez, “A study of Glucose Oxidase Biofuel Cell”, 2008
16. Kristine Ramos, “Synthesis and Characterization of Methanol-Tolerant Oxygen Electrocatalyst”, 2008
17. A. C. Aofolaju, “Deposition of $CuIn(SeGa)_2$ for Photoelectrochemical Hydrogen Generation”, 2006
18. Mimi Daniel, “Cyclic Voltammetry Study of the Role of Glucose in MPTP Induced Mimic of Parkinson’s Disease”, 2008
19. Mario Jean-Rejouis, “Synthesis of Biodiesel from Soybean oil using Polymer-Immobilized Heterogeneous Acid Catalyst”, 2008
20. Latia Deravil, “Synthesis of TiO_2-Co-Mo nanoparticles catalyst for Cost-effective generation of portable hydrogen from Sodium Borohydride”, 2008 – 2009
21. Lauren Wilson, **“**FeCo plated carbon nanotubes for RF applications”, 2007 - 2009
22. Hanna Mochona, “Spectral finger-prints of bacteria samples using laser induced breakdown spectroscopy”, 2008 - 2009
23. Lauren Martin, “Thermal Behavior of Electroless CNT-FeCo Composite in Simulated Body Fluid in Applied RF Magnetic Field”, 2009
24. Shannon Anderson, “Hydrogen generation by the hydrolysis of $NaBH_4$ using electroless Ni-Mo catalyst”, 2008 – 2010
25. Adisu Samuel, “Effect of annealing on the electroless Ni catalysis of the hydrolysis of sodium borohydride”, 2008 – 2009
26. Marline Daceus, “Use of zero-valent metal nanoparticles for waste treatment”, 2008 - 2010
27. Britney Thompson, “Bio-hydrogen generation from simple sugar”, 2009
28. Velencia Witherspoon, “Ultracapacitor Modeling”, 2009
29. Omitope Taylor, “Methanol-tolerant oxygen Electrocatalysts”, – 2009 – 2010
30. Janika Shannon, “Synthesis and characterization of fuel cell catalyst”, 2010
31. Jasmine Alexander, “Biomedical Applications of Metal Nanoparticles: Dopamine Electrochemistry”, 2010
32. Shakira N. El-Hout, “The Enhancement Effects of Ethanol in Alkaline Solution on the Oxidation of Electroless Co and Ni-Mo Metal Catalysts”, 2011
33. Omitope Taylor, “Effect of Ethanol Concentration on the Oxidation of Two-Metal Catalysts”, 2012
34. Jamal Stephens, “Analysis of Electroless Co-Mn Oxide-Based Supercapacitor”, Summer 2012

SCHOLARLY OR CREATIVE ACTIVITIES

Publications

Patents

C. W. Oloman and E. Kalu, "Electrochemical Cogeneration of alkali metal halate and alkaline peroxide solutions", US Patent No: 5074975 (1991)
R. M. Cribb, J. D. Capistran and E. E. Kalu, "Apparatus for measuring electrical surface resistivity of a moving web", Patent No: WO/1994/0000769 (1994)
E. E. Kalu and J. Gomez, "A method of fabricating a high performing air cathode for lithium-air (Li-air) battery", - *USA Provisional Patent Application* No: 61/499,336 (2011)

Books

A. Kaw and E. E. Kalu, "Numerical Methods with Applications", 1st edition , http://www.autarkaw.com, (2008)
- This book resulted from NSF sponsored project on the development of numerical methods curriculum for undergraduate students in engineering. It forms part of the Holistic Numerical Methods Institute located at USF at the web site, http://numericalmethods.eng.usf.edu.

Refereed Journal Articles under review or in press

J. Gomez, **E. E. Kalu**, R. Nelson, C. Akpovo, M. H. Weatherspoon, J. P. Zheng, "Electroless-Electrolytic Fabrication of Composite Electrodes for Energy Storage", submitted *Electrochem. Commun.* (2012)
J. Gomez, **E. E. Kalu**, R. Nelson, M. H. Weatherspoon, J. P. Zheng, "Binder-free Co-Mn Composite Oxide Electrode for Li-Air Battery Application" submitted *J. Electrochem. Soc.* (2012)
J. Gomez, **E. E. Kalu**, R. Nelson, M. H. Weatherspoon, J. P. Zheng, "Thin Film Co-MnO_2 by Combined Electroless-Electrolytic Techniques for Ultracapacitor and Li-Air Applications", submitted *ECS Trans.* (2012)
S. Austin, **E. E. Kalu**, C. A. Moore, G. D. Wesson, D. Stephens, "Numerical Simulation of Heat Transport in Open-Celled Graphitic Carbon Foams', submitted *Int. J. Heat Mass Transfer*: (2012)

Refereed Journal Articles Published

1. J. Gomez, R. Nelson, **E. E. Kalu**, M. H. Weatherspoon, J. P. Zheng, "Erratum to "Equivalent Circuit Model Parameters of a High-Power Li-ion Battery: Thermal and State of Charge Effects" [J. Power Sources 196 (2011) 4826 – 4831], J. Power Sources **218,** 5 (2012)
2. **E. E. Kalu**, M. Daniel, M. R. Bockstaller, "Synthesis, characterization, electrocatalytic and catalytic activity of polymer-stabilized metal nanoclusters', *Int. J. Electrochem. Sc.* **7**, 5297 – 5313 (2012)
3. M. Rakap, **E. E. Kalu**, S. Özkar, "Hydrogen generation from hydrolysis of ammonia-

borane using Pd-PVB-TiO_2 and Co-Ni-P/Pd-TiO_2 under stirred conditions", *J. Power Sources* 210, 184 – 190 (2012)

4. L. Wilson, **E. E. Kalu**, L. Martin and M. E. McHenry "Decoration of surface of carbon nanotubes with Iron-cobalt (FeCo) alloy using polymer-stabilization and electroless deposition techniques for thermotherapy applications", *J. Mater. Chem.* 22, 595 – 601 (2012)
5. J. Gomez, R. Nelson, **E. E. Kalu**, M. H.Weatherspoon, J. P. Zheng, "Equivalent Circuit Model Parameters of a High-Power Li-ion Battery: Thermal and State of Charge Effects", *J. Power Sources* 196, 4826-4831 (2011)
6. M. Rakap, **E. E. Kalu**, S. Özkar, "Cobalt-nickel-phosphorus supported on Pd-activated TiO_2 (Co-Ni-P/Pd-TiO_2) as cost-effective and reusable catalyst for hydrogen generation from hydrolysis of alkaline sodium borohydride solution", *J. Alloys & Compounds*, 509, 7016-7021 (2011)
7. M. Rakap, **E. E. Kalu**, S. Özkar, "Polymer-immobilized Palladium Supported on TiO2 (Pd-TiO_2) as Highly Active and Reusable Catalyst for Hydrogen Generation from Hydrolysis of Unstirred Ammonia-Borane Solution", *Int. J. Hydrogen Energy* 36, 1448-1455 (2011)
8. M. Rakap, **E. E. Kalu**, S. Özkar, "Hydrogen Generation from the Hydrolysis of Ammonia Borane Using Cobalt-Nickel-Phosphorus (Co-Ni-P) Catalyst Supported on Pd-activated TiO_2 by Electroless Deposition", *Int. J. Hydrogen Energy* 36, 254-261(2011)
9. **E. E. Kalu**, K. S. Chen, T. Gedris, "Continuous-Flow Biodiesel Production Using Slit-Channel Reactors", *Bioresource Technology* 102 4456-4461 (2011)
10. **E. E. Kalu**, R. Bell, M. Dupree, "Improvement of the Corrosion Behavior of Electrodeposited CoFeCu Thin Films", *Mater. Chem. & Phys*. 124 (1) 689-693 (2010)
11. Xiaolong Jia, Jessica Listak, Velencia Witherspoon, **E. Eric Kalu**, Xiaoping Yang, Michael R. Bockstaller, "Effect of Matrix Molecular Weight on the Coarsening Mechanism of Polymer-Grafted Gold Nanocrystals", Langmuir 26 (14) 12190-12197 (2010)
12. M.D. Reyes-Tolosa, **E.E. Kalu**, J. Orozco-Messana, A. Erb, P. N. Kalu, M.A. Hernàndez-Fenollosa, H.J. Bolina, "Corrosion Resistance, Morphological and Electrical Properties of Electroless Ni-Mo-P thin films deposited on Ceramic and Kapton Substrates", *ECS Trans*. 25, 81-88 (2010)
13. K. S. Chen and **E. E. Kalu**, "Biodiesel Production from Vegetable Oils using Slit-Channel Reactors", *Sandia Report*, SAND2008-0213 (2008)
14. H. –H. Chen, P. N. Kalu, **E. E. Kalu**, "CuInSe2 Thin Films Deposition on Flexible Substrates: Effect of Electrolyte Recirculation Rate and Deposition Potential Effects", J. Solid State Electrochem. 14 (6) 1013 – 1020 (2010)
15. **E. E. Kalu**, "Properties of Nanocrystalline Electrodeposited CoFeP Alloy with Low Phosphorus Content", J. Solid. State Electrochem. 11 (9): 1145-1156 (2007)
16. D. Foxx, **E. E. Kalu**, "Amperometric Biosensor Based on Thermally Activated Polymer-Stabilized Metal Nanoparticles", Electrochem. Commun. 9, 584 - 590 (2007)
17. **E. E. Kalu**, K. Ramos, D. Waryoba and P. N. Kalu, "Polymer-Stabilized PdRuSe Nanoparticles for Oxygen Electrocatalysis", ECS Trans. 11, (1) 261 (2007)
18. D. De, **E. E. Kalu**, P. P. Tarjan and J. D. Englehardt, "Kinetic studies of the electrochemical treatment of nitrate and nitrite ions on iridium-modified carbon fiber electrodes", Chemical Engineering & Technology, 27 (1): 56 – 64 (2004)

19. S. Grady, G. D. Wesson, M. M. Abdullah and **E. E. Kalu**, "Prediction of 10-mm Hydrocyclone Separation Efficiency Using Computational Fluid Dynamics", Filtration & Separation, 40 (9) 41 - 46 (2003)
20. S. Grady, G. D. Wesson, M. M. Abdullah and **E. E. Kalu**, "Prediction of Flow Field in10-mm Hydrocyclone Using Computational Fluid Dynamics", Fluid and Particle Separations Journal, 14, 1 – 11 (2002)
21. Kuruganti, K.S. Chen and **E. E. Kalu**, "Evaluation of a Printable Catalyst for Use in the Flexcircuit and Printed-circuit Board Application", Plating and Surface Finishing, 88, (7), 60 - 66 (2001)
22. **E. E. Kalu**, T. Nwoga, V. Srinivasan and J. W. Weidner, "Cyclic Voltammetric Studies of Effects of Time and Temperature on the Capacitance of Electrochemically Deposited Nickel Hydroxide", J. Power Sources, 92, 163-167 (2001)
23. D. De, J. D. Englehardt and **E. E. Kalu**, "Electroreduction of Nitrate and Nitrite Ion on Platinum Group Metal Catalyst Modified Carbon Fiber Electrode: Chronoamperometry and Mechanism Studies", J. Electrochem. Soc., 147, 4573 – 4579 (2000)
24. D. De, J. D. Englehardt and **E. E. Kalu**, "Cyclic Voltammetric Studies of Nitrate and Nitrite Ion Reduction at the Surface of Platinum Group Metal Catalyst Modified Carbon Fiber Electrode", J. Electrochem. Soc., 147, 4224 – 4228 (2000)
25. **E. E. Kalu** , "Electrochemical Measurement of the Activity of Printable Catalysts Used for Electroless Metallization", Plating and Surface Finishing, Vol. 98 (no. 10), 62 – 67 (2000)
26. Erratum to the paper below (#23), J. Electrochem. Soc., 148, 2449 (2001)
27. R. N. Itoe, G. D. Wesson and **E. E. Kalu**, "Evaluation of Oxygen Transport Parameters in H2SO4-CH3OH Mixtures Using Electrochemical Methods", J. Electrochem. Soc., 147, 2445-2450 (2000)
28. Kuruganti, K. S. Chen and **E. E. Kalu**, "Tapping Mode Atomic Force Microscopy Analysis of a Novel Catalyzation Technique on Non-conducting Substrates", Electrochemical and Solid State Letters, 2 (1), 27-29 (1999)
29. **E. E. Kalu**, " Ageing Effects of Electroless Cobalt Bath on the Microstructure and Magnetic Properties of Co-P Films " Plating and Surface Finishing., Vol. 95 (no. 3), 74-78 (1997)
30. **E. E. Kalu**, R. E. White and D. T. Hobbs, "Use of Hydrogen Anode for Nitrate Waste Destruction", J. Electrochem. Soc. 143, 3094-3099 (1996)
31. **E. E. Kalu** and R. E. White, "Thermal Analysis of Spirally Wound Li/BCX and Li/SOCl2 Cells", J. Electrochem. Soc., 140, 23-31 (1993)
32. **E. E. Kalu**, R. E. White and E. C. Darcy, "Bulk Thermal Capacity Determination for Li/BCX and Li/SOCl2 Cells", J. of Power Sources, 39, 193 - 201 (1992)
33. **E. E. Kalu**, R. E. White and E. C. Darcy, "Calorimetric Determination of the Thermoneutral Potential of Li/BCX and Li/SOCl2 Cells", J. Electrochem. Soc.,139, 2755-2759 (1992)
34. **E. E. Kalu**, R. E. White and E. C. Darcy, "Measurements of the Fundamental Thermodynamic Parameters of Li/BCX and Li/SOCl2 Cells", J. Electrochem. Soc., 139, 2378-2381 (1992)
35. **E. E. Kalu** and R. E. White, "The Effects of Variable Channel Width and Br2 Complexing Organic Phase on the Performance of a Zn/Br2 Cell" AIChE .J, 37,1164-1174 (1991)

36. **E. E. Kalu** and R. E. White, "In Situ degradation of Polyhalogenated Aromatic Hydrocarbons by Electrochemically Generated Superoxide Ions" J. Electrochemical Soc., 138, 3656 –3660 (1991)
37. **E. E. Kalu** and C. Oloman, "Simultaneous Electrosynthesis of Alkaline Hydrogen Peroxide and Sodium Chlorate" J. Applied Electrochemistry, 20, 932 - 940 (1990)
38. **E. E. Kalu**, Q. Nguyen, X. Yang and J. Lielmezs, "Application of the Modified Van der Waals Equation for Unsaturated Vapour and Liquid states," Thermochemica Acta, 112, 215 - 220 (1987)

Contributions to Books & Proceedings Volumes [ξ = reviewed]

1. 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), pp. 147 – 150
2. V. J. Witherspoon, **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), pp. 151-153
3. Shellikeri, Z. Y. Liang, **E. E. Kalu**, M. H. Weatherspoon, and J. P. Zheng, "Pseudocapacitance: Metal Oxide Coated on Buckypapers as Electrodes for Electrochemical Capacitors", Proceedings of The 16th International Seminar on Double Layer Capacitors and Hybrid Energy Storage Devices, Deerfield Beach, FL, December 2009.
4. ξS. A. Whitelocke, **E. E. Kalu**, "Catalytic Activity and Stability of Tungsten Oxide Electrocatalyst for Fuel cell Applications", AIChE Annual Meeting Conference Proceedings, Philadelphia PA, Nov 16 – 21, (2008)
5. ξD. Foxx and **E. E. Kalu**, "Fabrication of Mediator-Free Biosensor Using Polymer-Stabilized Nanocomposite Particles", Proceedings of the 23rd Southeastern Conference in Theoretical and Applied Mechanics (SECTAM XXIII) Mayagüez, Puerto Rico, May 21 – 23, 2006.
6. ξR. Bell and **E. E. Kalu**, "Influence of Phosphorous on the Corrosion Properties of Electrodeposited CoFeCu Soft Magnetic Thin Films", in Magnetic Materials, Processes and Devices VI", S. Krongelb, L. T. Romankiw and J. -W. Chang, W. Schwarzacher and C. H. Ahn, Editors, PV 2000-29, The Electrochemical Society Proceeding Series, Pennington, NJ (2001).
7. ξ**E. E. Kalu** "Structure and Magnetic Properties of Electroplated Co-Fe-P Thin Films", in Magnetic Materials, Processes and Devices V", L. T. Romankiw, S. Krongelb and C. H. Ahn, Editors, PV 98-20, The Electrochemical Society Proceeding Series, Pennington, NJ (1999).
8. ξ**E. E. Kalu**, V. Srinivasan, T. Nwaoga, and J. W. Weidner, "The Effect of Annealing Temperature and Time on the Performance of Porous Nickel Oxide Capacitors", in Selected Battery Topics, G. Halpert, M. L. Gopikanth, K. M. Abraham, W. R. Cieslak, W. A. Adams, et al., Editors, PV 98-15, The Electrochemical Society Proceeding Series, Pennington, NJ (1999).
9. ξD. Thirumalai, **E. E. Kalu** and R. E. White , "Design of Flow Fields for Fuel Cells" in

Proceedings of First International Symposium on Proton Conducting Membrane Fuel Cells, S. Gottfeld and A.R. Langrebe, Editors, PV 95-10, The Electrochemical Society Proceeding Series, Pennington, NJ (1995)

10. **E. E. Kalu**, "Ageing Effects of Electroless Cobalt Bath on the Microstructure of Co-P Films", in Magnetic Materials, Processes and Devices IV", L. T. Romankiw and D. W. Harmon, Editors, PV 95-18, The Electrochemical Society Proceeding Series, Pennington, NJ (1995)
11. E. C. Darcy, **E. E. Kalu** and R. E. White , "Calorimetric Determination of Thermal Parameters of the Li/BrCl in SOCl2 (BCX) Chemistry" in Proceedings of the 34th International Power Sources Symposium, p. 219 -221, IEEE Service Center, Piscataway, NJ (IEEE cat. n 91CH2863-9) (1991)
12. E. C. Darcy, **E. E. Kalu** and R. E. White, "Calorimetric determination of the thermoneutral potential for Li/BrCl in SOCl2 (BCX) cells", in NASA. Marshall Space Flight Center, The 1990 NASA Aerospace Battery Workshop, p 369-394 (SEE N92-27130 17-20)

Technical Reports

1. **E. E. Kalu**,"Electric Field Effects in Li^+ ion Transport in Phase-Change $LiFePO_4$ Particles**"** – A report submitted to Oak Ridge National Laboratory (2010)
2. **E. E. Kalu**, "Solid-Catalyst Conversion of Soybean Oils to Biodiesel with Channel Reactors" – A Final report to Sandia National Laboratories (Contract No. **730469**) (2007)
3. **E. E. Kalu**, "Characterization of Electrochemical Processes on PEO/LiTFSI Polymer Electrolyte System", A report to the Office of University Programs NASA-Glenn Research Center, Cleveland, OH (2004)
4. **E. E. Kalu**, "Structural and Compositional Studies of Electrochemically Deposited and Thermally Optimized Nickel Hydroxide Thin films", A Final Report to DOE/South Carolina EPSCoR-HBCU collaboration – University of South Carolina Chemical Engineering Department (2000)
5. **E. E. Kalu**, "A Feasibility Study of One-step Additive Plating for Printed Wiring Boards" – A Final report to Sandia National Laboratories (Ref. # AW-3098) (1999)
6. **E. E. Kalu,** "Thermal Treatment of Electrodeposited Nickel Hydroxide Thin Films for Supercapacitor Applications", - A Final Report to DOE/South Carolina EPSCoR Program – University of South Carolina Chemical Engineering Department (1998)
7. **E. E. Kalu** and C. W. Oloman, "Novel Methods for Electrochemical Generation of Bleaching Chemicals", PGRPR, **70**, 201 (1987)
8. **E. E. Kalu**, "Thermal and Photolytic Studies of APM's one-step ink", MSL-12195, Monsanto St. Louis (Sept. 1992)
9. **E. E. Kalu**, "Surface Resistance Measuring Apparatus for Flectron: Evaluation of Key Design Parameters", Monsanto APM Technical Note #11 (Jan. 1992)
10. **E. E. Kalu**, "Evaluation of Immersion Tin Baths", Monsanto APM Technical Note, #12 (June, 1992)
11. **E. E. Kalu**, "Electrowinning as a Treatment/Recovery Option for Cobalt", Monsanto APM Technical Note, #13 (Nov. 1992)

Thesis and Dissertations

Kalu, E. E.,"A Study of Li/BrCl in $SOCl_2$ (Li/BCX) and $ZnBr_2$ Cells", Texas A&M University, Ph.D. Dissertation, 1991

Kalu, E. E., "Simultaneous Electrosynthesis of Alkaline Hydrogen Peroxide and Sodium Chlorate", University of British Columbia, Vancouver, M.A.Sc. Thesis, 1988

Kalu, E. E., " Studies on Properties of Cellulose Triacetate-Cellulose Acetate Butyrate Blends", University of Lagos, Nigeria, B. Sc. (Hons) Thesis, 1984

Invited Presentations and Seminar

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-MnO_2 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 NOBCChE 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 NOBCChE 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 $NaBH_4$", 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. Hernàndez-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", NOBCChE 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", NOBCChE 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. Whitelocke, **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, Annaheim,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 atThe 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 $SOCl_2$ (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)

Recent Contracts and Grants

CONTRACTS AND GRANTS RECEIVED

- Future Renewable Electric Energy Delivery and Management (FREEDM) Systems. Funded by National Science Foundation. 8/1/2008 - 9/30/2013, Co-PI, $1.35 M
- Solid-Catalyst Conversion of Soybean oil to Biodiesel with Slit-Channel reactors. Funded by Sandia National Laboratories. 8/1/2008 – 9/30/2009, PI $40,000
- Partnership for Research and Education in Materials between FAMU and CMU. Funded by National Science Foundation. 3/1/2004 – 2/29/2009, Co-PI $2.8 M
- Holistic Numerical Methods: Unabridged., Funded by National Science Foundation. 1/1/2008 – 12/31/2011. PI $75,259
- Partnership for Research and Education in Materials between Florida A. & M. and Carnegie Melon University. Funded by National Science Foundation. 3/01/2009 – 2/29/2010, Co-PI $100,000
- Holistic Numerical Methods. Funded by National Science Foundation. 3/1/2004 – 4/29/2008. PI $40,000
- Acquisition of Analytical Equipments (GC & Accessories) for Environmental Research. Funded by ERLE. 10/1/2006 – 9/30/2007. PI $250,000

SERVICE

Florida A&M University – Florida State University

University

Member, University wide search committee for the Dean of FAMU-FSU College of Engineering – 2010 -2011
Member, Faculty Senate, Florida A&M University, 2004 – 2006; 2006 – 2008; 2008-2010.
Graduation Faculty Representative (College), Spring Commencement Ceremony, Florida A&M University, 2004 – 2006; Convocation Marshall – 2001

FAMU-FSU College of Engineering

Member, Library Committee – 2007 - 2010
Chair, Computer Committee - 2003
Member, Computer Committee – 2001- 2007
Member, Curriculum Committee – 1995 - 2001
Faculty Representative, State-Wide Curriculum Committee for approval of Common Pre-requsite for Pre-engineering community college student transfers – 2001

Department of Chemical & Biomedical Engineering

Member, Library Committee – 2007 - 2010
Chair, Computer Committee – 2001-2004
Member, Computer Committee – 1999 - 2004
Member, Graduate Committee – 1995 – 2010
Member, PhD qualifier Examination Team – 2006 - 2009
Member, Curriculum Committee – 1995 – 2001
Recruiter for Minority Graduate Students – 2001 – 2010
Seminar Organizer – Spring (1997, 2000, 2001, 2003,2008)

The Profession

Reviewer for Refereed Journals

Journal of the Electrochemical Society (1995 – present);
Electrochimica Acta, (2001 – present);
Chemistry of Materials, (2000 – present);
Langmuir, (2006 – present);
Industrial & Engineering Chemistry Research, (1995 – present);
Journal of Solid State Electrochemistry, (2007 – present);
Nanotechnology, (2008);
Electrochemistry Communications, (2007 – present);
Analytical Letters, (2009);
Journal of Applied Electrochemistry, (2001 – 2008);
Materials Chemistry & Physics, (2008 – 2010);

Electroanalysis (Wiley-Blackwell) , (2009 -2010);
Energies – Open Access Journal (MDPI AG) – (2010)

Reviewer for Text Books and Manuscripts

Books: "Applied Numerical Methods with MATLAB for Engineers and Scientists" – S. C. Chapra - publisher McGraw Hill, 2006
Books: "Applied Numerical Methods with MATLAB for Engineers and Scientists" – S. C. Chapra - publisher McGraw Hill (2nd. Edition) – 2008
Proposals: Kentucky Science & Engineering Foundation, ACS Petroleum Research Fund

Reviewer for Grant Applications

National Science Foundation's (NSF) Directorate of Engineering – 1996 – 2010
NSF Engineering Research Center Review – 2006
National Science Foundation SBIR Program – 2006, 2008
NSF Curriculum & Laboratory Improvement (CLI) Program – 1999 - 2000
Kentucky Science & Engineering Foundation (State of Kentucky), 2006 - 2009
ACS Petroleum Research Fund – 2006 - 2008

Service to the Profession & Professional Associations

NSF Sponsored Minority Workshop on Improving & Retaining Minority Faculty – 2001
Symposium Organizer and Co-Chair – Industrial Electrolysis & Electrochemical Engineering session – 201st Electrochemical Meeting, Philadelphia – 2002
NSF Workshop on Low Temperature PEM Fuel Cells, 2001
NSF Engineering Research Center Visit – 2006
Organizer & Judge IE&EE Undergraduate Poster Session – 2007
Symposium Organizer and Co-Chair – Industrial Electrolysis & Electrochemical Engineering session – 203rd Electrochemical Meeting, Paris – 2003

ECS National Committee Membership

Member of IE&EE Division Student Affairs Committee – 2006 – 2008
Judge for IE&EE Student Achievement Awards – 2007 – 2008
Member IE&EE Electrocatalysis Committee – 2006 - Present

The Community

Service to the Community

Summer Igbo Language School Teacher – 2001 – Present
Secretary Association of Ndi-Igbo in Tallahassee – 2008 - 2011
Capital Regional Science & Engineering fair Judge – 1997 - 2006
Leon County Science Fair Judge, 2006
Presentations to Elementary and High School Students – 2002, 2003, 2007