Dept. of Chemical Engineering   Phone 0504956644
KNUST, Kumasi   E-mail egankudey@yahoo.com

Emmanuel Godwin Ankudey

Education
Academic Degrees & Institutions

January, 2014 to May, 2014   American Institute of Non-destructive Testing   Baxter, MN, USA
NDT Certificate (PT, VT, MT, UT, RT)

August, 2002 to May 2008   The University of Iowa   Iowa City, USA
PhD Chemical & Biochemical Engineering
Biocatalyst and bioprocess engineering for alkene oxidation

August, 1993 to June 1996   Norwegian University of Science and Technology   Trondheim, Norway
M.Sc. Chemical Engineering
Oil and Gas Technology

October 1986 to August 1990   Kwame Nkrumah University of Science and Technology   Kumasi, Ghana
B.Sc. Chemical Engineering

Dec. 1997 to present   Kwame Nkrumah University of Science and Technology   Kumasi, Ghana

Lecturer, Senior Lecturer; Department of Chemical Engineering

Professional, Teaching & Research Experience

- Teaching and Supervision of large undergraduate classes
- Departmental Examinations Officer for two years (1999-2000)
- College Examinations Officer, I planned, organized, supervised and coordinated examinations in the then entire School of Engineering for three years (2000-2002)
- Coordinator of Petrochemical Engineering program, KNUST, (2010-2014)
- Coordinator, Graduate programs (2008-2014)
- Coordinator, Distance Learning Programs (2018 to present)
- Coordinator, Professional Masters in Engineering (Oil and Gas Option), (2011-2014).
- Member, University Safety Committee (2017 to present)
- Member, College Postgraduate Coordination Committee, (2012-2014)
- Member, National Technical Committee on Oil and Gas Standards (2009-present)
- Visiting Lecturer, Madonna University, Akpugo , Enugu State. Nigeria (2012 to date).

List of Courses Taught

Mass Transfer Processes	Separation Processes
Biochemical Engineering	Chemical Process Calculations
Chemical Engineering Thermodynamics	Analytical Chemistry for Engineers
Petroleum Fluid Properties	Material Science
Natural Gas Engineering	Petroleum Production Engineering

Selected Projects Supervised

- Development of a membrane for separation of water-alcohol mixtures using local clay resources as filler
- Assessment of peroxidase activity in local bean varieties for the removal of phenols from waste waters
- Characterization of rubber seed oil for the production of biodiesel.
- Production of glucoamylase from locally isolated *Aspergillus niger* and *Rhizopus sp.*
- Generation of Biogas from animal/brewery wastes.
- Production of activated carbon using crude K_2CO_3 from cocoa pod husk as activating agent.
- Isolation and purification of protease-producing microorganisms from local soil.
- Thermal Energy storage potential of local clay resources
- Thermal/Chemical Fouling model in a petroleum refinery Shell and tube heat exchanger.

Professional, Teaching & Research Experience

April 2015 to January 2017   **Team Industrial Services**   Texas,   USA

API Certified in 510, 570, 653, 571 and 580
Level II (PT, MT, UTT, VT)NDT Inspector/Technician
- In-service inspection of static equipment
- Inspection and Maintenance Planning
- Review NDT results according to codes and standards
- Performance, Supervision of King Brinell Hardness Testing
- Interpretation of Process flow diagrams, Isometric drawings and P&IDs
- Supervision and participation in conventional NDT for bench inspection of parts
- Review of WPS and PQR
- Advice on repair techniques, materials identification (PMI) and selection, welding procedures
- External and Internal Visual inspection of Pressure Vessels, Piping and other process equipment

August 2002 to May 2008   The University of Iowa   Iowa City, Iowa, USA
Graduate Research and Teaching Assistant

- Lipase-mediated epoxidation of alkenes in organic solvents
- Extremophile cell culture techniques
- Protein purification and determination
- Cell and enzyme immobilization
- GC, HPLC, NMR, FC, UV and visible spectroscopy methods of analysis
- Supervision and mentoring of minority undergraduate and summer students
- Responsible for laboratory safety and audit

Sept 2007 to Jan 2008   Procter and Gamble   Iowa City, USA
Analytical Laboratory Associate
- Analysis of finished shampoo and conditioner products for consistency, viscosity, specific gravity, pH etc

October 1996 to Dec. 1997   Environmental Protection Agency   Accra, Ghana
Program Officer, Mining and Industry Department
- Review and Verification of Company Environmental Management Plans
- Inspection and compliance monitoring of industries
- Successfully initiated and implemented the computer database of available Management Plans of companies

Oct. 1990 to June 1992   Kwame Nkrumah University   Kumasi, Ghana
of Science and Technology
Research and Teaching Assistant
- Teaching Assistant in Process Calculations, Reaction Engineering and Transport Phenomena
- Supervised third year students in Process development laboratory
- Developed a process for the production of caustic soda from cocoa husk
- Responsible for the day to day running of the departmental library

Short Courses & Other Training

- Gas Chromatography: Fundamentals, Troubleshooting, and Method Development, June 2012, Axion Training Institute/ACS, Chicago.
- High Performance Liquid Chromatography: Fundamentals, Troubleshooting, and Method Development, July 2013, Axion Training Institute/ACS, Chicago.

IT & Special Skills	• Highly Analytical and Problem Solving oriented. • Proficient in Microsoft Office, Knowledgeable in Matlab, HYSIS, Fortran & C++ Programming • Whole cell and enzyme immobilization • GC, HPLC, NMR, UV and Visible spectroscopy methods of analysis • Excellent organizational and interpersonal skills • Strong written and oral communication ability
Scholarships and Awards	▪ Ghana Government Scholarship for Secondary Education (1984) ▪ Norwegian Government Scholarship (1992-1995) ▪ University of Iowa Research and Teaching Assistantship (2002-2007) ▪ Best Design Student, Chemical Engineering, KNUST (1990) ▪ Voted Best Lecturer, Department of Chemical Engineering, KNUST (2010, 2011)
Other Leadership Positions	▪ Vice President, Center Environmentally Beneficial Catalysis, Iowa Campus (2006) ▪ Financial Secretary, African Students Union, University of Iowa (2003) ▪ Secretary, Ghana Students Association, Trondheim, Norway (1993)
Professional memberships	▪ American Institute of Chemical Engineers (AIChE) ▪ Ghana Institution of Engineers (GhIE) ▪ American Chemical Society (ACS) ▪ American Society for Non-Destructive Testing (ASNT)

Other Experience	▪ Visiting Lecturer, Madonna University, Akpugo Campus, Nigeria
	▪ Member, National Technical Committee on Oil and Gas Standards, Ghana.
	▪ **Language Skills:**
	    English: fluent spoken, written and reading
	    Ewe: fluent spoken, written and reading
	    Twi: good spoken
	    Norwegian: good reading, written, fair spoken

Selected Publications	▪ Ankudey, E. G., Olivo, H.F., Peeples, T. L., 2006, Lipase-mediated Epoxidation utilizing UHP in Ethyl Acetate. ***Green Chemistry.*** **8**: 923-926. ▪ Ankudey, E.G. and Woode, M.Y., 2014, Assessment and Characterization of Peroxidase Activity in Locally grown Bean varieties from Ghana. ***International Journal of Scientific and Research Publications.*** Vol 4 (8): 384-388 ▪ Ankudey, E.G., and Zainudeen, M.N., 2014, Pervaporative Separation of Ethanol-Water Mixtures using Composite Membranes with Hydrophilic Zeolite fillers made from Ghanaian Clay deposits. ***International Journal of Engineering Research.*** Vol 5 (6): 358-363. ▪ Nyamful, A., Moses, E., Ankudey, E.G., Woode, M.Y., 2014, Solid State Fermentation of *Aspergillus niger* MENA1E and *Rhizopus* MENACO11A for Glucoamylase production on Agricultural residues. ***International Journal of Scientific and Research Publications.*** Vol 4 (6): 452-455 ▪ Meteku, B.E. and Ankudey, E.G., 2014, Investigating Crude Potash as Activating Agent for the Production of Activated Carbon for Gold Adsorption Operations – A Preliminary Study. ***International Journal of Engineering Technology,*** **Vol 4 (10):** 606-610.

Conference Presentations

- ***Spring Meeting of AIChE, Houston, USA, 2012***
  Ankudey, E. G. and Zainudeen, N. M.; Pervaporative Separation of Water-Alcohol Mixtures Using Ghanaian Zeolite-Clay Filled PVA Composite Membranes.

- ***234th National Meeting of American Chemical Society, Boston, USA, 2007***
  Ankudey, E. G. and Peeples, T.L.; Enantioselective hydrolysis of epoxides in organic solvents by *Beauveria bassiana*

- ***Annual AIChE Meeting, Salt Lake City, USA, 2007***
  Ankudey, E.G. and Peeples, T.L.; Enantioselective Hydrolysis Of Epoxides In Organic Solvents By *Beauveria bassiana*

- ***15th Biocatalysis and Bioprocessing Conference, Iowa City, USA, 2006***
  Ankudey, E. G.; Olivo, H. F.; Peeples, T. L.; Biocatalyst and Bioprocess Engineering for Alkene epoxidation

- ***Annual AIChE Meeting, San Francisco, USA, 2006***
  Ankudey, E. G.; Olivo, H. F.; Peeples, T. L.; Lipase-mediated Epoxidation Utilizing UHP in ethyl acetate

- ***14th Biocatalysis and Bioprocessing Conference, Iowa City, USA, 2005***
  Ankudey, E. G.; Olivo, H. F.; Peeples, T. L.; Lipase-mediated Epoxidation Utilizing UHP in ethyl acetate