GIFTY OSEI-PREMPEH

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EXPERIENCE

August 2019 – present	**Chair**, Dept. of Chemical Engineering, West Virginia University Institute of Technology, Beckley, WV
August 2018 – August 2019	**Interim Chair**, Dept. of Chemical Engineering, West Virginia University Institute of Technology
May 2016 – present	**Associate Professor**, Dept. of Chemical Engineering, West Virginia University Institute of Technology
August 2010 – May 2016	**Assistant Professor**, Dept. of Chemical Engineering, West Virginia University Institute of Technology
August 2008 – August 2010	**Postdoctoral Scholar**, Dept. of Chemical and Materials Engineering, University of Kentucky, Lexington, KY.
August 2007 – August 2008	**Lecturer**, Dept. of Chemical and Materials Engineering, University of Kentucky College of Engineering Extended Campus, Paducah, KY

EDUCATION

Ph.D. Chemical Engineering (June 2007)	University of Kentucky, Lexington, KY
MS Chemical Engineering (July 2002)	North Carolina A&T State University, Greensboro, NC
BS Chemical Engineering (July 1999)	University of Science and Technology, Kumasi, Ghana

RESEARCH ACTIVITIES

- Functionalized silica composites for CO_2 capture
- Upgrading of bio-oil from biomass pyrolysis
- Analysis of salt removal from aluminum slag

PUBLICATIONS

Gifty Osei-Prempeh, James Ingles, Megan Keffer, David Dunlap, Garth Thomas, and Asad Davari 'Influence of the Polymer Surface Charge on the Synthesis and Properties of Polymer−Silica Composites' Ind. Eng. Chem. Res. **2015,** 54, 11295−11301.

Wenjin Xu, **Gifty Osei-Prempeh**, Fresia C. Lema Herrera, E. Davis Oldham, Renato J. Aguilera, Sean Parkin, Stephen E. Rankin, Barbara L. Knutson, Hans-Joachim Lehmler 'Synthesis, thermal properties, and cytotoxicity evaluation of hydrocarbon and fluorocarbon alkyl b-D-xylopyranoside surfactants' Carbohydrate Research 349 (**2012**) 12–23.

Osei-Prempeh, G., Knutson, B.L., Rankin, S.E., Lehmler, H.-J., 'Direct Synthesis and accessibility of amine functionalized mesoporous silica Templated Using Fluorinated Surfactants.' *Ind. Eng. Chem. Res.*, **2011**, *50* (9), pp 5510–5522

Osei-Prempeh, G., Lehmler, H.-J., Miller, A. F., Knutson, B.L., Rankin, S.E., 'Fluorocarbon and Hydrocarbon Functional Group Incorporation into Nanoporous Silica Employing Fluorinated and Hydrocarbon Surfactants as Templates.' Microporous and Mesoporous Materials 129 (**2010**) 189–199.

Silverstein, D. L., **Osei-Prempeh, G.,** 'Making a Chemical Process Control Course an Inductive Learning Experience' Chemical Engineering Education, Spring 2010. **2011 ASEE Corcoran Award.**

Osei-Prempeh, G., Knutson, B.L., Rankin, S.E., Lehmler, H.-J., 'Synthesis of Fluoro-Functionalized Mesoporous Silica and Application to Fluorophilic Separations.' *Ind. Eng. Chem. Res.* **2008,** *47,* 530-538.

Osei-Prempeh, G., Knutson, B.L., Rankin, S.E., Lehmler, H.-J., 'Synthesis of Vinyl Functionalized Mesoporous Silica using Fluorinated Surfactant Templates,' Microporous and Mesoporous Materials, **2005**, 85, 16–24.

SELECTED PRESENTATIONS

Monteiro, A., **Osei-Prempeh, G.** '*Enhancing the properties of polymer-silica composites for CO_2 capture'* West Virginia Undergraduate Research Day at the Capitol, February 2019, Charleston, WV.

Monnin, K., **Osei-Prempeh, G.** 'Composites of Nanoporous Silica and Commercial Adsorbents for CO_2 Capture' West Virginia Undergraduate Research Day at the Capitol, February 2018, Charleston, WV.

Periera, I., **Osei-Prempeh, G**. '*Enhancing the properties of polymer-silica composites for CO_2 capture'* 1st Annual Undergraduate Spring Symposium, April 2017, West Virginia University, Morgantown, WV.

Osei-Prempeh, G. 'Nanoporous silica-amberlite composites for CO_2 adsorption' ACS 252nd National Meeting, Philadelphia, PA (August 2016)

Osei-Prempeh, G., Ingles, J. 'Synthesis and Properties of Amberlite®-Silica Composites' AIChE annual meeting, Atlanta, GA (November 2014)

Osei-Prempeh, G., Ingles, J., Davari, A. 'Analysis of Pyrolysis Oil during Coal-Biomass co-Pyrolysis' AIChE annual meeting, Atlanta, GA (November 2014)

Osei-Prempeh, G., Thomas, G. E., Davari, A. 'Functionalized Silica-Polymer Composite for CO_2 Capture' AIChE annual meeting, Pittsburgh, PA (November 2012)

Keffer, M., **Osei-Prempeh, G.**, Thomas, G. E., Davari, A. 'Polystyrene-Silica Composite for CO_2 Capture' West Virginia Undergraduate Research Day at the Capitol, January 2012, Charleston, WV.

Osei-Prempeh, G., 'Clean Energy from Coal' Energy Strategy Workshop, US Military Academy, WestPoint, NY, April 2011

Osei-Prempeh, G., Knutson, B.L., Rankin, S.E., Lehmler, H.-J., Sue E. Nokes 'Effects of Imprint Molecule and Imprinting Technique on Sugar Adsorption on Nanostructured Molecular Imprinted Silica' AIChE annual meeting, Salt Lake City, UT (November 2010)

Osei-Prempeh, G., Knutson, B.L., Rankin, S.E., Lehmler, H.-J., Sue E. Nokes 'Molecular Imprinted Silica for Separation of Sugar Components in Biomass Hydrolysates: Effects of Imprint Molecule and Imprinting Technique,' ACS Spring 2010 National Meeting and Exposition, San Francisco, CA (March 2010)

Osei-Prempeh, G., Knutson, B.L., Rankin, S.E., Lehmler, H.-J., 'Synthesis and Applications of Fluorocarbon Functionalized Porous Silica,' AIChE annual meeting, San Francisco, CA (November 2006)

AWARDS, HONORS AND AFFILIATIONS

- ASEE Chemical Engineering Education's 2011 Corcoran Award (Co-recipient)
- American Institute of Chemical Engineers (Member), 2001 – 2020.
- American Society of Engineering Education (Member), 2013 – 2015, 2019 – 2020.
- Advisor, WVU Tech AIChE Student Chapter, 2010 - 2017
- American Chemical Society, 2012 – 2013, 2016 - 2017

HIGHLIGHTS OF TEACHING ACTIVITIES

Material and Energy Balances I (CHE 201): Fall 2010, 2011, 2012, 2013, 2014, 2015, 2016
Material and Energy Balances II (CHE 202): Spring 2011, Spring 2012, Spring 2013, Spring 2014
Material Balances (CHE 211): Fall 2017, 2018 Summer 2019
Energy Balances (CHE 212): Summer 2019
Chemical Thermodynamics (CHE-320): Fall 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018,2019
Kinetics and Reactor Design (CHE 327): Spring 2012, 2013, 2014, 2015, 2016, 2017, 2018,2019,2020, 2021
Polymer Science and Engineering (CHE 461): Spring 2011, 2015, 2016, 2017, 2018,2019,2020
Unit Operations Lab I (CHE 450): Fall 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017
Design Lab 1 (CHE 357): Fall 2019, 2020
Design Lab 2 (CHE 358): Spring 2020, 2021
Design Lab 3 (CHE 457): Fall 2020
Fundamentals of Engineering (ENGR 402): Spring 2021