

OHEMENG-BOAHEN, GODFRED, Ph.D.

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Date of Birth: 22nd September, 1989.

Nationality: Ghanaian.

OBJECTIVE STATEMENT

Highly self-motivated Chemical Engineer looking for an opportunity to solve challenging problems through research and development in areas of interest such as water and wastewater treatment, environmental biotechnology and biomaterials, soft matter, nanotechnology, separation processes, and biomass valorization.

EDUCATIONAL BACKGROUND

2016 – 2020. Ph.D. Chemical & Biological Engineering, Hanbat National University, Daejeon, Republic of Korea.

2014 – 2016. MEng. Chemical & Biological Engineering, Hanbat National University, Daejeon, Republic of Korea.

2009 – 2013. BSc. Chemical Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

EXPERIENCE

August 2020 – Present: Lecturer, Department of Chemical Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

Duties

Courses Instructed: Chemical Process Calculations, Heat Transport Processes, Fuel and Combustion Technology, Safety and Pollution Control.

Current Research Interest: Environmental nanobiotechnology with emphasis on wastewater treatment, soft materials (hydrogels) and their composites, thermochemical conversion of wastes and other biomass resources to value added resources, renewable energy and fine chemical production.

Current Project: Thermochemical conversion of avocado seed and its applicability in environmental remediation thereof.

August 2013 – February 2014. Research and Teaching Assistant at the Kwame Nkrumah University of Science and Technology, Department of Chemical Engineering.

Duties:

- Assisted course lecturers in the teaching of undergraduate courses such as Material Science, Fuel and Combustion Technology.
- Guided undergraduate students in experimental design of processes engineering projects as well as plant design projects.

July – August, 2012. Engineering Intern at the Sulphide Treatment Plant, AngloGold Ashanti – Obuasi Mine.

Duties

Assisted the Staff in Ore processing at the Sulfide Treatment Plant in

- Analyzing the efficiency of unit operations such as crushing, milling and sedimentation, by assessing the particle size distribution and or density of the discharge (overflow and underflow) of the Crushing unit, Milling unit and Thickeners respectively.
- Monitoring of the oxidation of Fe (II) to Fe (III), Oxygen uptake rate, and Acid washing efficiency.
- Monitoring of the cyanidation, leaching and stripping processes as well as the regeneration of the spent activated carbon.
- Monitoring the biochemical treatment of the wastewater effluent from the processing plant via assessment of the concentration of contaminants such as Arsenic, Cyanide and Zinc in the wastewater effluent.

May – June, 2012. Research assistant, Department of Chemical Engineering, Kwame Nkrumah University of Science and Technology.

Duties

Assisted in the development and testing of a bioadsorbent for the adsorption of β -carotene from palm oil as part of the production of refined bleached palm oil.

RECENT JOURNAL ARTICLES

Ohemeng-Boahen. Godfred, Divine D. Sewu, Hai Nguyen Tran, Seung H. Woo. Enhanced adsorption of congo red from aqueous solution using chitosan/hematite nanocomposite hydrogel capsule fabricated via anionic surfactant gelation, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 625, 126911, 2021.

Caleb Acquah, **Godfred Ohemeng-Boahen,** Krista Power, Susan M Tosh. The effect of processing on bioactive compounds and nutritional qualities of pulses in meeting the sustainable development goal 2, *Frontiers in Sustainable Food Systems*, 5, 166, 2021.

Divine D. Sewu, Hai Nguyen Tran, **Ohemeng-Boahen. Godfred,** Seung H. Woo. Facile magnetic biochar production route with goethite precursor: Green production, characterization, recoverability and aqua-stability, *Science of the Total Environment*, 717, 137091, 2020.

Ohemeng-Boahen. Godfred, Hai Nguyen Tran, Divine D. Sewu, Seung H. Woo, Multi-membrane formation in chitosan hydrogel shell by the addition of goethite nanoparticles, *Carbohydrate Polymers*, 229, 115543, 2020

Ohemeng-Boahen. Godfred, Divine D. Sewu, Seung H. Woo, Preparation and characterization of alginate-kelp biochar composite hydrogel bead for dye removal, *Environmental Science and Pollution Research*, 26 (32), 33030-33042, 2019

Jung, H., Sewu, D.D., **Ohemeng-Boahen, Godfred.**, Lee, D.S., Woo, S.H. Characterization and adsorption performance evaluation of waste char by-product from industrial gasification of solid refuse fuel from municipal solid waste. *Waste Management*, 91, 33-41, 2019.

Chatterjee, S., Tran, H.N., **Ohemeng-Boahen, Godfred.** and Woo, S.H. Supersorption capacity of anionic dye by newer chitosan hydrogel capsules via green surfactant exchange method. *ACS Sustainable Chemistry & Engineering* 6(3), 3604-14, 2018.

BOOK CHAPTER

Godfred Ohemeng-Boahen, Divine D. Sewu, Caleb Acquah and Marc A. Dubé. Protein-based Bioplastics for Food and Pharmaceutical Packaging in Food Proteins and Peptides: Emerging Biofunctions, Food and Biomaterial Applications. The Royal Society of Chemistry 2021
<https://doi.org/10.1039/9781839163425>

PATENT

Title: Aerogel particle for adsorption and manufacturing method thereof.

Korean Patent

Publication No. 1020180042989 A

Publication Date: 27th April, 2018.

Inventors: Woo, Seng Han (KR), Choi, Ji Na (KR) **Ohemeng-Boahen. Godfred** (KR)

CONFERENCES

2019 Korean Radioactive Waste Society Autumn 2019 Conference (KRS 2019) from 30th – 1st November, at Lotte Hotel, Jeju, Republic of Korea. (Poster: Efficient removal of Cesium ions from aqueous solution using alginate/Prussian blue composite hydrogel bead).

2019 Local Conference Korean Filtration Society (KFS) 27th August, Global student Success Center, Hanbat National University, Daejeon, Republic of Korea. (Conference organizing team member Participant)

2019 2nd International conference of the Korean Filtration Society (KFS) 26th February, Global student Success Center, Hanbat National University, Daejeon, Republic of Korea. (Conference organizing team member)

2019 International Conference on Algal Biomass, Biofuels and Bioproducts (ABBB 2017) from 17th – 19th June, 2019 at the Boulder, CO, USA (Poster: Alginate – powdered micro algae biochar hydrogel composite for dye removal from aqueous solution).

2018 Advanced Research Group on Environmental Technology 2018 (TARGET 2018 Conference) from 28th – 29th June at Konkuk National University, Seoul, Republic of Korea. (Oral: Highly efficient dye adsorption by multi-membrane hydrogel capsules formed by nanoparticles insertion).

2017 30th International Symposium on Chemical Engineering (2017 ISChE 30) 1st – 3rd, December at Korea Advanced Institute of Science and Technology (KAIST) and Hotel

Interciti, Daejeon, Republic of Korea (Oral: Chitosan Multi-Membrane Hydrogel Capsules for Adsorption of Congo red from Aqueous Solutions).

2017 International Environmental Engineering Conference and Annual Meeting of the Korean Society of Environmental Engineers (IEEC-2017) from 15th – 17th November, at International Conference Center (ICC), Jeju, Republic of Korea (Poster: Hematite nanoparticles impregnated chitosan hydrogel capsules for Congo red removal from aqueous solution).

The 2nd International Conference on Contaminated Land, Ecological Assessment and Remediation (CLEAR 2014) from 5th–8th October, 2014 at Chuncheon, Korea (Participant).

Awards

Best graduating student, PhD category, Department of Chemical and Biological Engineering, Hanbat National University, 125 Dongseo-daero, Yuseong-gu, Daejeon 34158, Republic of Korea. Received on: 21st February, 2020.

REFEREES

1. Seung Han Woo, Ph.D., Professor, Department of Chemical and Biological Engineering, Hanbat National University, 125 Dongseo-daero, Yuseong-gu, Daejeon 34158, Republic of Korea. Tel: +82-42821-1537; Email: shwoo@hanbat.ac.kr
2. Nana Yaw Asiedu, Ph.D., Associate Professor, Department of Chemical Engineering, KNUST, Kumasi, Ghana, Tel: +233-542364021; Email: nasiedusoe@yahoo.co.uk
3. Patrick Boakye, Ph.D., Department of Chemical Engineering, Kwame Nkrumah University of Science & Technology, Kumasi, Ghana. Tel: +233-244109589; Email: patlo2007@yahoo.com / pboakye3@gmail.com