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I. Education

- 2016 M.S./Ph.D. Energy Science and Technology
Myongji University, Yongin, South Korea
- 2009 B.Sc. Chemical Engineering
Kwame Nkrumah University of Science and Technology, Kumasi,
Ghana

II. List of SCI Publications

1. Anteneh F. Baye, Dong-HoHan, Shimelis K. Kassahun, **Richard Appiah-Ntiamoah*** and Hern Kim*: Improving the reduction and sensing capability of Fe₃O₄ towards 4-nitrophenol by coupling with ZnO/FeO/Fe₃C/graphitic carbon using ZnFe-LDH@carbon as a template, *Electrochimica Acta*, Volume 398, 1 December 2021, 139343, IF = 6.901
2. **Richard Appiah-Ntiamoah** and Hern Kim*: Electrochemically engineered zinc(iron)oxyhydroxide/zinc ferrite heterostructure with interfacial microstructure and hydrophilicity ideal for supercapacitors, *Journal of Colloid and Interface Science*, Volume 606, Part 1, 15 January 2022, Pages 607. IF= 8.128
3. Daniel N Mengesha, **Richard Appiah-Ntiamoah*** and Hern Kim*: Azo-dye derived oxidized-nitrogen rich carbon sheets with high adsorption capability for dye effluent under both batch and continuous conditions, *Chemosphere*, Volume 279, September 2021, 130463. IF= 7.086
4. Bekelcha T. Gadisa, **Richard Appiah-Ntiamoah*** and Hern Kim*: ZnO@Ni foam photoelectrode modified with heteroatom doped graphitic carbon for enhanced photoelectrochemical water splitting under solar light, *International Journal of Hydrogen Energy*, 46 (2021) 2075-2085. IF= 5.816
5. Anteneh F. Baye, **Richard Appiah-Ntiamoah*** and Hern Kim*: Synergism of transition metal (Co, Ni, Fe, Mn) nanoparticles and “active support” Fe₃O₄@C for catalytic reduction of 4-nitrophenol, *Science of the Total Environment*, 712 (2020) 135492. IF = 7.963
6. Medhen W. Abebe, **Richard Appiah-Ntiamoah,*** Hern Kim* Gallic acid modified alginate self-adhesive hydrogel for strain responsive transdermal

delivery: International Journal of Biological Macromolecules, 163 (2010) 147-155. IF= 6.953

7. **Richard Appiah-Ntiamoah**, Anteneh F. Baye, John Amalraj, K. Koteswara Reddy and Hern Kim*. Graphene oxide interlayered Ga-doped FeSe₂ nanorod: A robust nanocomposite with ideal electronic structure for electrochemical dopamine detection: *Electrochemical Acta*. 363 (2020) 13724: IF= 6.901
8. **Richard Appiah-Ntiamoah***, Bekelcha T. Gadisa, and Hern Kim*: In-situ electrochemical formation of core-shell ZnFe₂O₄@Zn(Fe)OOH heterostructured catalyst for efficient water oxidation in alkaline medium, *ChemElectroChem* 2020, 7, 3478 –3486. IF = 4.590
9. Bekelcha T. Gadisa, **Richard Appiah-Ntiamoah***, and Hern Kim*: Tuning the charge carrier density and exciton pair separation in electrospun 1D ZnO-C composite nanofibers and its effect on photodegradation of emerging contaminants, *Journal of Colloid and Interface Science*: 570 (2020) 251-263, IF: 8.128
10. Bekelcha T. Gadisa, **Richard Appiah-Ntiamoah*** and Hern Kim*: In-situ derived hierarchical ZnO/Zn-C nanofiber with high photocatalytic activity and recyclability under solar light. *Applied Surface Science*. Volume 491, 15 October 2019, Pages 350-359. IF= 6.707
11. Anteneh F. Bayea, Medhen W. Abebe, **Richard Appiah-Ntiamoah*** and Hern Kim*: Engineered iron-carbon-cobalt (Fe₃O₄@C-Co) core-shell composite with synergistic catalytic properties towards hydrogen generation via NaBH₄ hydrolysis. *Journal of Colloid and Interface Science*, Volume 543, 1 May 2019, Pages 273-284. IF= 8.128
12. **Richard Appiah-Ntiamoah**, Anteneh F Baye, Bekelcha T Gadisa, Medhen W Abebe, Hern Kim, In-situ prepared ZnO-ZnFe₂O₄ with 1-D nanofiber network structure: An effective adsorbent for toxic dye effluent treatment. *Journal of Hazardous Materials* Volume 373, 5 July 2019, Pages 459-467. IF= 10.588
13. **Richard Appiah-Ntiamoah**, Bekelcha T. Gadisa, Anteneh F. Bayea, Medhen W. Abebe, Sergei V. Kostjukb, Hern Kim*, Degradation kinetics of polyanethole: A newly synthesized green polymer, *Materials Chemistry and Physics*, 219, 468-477 (2018). IF= 4.094
14. Bekelcha Tesfaye Gadisa, **Richard Appiah-Ntiamoah***, and Hern Kim*, Amorphous iron sulfide nanowires as an efficient adsorbent for toxic dye effluents remediation, *Environmental Science and Pollution Research*, 26 (3), 2734-2746 (2018). IF= 4.223
15. **Richard Appiah-Ntiamoah***, Bekelcha Tesfaye Gadisa and Hern Kim*, An effective electrochemical sensing platform for fluoride ions based on fluorescein isothiocyanate MWCNT composite, *New Journal of Chemistry*, **42**, 11341-11350 (2018). IF = 3.591
16. Bo Chen, Sijiang Chen, Harshad A. Bandal, **Richard Appiah-Ntiamoah***, Amol R.Jadhav, Hern Kim*, Cobalt nanoparticles supported on magnetic core-shell structured carbon as a highly efficient catalyst for hydrogen generation from NaBH₄ hydrolysis, *International J. Hydrogen energy* 43 (19), 9296-9306

- (2018). IF = 5.816
17. **Richard Appiah-Ntiamoah**, Amutha Chinnappan, Wook-Jin Chung, and Hern Kim, Ionic liquid functionalized graphene oxide decorated with copper oxide nanostructures towards H₂ generation from sodium borohydride, *International J. Hydrogen energy* 41 (33), 14491-14497 (2016). IF =5.816
 18. Faheem A. Sheikh, **Richard Appiah-Ntiamoah**, Mohammad Afzal Zargar, Jeyasselan Chandradass, Wook-Jin Chung, Hern Kim, Photocatalytic properties of Fe₂O₃-modified rutile TiO₂ nanofibers formed by electrospinning technique, *Materials Chemistry and Physics*, 172, 62-68 (2016). IF = 4.094
 19. John Marc C. Puguán, Amutha Chinnappan, **Richard Appiah-Ntiamoah**, Hern Kim, Enhanced Ionic conductivity and optical transmissivity of functionalized ZrO₂/PVdF-HFP hybrid electrolyte for energy efficient windows, *Solar Energy Materials & Solar Cells* 137, 265–273 (2015), IF= 7.267
 20. Frank Agyemang Ofori, Faheem A. Sheikh, **Richard Appiah-Ntiamoah**, Xinsheng Yang, Hern Kim, A Simple Method of Electrospun Tungsten Trioxide Nanofibers with Enhanced Visible-Light Photocatalytic Activity, *Nano-Micro Lett.* 7, 291–297 (2015). IF= 16.419
 21. Frank Ofori Agyeman, Faheem A. Sheikh, **Richard Appiah-Ntiamoah**, Jeyaselan Chandradass, Hern Kim, Synthesis and characterization of poly(vinylene fluoride)-calcium phosphate composite for potential tissue engineering applications, *Ceramics International* 41, 7066-7072 (2015). IF= 4.527
 22. A.H. Jadhav, X.T. Mai, **R. Appiah-Ntiamoah**, H.Y. Lee, F.W.Y. Momade, J.G. Seo, H. Kim, Preparation and characterization of palmitoyl grafted cellulose nano adsorbent for the efficient adsorption of pyrene from aqueous solution, *Journal of Nanoscience and Nanotechnology* 15, 7980-7987 (2015). IF= 1.354
 23. **Richard Appiah-Ntiamoah**, Wook-Jin Chung, and Hern Kim, A highly selective SBA-15 supported fluorescent “turn-on” sensor for the fluoride anion, *New Journal of Chemistry* 39, 5570-5579 (2015). IF= 3.591
 24. **Richard Appiah-Ntiamoah**, Arvind H. Jadhav, John. Marc. C. Puguán, Francis W. Y. Momade and Hern Kim, A silica nanoparticle supported fluorescence “turn-on” fluoride ion sensing system with tunable structure and sensitivity, *RSC Advances* 5, 30526-30536 (2015). IF= 3.61
 25. Amutha Chinnappan, Arvind H. Jadhav, John Marc C. Puguán, **Richard Appiah-Ntiamoah**, Hern Kim, Fabrication of ionic liquid/polymer nanoscale networks by electrospinning and chemical cross-linking and their application in hydrogen generation from the hydrolysis of NaBH₄, *Energy* 79, 482-488 (2015). IF= 7.147

III. International/National Conference Proceedings

1. **Richard Appiah-Ntiamoah**, H. Kim: Adsorption of Benzene from Aqueous Solution Using Base Modified Expanded Perlite, Advanced Materials Research (Beijing, China, 2013)
2. **Richard Appiah-Ntiamoah**, Arvind H. Jadhav, and Hern Kim: Synthesis and Application of Silica Supported Fluorescein Isothiocyanate (FITC) to Detect Fluoride Ions in Organic Media (ISFM, Singapore, 2014)
3. **Richard Appiah-Ntiamoah**, H. Kim: Detection of fluoride anion in water with mesoporous silica supported fluorescence probe (KSIEC, Busan, Korea, 2015)
4. **Richard Appiah-Ntiamoah**, H. Kim: A facile and highly effective method to synthesize uniform, well-connected, and strongly adhesive silver nanoparticle/wires coating on glass (KSIEC, Jeju, South Korea, 2015)
5. **Richard Appiah-Ntiamoah**, H. Kim: A Highly Sensitive Fluoride Sensor Based on Plasma Enhanced Fluorescence and Lewis-Acid based Reactions (ISSCER, Seoul, South Korea, 2016)
6. **Richard Appiah-Ntiamoah**, Medhen Wondwossen, H. Kim: Effect of Oxidation on Performance of Carbon Support as Signal Amplifiers in Electrochemical Sensors (International Environmental Engineering Conference, Jeju, South Korea, 2017)
7. **Richard Appiah-Ntiamoah**, Bekelcha Tesfaye Gadisa, H. Kim: Effect of zinc oxide on adsorption property of iron oxide nanofibers for Congo red (ICESD, Paris-Creteil, France, 2018)
8. **Richard Appiah-Ntiamoah**, Medhen Wondwossen, H. Kim: Electrospun derived 1-D metal oxide-carbide nanofiber catalyst for oxygen evolution reaction (ICFM, Shanghai, China, 2018)
9. **Richard Appiah-Ntiamoah**, Anteneh Fufa Baye, H. Kim: 3-D thin-film ZnFe₂O₄ nanoarray-nickel foam composite with high catalytic activity towards Oxygen evolution reaction (ICMT, San Francisco, CA, USA, 2019)
10. **Richard Appiah-Ntiamoah** and Hern Kim: Effect of crystallinity on surface lattice plane and supercapacitance of transition metal ferrites. 2019 fall KSIEC, Jeju, (30th Oct to 1st Nov.)
11. **Richard Appiah-Ntiamoah** and Hern Kim: Supercapacitor electrode material derived from spent metal@dye. ICMSE 2019, Kyoto, Japan, December 26-28, 2019,
12. **Richard Appiah-Ntiamoah** and Hern Kim: An electrochemical sensing platform based on adsorption residue for Dopamine. 2020 KIChe Fall Meeting and International Symposium (Oct. 14 – 16).
13. **Richard Appiah-Ntiamoah** and Hern Kim: Fluorescein isothiocyanate/poly-ionic liquid (FITC-PIL): A viologen-free electrochromic material with promising applications. 2021 The Polymer Society of Korea Annual Fall Meeting (Oct. 20 – 22).
14. **Richard Appiah-Ntiamoah** and Hern Kim: ZnO-ZnFe₂O₄ nanoparticle heterostructure embedded in N-doped graphitic carbon for high performance supercapacitor. 2021 European Materials Research Society (MRS) (May 31st to June 4th) .
15. **Richard Appiah-Ntiamoah** and Hern Kim: High performing battery-type supercapacitor electrode material derived from post-adsorption waste. 2021 KSIEC Spring Meeting , Busan.