EMMANUEL KWESI ARTHUR

Department of Materials Engineering, College of Engineering,
Kwame Nkrumah University of Science and Technology (KNUST),
Kumasi, Ghana.

Email: ekarthur.coe@knust.edu.gh, ekarthur2005@yahoo.com
Phone: +233 (0) 54 171 0532 and +233 (0) 50 158 0601

Brief Summary of Research & Profile

Arthur has vast experience and qualifications in Materials Science and Engineering. He obtained his master's and a doctoral degree from the Department of Materials Science and Engineering, African University of Technology, Abuja, Nigeria. He had his PhD exchange programme at the School of Matter, Transport and Energy, Arizona State University, USA. He has a BSc. degree in Materials Engineering from Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. He has been instructing and researching in the University environment since 2011. Arthur has had research experiences at Hysitron Inc. and Worchester Polytechnic Institute in the USA.

His research interests span through mechanical metallurgy, novel surface hardening techniques and advanced characterization of metals, ceramics and composite materials. He is an expert in surface engineering and prevention, such as diffusion-hardened ferrous materials for infrastructural applications. His current research activities focus primarily on the deformation of various metals and alloys, materials selection, earth-based reinforced composite, advanced nano-/micro-mechanical response of materials and environmental remediation. Arthur has worked with numerous international and reputable local scholars in the field of metallurgy, mechanical, chemical and materials engineering. He has hand on desk of interpretation on the use of advanced modern edge equipment for chemistry and physics of materials.

He has over 35 publications/conference proceedings in accredited peer-reviewed journals with strong impact factors, wide readership and citations. He is an outstanding researcher which has harvested research grants both locally and internationally. The latest (2020) is the Thirty Thousand Ghana Cedis (₵30,000.00) grant from KNUST Research Fund (KReF) for doing research on ''*Spatial Patterns of Hazardous Cyanide in Soils and Groundwater in a Cassava Processing Area in Ghana''*. Also, in 2021 he was awarded KReF grant of Forty-Five Thousand Ghana Cedis (₵45,000.00) to do research on ''Utilization of Spent Pot Lining as a Porous Electrode Material for Supercapacitor Applications''. In 2016, he was also awarded 1.4-million-naira (~ ₵13,000.00) Grant from the Nigerian Tertiary Education Trust Fund (TETFund) for doing research on ''Design and Evaluation of Bamboo-Epoxy Composite as an Alternative Roofing Material''.

Arthur has served in the University community in different forms as Departmental Vacation Training Officer, Departmental Field Trip Coordinator, Departmental Laboratory Manager, and Departmental Seminar and Undergraduate Project Coordinator. Other positions include College of Engineering Internship Committee Chairman, College of Engineering Industrial Liaison Officer and Internship Coordinator. Currently, he is also serving as the Senior Tutor for Private Hostels in Bomso-Ahinsan Constituency. He has also served under many committees both in the University and outside the University environment.

Personal Data

Date of Birth:	6th November 1983
Place of Birth:	Takoradi, Western Region
Sex:	Male
Nationality:	Ghanaian
Religion:	Christianity
Marital Status:	Married

Research Activities

My research interests are in mechanical metallurgy, novel surface hardening techniques and advanced characterization of metals. My PhD work focused on the use of cassava waste (as a source of carbon and nitrogen) to surface engineer AISI 8620 steel via a bio-carbonitriding process.

Currently, my research activities include:

1. Mechanical performance of natural material reinforced composite behaviour (2019 – Date).
2. Cost-effective approach of surface hardening of ferrous materials (2017 – Date)
3. Spatial Patterns of Hazardous Cyanide in Soils and Groundwater in a Cassava Processing Area. (2019 – Date).
4. Materials Selection for Corn Mill Plates and PVC pipes (2018 – Date).
5. Remediation of heavy metals in contaminated soil using materials science and engineering approach (2017 – Date).
6. Energy materials (2019 – Date).
7. Materials for water treatment (2017 – Date).

Research Interest

1. Surface Engineering and Mechanical Properties Determination of Diffusion Hardened Ferrous Materials for Infrastructural Applications
2. Advanced Microstructural and Nano-/Micro-Mechanical Properties Characterization for both coated and bulk materials: SEM, AFM/Nano-indenter, EDX, FTIR and X-ray diffraction and Nano/Macro wear analysis of surface hardened materials
3. Analysis and evaluation of wear deformation mechanisms with the view to develop the processing-microstructure-property relationship in processed materials
4. Reinforcement of Polymer-based matrix with natural fibers
5. Structure/Property relationship
6. Mechanical metallurgy
7. Materials Synthesis for Removal of Pollutants from Water
8. Phytoremediation of Heavy Metals

Education (with Dates-Starting with the latest)

(a) University Education

- **PhD.** Materials Science & Engineering, African University of Science and Technology, Abuja, Nigeria (2012 – 2015).
- **PhD Exchange Programme**, School of Engineering of Matter, Transport and Energy, Arizona State University, Tempe, USA (2013).
- **MSc.** Materials Science & Engineering, African University of Science and Technology, Abuja, Nigeria (2010 – 2011).
- **BSc.** Materials Engineering, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana (2005 – 2009).

(b) Secondary Education

- **Senior Secondary School (SSS), General** Science, St. John's Senior Secondary School, Sekondi, Ghana (2000 – 2003).
- **Junior Secondary School (JSS),** Rev. Cobbah Yalley Junior Secondary School, Effia-Kuma, Takoradi, Ghana (1998 - 2000).

(c) Primary Education

- Archbishop Porter "A" Primary, Effia-Kuma, Takoradi, Ghana (1992 - 1998).

Thesis/Project

PhD: Surface Hardening of AISI 8620 Steel using Cassava (Manihot spp.) Waste
MSc.: Wear Studies of Pack Cyanided Mild Steels
BSc.: Design, Material Selection and Manufacturing of a Small-Scale Jaw Crusher

Training and Workshops

- Surface Metrology Workshop, Worcester Polytechnic Institute, WPI, USA, 27&28 June, 2018
- 2nd Faculty Development Symposium (FDS) on the theme "Understanding Research & Pedagogical Practices'' Organised by the Mastercard Foundation, Arizona State University and KNUST, Kumasi, Ghana, 8th March 2018
- 7th Summer School for Senior Members on the theme "Technology, Manpower Training and Development" Organised by the Quality Assurance and Planning Unit, KNUST, Kumasi, Ghana, 21st – 25th August 2017
- Pan-African School of Materials Workshop (PASMAT III), Abuja, Nigeria, 11th -15th July 2016
- Training in the Operation of, and Understand the Science of Scanning Nanomechanical Testing, Hysitron Headqaurters, Minneapolis, USA, February 2014
- Research Training in Materials Characterisation, School of Engineering and Transport Matter, Arizona State University, USA, January 15 – February 2014
- International Workshop on Nanoscience and Advanced Manufacturing, NNPC Hall, African University of Science and Technology (AUST), Abuja, April 29 – May 3, 2013
- ARIST-2iE Summer School on Advanced Water and Waste Water Treatment at 2iE, Ouagadougou, Burkina Faso, 26th to 30th October 2009
- Workshop on Materials for Infrastructure and Development," FCT, Abuja, June 27-28, 2012

Teaching and Research Experience

(a) Senior Lecturer, Materials Engineering Department, College of Engineering (CoE), Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana (1st August 2021 to Date)

Courses Taught

2022/2023 Academic Year

First Semester		
Code	**Course Name**	**Credit Hours**
MSE 557	Research Methods and Scientific Writing	3
MSE 357/METE 355	Metallurgical/Materials Engineering Processing Laboratory	2+2
MSE 455/METE 455	Failure Analysis and Non-Destructive Testing	2+2
MSE/METE 497	Project I	3
Total		**14**

2021/2022 Academic Year

First Semester		
Code	**Course Name**	**Credit Hours**
MSE 557	Research Methods	2
MSE 357/METE 355	Metallurgical/Materials Engineering Processing Laboratory	4
MSE 455	Electrical and Magnetic Properties of Materials	3
MSE/METE 497	Project I	3
Total		**12**
Second Semester		
Code	**Course Name**	**Credit Hours**
MSE 504	Ethics and Research Methods	2
MSE 456	Materials Quality Control, Assurance and Selection	3+3
METE 358	Metallurgical Characterization Laboratory	2
MSE 364	Materials Characterization Laboratory	4
MSE 154	Principles of Materials Science	4
MSE/METE 498	Project II	3
Total		**18**

(b) Lecturer, Materials Engineering Department, College of Engineering (CoE), Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. **(14th Dec. 2016 to 31st July 2021)**

Courses Taught

2020/2021 Academic Year

First Semester		
Code	**Course Name**	**Credit Hours**
MSE 557	Research Methods	2
MSE 559	Engineering Materials	3
MSE 455	Electrical and Magnetic Properties of Materials	3
MSE 255	Properties of Engineering Materials	3
MSE/METE 497	Project I	3
Total		**14**
Second Semester		
Code	**Course Name**	**Credit Hours**
MSE 564	Functional Materials	3
MSE 456	Materials Quality Control, Assurance and Selection	3+3
MSE 258	Physical Metallurgy of Non-Ferrous Metals	2
MSE/METE 498	Project II	3
Total		**14**

2019/2020 Academic Year

Second Semester		
Code	**Course Name**	**Credit Hours**
MSE 557	Research Methods	2
MSE 457	Metal Forming Processes	3
MSE 455	Electrical and Magnetic Properties of Materials	3
MSE 255	Principles of Materials Science II	2
MSE/METE 497	Project I	3
Total		**13**
Second Semester		
Code	**Course Name**	**Credit Hours**
MSE 564	Functional Materials	3
MSE 456	Materials Quality Control, Assurance and Selection	3
MSE 258	Physical Metallurgy of Non-Ferrous Metals	2
MSE/METE 498	Project II	3
Total		**11**

2018/2019 Academic Year

First Semester		
Code	**Course Name**	**Credit Hours**
MSE 557	Research Methods	2
MSE 455	Electrical and Magnetic Properties of Materials	*3*
MSE 255	Principles of Materials Science II	*2*
MSE 257	Indigenous Processing of Materials	*2*
MSE/METE 497	Project I	3
Total		**12**
Second Semester		
Code	**Course Name**	**Credit Hours**
MSE 564	Functional Materials	3
MSE 456	Materials Quality Control, Assurance and Selection	3
MSE 358	Foundry Technology II	3 + 3
MSE 258	Physical Metallurgy of Non-Ferrous Metals	2
MSE/METE 498	Project II	3
Total		**17**

2017/2018 Academic Year

First Semester		
Code	**Course Name**	**Credit Hours**
MSE 455	Electrical/Magnetic Properties of Mats.	*3*
MSE 255	Principles of Materials Science II	*2*

MSE 257	Indigenous Processing of Materials	*2*
MSE/METE 497	Project I	3
Total		**10**
Second Semester		
Code	**Course Name**	**Credit Hours**
MSE 456	Materials Quality Control, Assurance and Selection	3
MSE 360/METE 352	Computer Applications	3
MSE 358	Foundry Technology II	3+3
MSE 258	Physical Metallurgy of Non-Ferrous Metals	2
ME 282	Mechanical Engineering Materials	3
MSE/METE 498	Project II	3
Total		**20**

2016/2017 Academic Year

Second Semester		
Code	**Course Name**	**Credit Hours**
MSE 456	Materials Quality Control, Assurance and Selection	3
MSE 358	Foundry Technology II	3+3
MSE 258	Physical Metallurgy of Non-Ferrous Metals	2
ME 282	Mechanical Engineering Materials	3
MSE/METE 498	Project II	3
Total		**17**

Service to University Community:

1. College of Engineering Internship Committee Chairman, College of Engineering Industrial Liaison Officer and Internship Coordinator, April 2022 to Date.
2. Senior Tutor, Private Hostels in Bomso-Ahinsan Constituency, May 2021 to Date.
3. Departmental Field Trip Coordinator, 1st Nov. 2019 to 31st July 2020
4. Facilitator for Engineering in Society (CENG 291) Clinic for 3 days, 2017, 2018, 2019
5. Coordinator, Departmental Seminar and Undergraduate Project, November 2017 to 2018 & August 2019 to July 2020.
6. Academic Tutor 2018 to date
7. Unity Hall Fellow 2018 to date
8. Floor Mentor, Unity Hall, 2019/2020 Academic Year
9. Departmental Laboratory Manager 2018/2019, 2019/2020, 2020/2021 & 2021/2022
10. Departmental Vacation Training Officer, 2016/2017, 2017/2018, 2018/2019 & 2019/2020
11. Member, Faculty Sustainable Development Committee Nov. 2020 to date
12. Member, Departmental One Department One Start-up (1-D, 1-S) Committee, Nov. 2020 to date
13. Member, Faculty Innovation and Entrepreneurship Committee, October 2020 to date

14. Member, Committee to Investigate Allegation of Misconduct against Mr. Quartey Nii Kwaatei Joseph, 3rd Year Student of the Department of integrated Rural Art & Industry. February 2020
15. Chair, Process Metallurgy Research Group, 1st August 2019 to 31st July 2020
16. Member, College Internship Committee and College Industrial Liaison Officer/Internship Coordinator, September 2019 to date
17. Member, Committee for the Renovation and Retooling of the Metallurgy Laboratory at the College of Engineering, KNUST, October 2019 to date
18. Member, Departmental Research Proposal Committee, 1st Sept. 2019 to 31st July 2020.
19. Member, Unity Hall Environmental Committee, 2019 to date
20. Member, Faculty Seminar Coordinating Committee, 12th February 2018 to date
21. Member, Departmental Research Committee, 2018/2019 & 2019/2020.
22. Member, Environmental Resources Management Review Committee, August 2019
23. Member, Materials Modeling and Simulation Research Group, 1st August 2019 to 31st July 2020.
24. Member, Functional Material Research Group, 1st August 2019 to 31st July 2020.

Service to the National Community

1. Panel Member, Mechanical Engineering Professional Examination (MEPE) for Ghana Institution for Engineering (GhiE), November 12, 2022 & February 18, 2023
2. Panel Member, Ghana Tertiary Education Commission (GTEC) Accreditation at Materials Science and Engineering Department, University of Ghana, May 2022
3. Developed Learning Materials for Foundry Technology Course under Commission for Technical and Vocational Educational and Training (CTVET), May 2022 to Date
4. External Advisor or Mentor for Undergraduate programme for Department of Materials Engineering Technology, Sunyani Technical University, 2018/2019 & 2019/2020
5. External Examiner for Final Year Students Project Works, Department of Mechanical Engineering, Tamale Technical University, 2018/2019 & 2019/2020

Service to the International Community:

1. Editorial Board Member: Noble International Journal of Scientific Research 2017 to date
2. Reviewer, Journal of Materials Research
3. Reviewer, Journal of Composite Materials, 2020 to date
4. Reviewer for Scientific African, 2020 to date
5. Elsevier Present Edition review for Civil Engineering Materials, First Edition by Peter Claisse, 15th February 2020

(c) Lecturer I, Materials Science & Engineering Department, College of Engineering & Technology (CET), Kwara State University (KWASU), Malete, Kwara State, Nigeria. (**April 2016 to Nov. 2016**)

(d) Lecturer II, Materials Science & Engineering Department, College of Engineering & Technology (CET), Kwara State University (KWASU), Malete, Kwara State, Nigeria. (**2015 to April 2016**)

Courses Taught

2016/2017 Academic Year

First Semester		
Code	**Course Name**	**Credit Hours**
MSE 591	Final Year Project I	3
MSE 537	Powder Metallurgy	3
MSE 529	Ferrous Extractive Metallurgy	3
MSE 337	Physical Metallurgy	3
Total		**12**

2015/2016 Academic Year

First Semester		
Code	**Course Name**	**Credit Hours**
MSE 591	Final Year Project I	3
MSE 529	Ferrous Extractive Metallurgy	3
MSE 537	Powder Metallurgy	3
MSE 337	Physical Metallurgy	3
Total		**12**
Second Semester		
Code	**Course Name**	**Credit Hours**
MSE 592	Final Year Project II	3
MSE 514	Materials Failure Analysis	3
MSE 472	Fuels, Furnace and Refractories	2
MSE 452	Heat Treatment of Metals	2
Total		**10**

Teaching/Research Assistant, Materials Science & Engineering Department, African University of Science & Technology (AUST), Abuja. (**2012 to 2014)**

Responsibilities:

- Assisted Professors in teaching course modules
- Taught in part with an innovative, interdisciplinary teaching program
- Prepared research proposals for funding
- Assisted Professors in marking and recording of quizzes and assignments
- Organised tutorial classes for Materials Science and Engineering postgraduate students
- Engaged in community development services
- Engaged in publishable cutting-edge research towards PhD degree
- Helped in research works carried out in the department laboratory

Courses Assisted

- Mechanical Properties of Materials
- Introduction to Materials Science
- Materials Selection and Design

- Kinetics of Materials
- Metallic Materials
- Mineral Processing of Materials

Teaching/Research Assistant, Materials Engineering Department, KNUST, Ghana **(2009 to 2010)**

Responsibilities:

- Organise tutorials for Materials Engineering undergraduate students.
- Help in preparing lecture materials.
- Marking and recording of quizzes and assignments.
- Help in research works carried out in the department laboratory.
- Assist in administrative work.

Professional Activities

- Invited Speaker for Advanced Materials Technology Public Engagement, Held at KNUST, Kumasi, Ghana, 24th and 25th March 2022.
- Facilitator for Online Teaching Training and Certification of Academic Staff, Held at KNUST, Kumasi, Ghana, 14th – 17th Sept. 2020.
- Involved in the installation and training of 30-million-dollar African Development Bank (ADB)-AUST laboratory, June – August 2016.
- Facilitator, Pan African School of Materials Workshop (PASMAT III), 11th – 15th July 2016.
- Involved in the planning & installation of Rotary Furnace in KWASU-MSE Foundry Workshop, March 2016.
- Facilitator, Pan African Materials Institute (PAMI) Launching and Workshop, Nov. 2015.
- Member, Editorial Board of *Proceedings of the AUST PhD Colloquium*, 2015.
- Programme Chair, Organizing Committee, *AUST PhD Colloquium*, 2015.
- Accessor, Students' Industrial Work Experience Scheme (SIWES) for all level 400 students in CET, KWASU, 2016.
- Accessor, Students' Work Experience Programme (SWEP) for all level 300 students in CET, KWASU, 2015.
- Trainer on Nano-mechanical Instrument (Nano-indenter), Held at Sheda Science and Technology Complex (SHESTCO), Abuja, Nigeria, 2015.
- Facilitator, Inter-disciplinary Short Course in Sustainability, Design & Innovation, Held at AUST, Abuja, Nigeria, 2014.
- Led 4 AUST MSE masters students to SCC Ltd, Bwari, FCT for research project, 2014.
- Planned and led AUST Masters Students offering Mineral Processing Course under MSE to national iron ore mining company Ltd at Itakpe, Kogi State, Nigeria, 14th May 2014.
- President, African Materials Research Society, AUST-Chapter, Abuja, Nigeria, 2013 - 2014.
- Head, Multifunctional Materials Research Group under AMRS-AUST Chapter, 2012 - 2013.
- Planned and led required training session for teaching of girls in science, 2013.
- Member/Technical Officer, Nigerian Materials Congress (NIMACON) 2013 LOC.
- Member, Editorial Board of *Proceedings of the Nigerian Materials Society*, 2013.
- Editorial Assistant, Nigerian Journal of Materials Science & Engineering, 2012.

Laboratory/Research Group Affiliation

- Multi-functional Research Group-AUST, Abuja (2012 to date)
- Material Science and Engineering Laboratory-KWASU, (2015 to date)

- Soboyejo Research Group-Worcester Polytechnic Institute, USA, (2018 to date)
- Advance Physics Laboratory, Sheda Science and Technology Complex (SHESTCO (2011 to date)
- Engineering Materials Development Institute (EMDI), Akure, Nigeria, (2011 to date)

Professional Membership

- Fellow, The Brew-Hammond Energy Centre, 2019 to date
- Member, Ghana Institution of Engineering (GhIE), 2018 to date
- Member, Materials Research Society (MRS), 2014 to date
- Member, African Materials Research Society (AMRS), 2013 to date
- Member, International Association of Engineers (IAENG), 2012 to date
- Member, African Renaissance Institute of Science and Technology (ARIST), 2010 to date

Certificates and Awards

(a) Certificates

- Certificate in KNUST Online Teaching Training Course under the Quality Assurance and Planning Unit, September 2020
- Certificate in Hysitron Nano-mechanical Testing, Hysitron, Minneapolis, USA (February 2014)
- Certificate of Commendation, Materials Science & Technology Society of Nigeria (MSN), 2013
- Certificate of Service, African Materials Research Society (A-MRS), AUST Chapter, 2013
- Certificate in Business Innovation, AUST, Abuja-Nigeria (July 2011)
- Certificate in Advanced Water and Waste Water Treatment, ARIST-2iE (October 2009)
- Certificate in Information Technology from Data Link of Computer Technology, Takoradi-Ghana (April 2003)

(b) Academic Awards

- Pan African Materials Institute (PAMI) (with grand No. P126974). Travel Fellowship to Worcester Polytechnic Institute, USA, June to August 2018
- Pan African Materials Institute (PAMI), PhD Extension Fellowship, ($15,000), 2015
- African Capacity Building Foundation (AfCBF) Scholarship under the Support to Capacity Initiative of AUST in Science and Technology Project, ($15,000), 2014
- AfCBF PhD Fellowship under the Support to Capacity Initiative of AUST in Science and Technology Project, 2012
- Dr. Ngozi Okonjo-Iweala's Scholarship, AUST, Abuja-Nigeria (July 2010)
- Government Scholarship, St. John's Secondary School (2002)
- Ahantaman Rural Bank Scholarship (2001)
- Rev. Cobbah Yalley JSS overall best student (August 2000)

Research and Conference Grant Awards

- Forty-Five Thousand Ghana Cedis (¢45,000.00) Grant from KNUST Research Fund (KReF) for doing research on ''Utilization of Spent Pot Lining (SPL) as a Porous Electrode Material for Supercapacitor Applications'' **2021/2022.**
- Thirty Thousand Ghana Cedis (¢30,000) Grant from KNUST Research Fund (KReF) for doing research on Spatial Patterns of Hazardous Cyanide in Soils and Groundwater in a Cassava Processing Area: the Case of Adaklu-Anyigbe District of Ghana. **2020/2021.**

- ❖ The Pan-African Materials Institute (PAMI) (with grand No. P126974). Travel Fellowship to Worcester Polytechnic Institute (WPI), USA for Research Work, July 2018.
- ❖ 1.4-million-naira (~13,000 Ghana cedis) Grant from Nigerian Tertiary Education Trust Fund (TETFund) for doing research on Design and Evaluation of Bamboo-Epoxy Composite as an Alternative Roofing Material, **2016.**
- ❖ The Pan-African Materials Institute (PAMI) (with grand No. P126974). Travel Fellowship to Ghana for the African Materials Research Society (AMRS) Conferences, Accra. **December-2015**.
- ❖ Carnegie Foundation Travel Fellowship (New York) to Ethiopia for the African Materials Research Society (AMRS) Conference, Addis Ababa-**2013**.
- ❖ $10,000 (~ 37,000 Ghana cedis) Research Grant from AUST-NASENI World Bank STEP B Programme, **July 2013.**

Publication

(a) Journal Article

1. Dzikunu, P., **Arthur, E.K**., Gikunoo, E., Bleppony, E., Agyemang, F.O. and Mensah-Darkwa, K., 2023. Successive selective leaching procedures for valorization of spent pot lining carbon. *Process Safety and Environmental Protection*, *169*, pp.1-12.
2. Azeko, S.T., **Arthur, E.K**., Minh, D.P., Lyczko, N., Nzihou, A. and Soboyejo, W.O., 2022. Mechanical and thermal properties of sustainable composite building materials produced by the reprocessing of low-density polyethylene, biochar, calcium phosphate, and phosphogypsum wastes. *Journal of Materials in Civil Engineering*, *34*(2), p.04021457.
3. Jnr, A.A.A., **Arthur, E.K.**, Gikunoo, E., Agyemang, F.O. and Mensah-Darkwa, K., 2022. Thermochromic properties of composite materials made from polylactic acid reinforced with recovered liquid crystals from waste LCD/LED laptops screens. *Optical Materials*, *129*, p.112485.
4. Nanzumani, N.M., Agyemang, F.O., Mensah-Darkwa, K., Appiah, E.S., **Arthur, E.K**., Gikunoo, E., Koomson, B., Jadhav, A.R. and Raji, A., 2022. Molten salt synthesis of nitrogen-doped hierarchical porous carbon from plantain peels for high-performance supercapacitor. *Journal of Electroanalytical Chemistry*, *920*, p.116645.
5. Awuah, P.B., Adjaottor, A.A., Gikunoo, E., **Arthur, E.K.**, Agyemang, F.O. and Baah, D.S., 2022. Dust Deposition and Associated Heavy Metal Contamination in the Neighborhood of a Cement Production Plant at Konongo, Ghana. *Journal of Chemistry*, *2022*.
6. Kalu, I.E., Jossou, E., **Arthur, E.K.**, Ja'afaru, S. and Ishidi, E.Y., 2022. Characterization and Mechanical Property Measurements by Instrumented Indentation Testing of Niger Delta Oil Shale Cuttings. In *International Journal of Engineering Research in Africa* (Vol. 59, pp. 89-100). Trans Tech Publications Ltd.
7. Baah, D.S., Gikunoo, E., Foli, G., **Arthur, E.K.** and Entsie, P., 2021. Health risk assessment of trace metals in selected food crops at Abuakwa South Municipal, Ghana. *Environmental Monitoring and Assessment*, *193*(9), p.609.
8. Odom, F., Gikunoo, E., **Arthur, E.K.,** Agyemang, F.O. and Mensah-Darkwa, K., 2021. Stabilization of heavy metals in soil and leachate at Dompoase landfill site in Ghana. *Environmental Challenges*, *5*, p.100308.
9. K. Mensah-Darkwa, F. O. Agyemang, S. Akromah, **E. K. Arthur**, F. Abdallah, and E. Gikunoo. 2021. A comparative Study on the Performance of Activated Carbon Electrodes and Activated Carbon/Titanium Dioxide Nanotubes Hybrid Electrodes. Scientific African, 12, p.e00786.
10. R. N. Tabi, F. O. Agyemang, K. Mensah-Darkwa, **E. K. Arthur,** E. Gikunoo, F. Momade. 2021. Zeolite synthesis and its application in water defluorination. Materials Chemistry and Physics, 261, p.124229.

11. M. Flomo, S. T. Azeko, **E. K. Arthur**, J.-D. Kukurah, K. Mustapha, E. Annan, B. Agyei-Tuffour. Reinforcement of cement mortar with recycled polyethylene waste for construction applications. Journal of Composite Materials, 55(21), pp.2867-2875.
12. P. Opoku, E. Gikunoo, **E. K. Arthur**, G. Foli. Removal of Selected Heavy Metals and Metalloids from an Artisanal Gold Mining Site in Ghana using Indigenous Plant Species. Cogent Environmental Science (2020), 6(1), pp. 1-28. DOI:10.1080/23311843.2020.1840863.
13. **E. K. Arthur**, E. Gikunoo. Property Analysis of Thermal Insulating Materials Made from Ghanaian Anthill Clay Deposits. Cogent Engineering (2020), 7(1), p.1827493. DOI: 10.1080/23311916.2020.1827493.
14. **E. K. Arthur**, S. T. Azeko. Surface Hardening of Ferrous Materials with Cassava (Manihot spp.) Waste: A Review. Scientific African (2020), p.e00483. DOI:10.1016/j.sciaf.2020.e00483
15. **E. K. Arthur**, E. Gikunoo, S. Akromah, S. T. Azeko, P. Dzikunu. Alternative Materials for Grey Cast Iron Corn-Mill Plates by Computer-Aided Selection and Weighted Property Methods: the Case of Ghana. SN Applied Sciences (2020), 2(8), pp.1-9. DOI.org/10.1007/s42452-020-3174-5.
16. **E. K. Arthur**, E. Gikunoo, F. O. Agyemang, S. T. Azeko, A. Andrews, A. Twenewaa. Material Selection for Water Pipes by the Multi-Objective Decision-Making Method: The Case of Alternative Materials for PVC Pipes. Journal of Science and Technology (2020), 5(1), pp.29-42.
17. E. K. Ampaw, **E. K., Arthur**, A. Y. Badmos, J. D. Obayemi, O. O. Adewoye, A. R. Adetunji, S. O. O. Olusunle, W. O. Soboyejo. Sliding wear characteristics of pack cyanided ductile iron. Journal of Materials Engineering and Performance (2019), 28(12), pp.7227-7240.
18. Salifu T. Azeko, **Emmanuel K. Arthur**, Yiporo Danyuo and Mohammed Babagana, Mechanical and Physical Properties of Laterite Bricks Reinforced with Reprocessed Polyethelene Waste for Building Applications, American Society of Civil Engineers (2018)
19. J. Asare, S. A. Adeniji, O. K. Oyewole, B. Agyei-Tuffour, J. Du, **E. K. Arthur**, A. A. Fashina, M. G. Zebaze Kana, and W. O. Soboyejo, Cold Welding of Organic Light Emitting Diode: Interfacial and Contact Models, AIP Advances 6, 065125 (2016); doi: 10.1063/1.4955141.
20. **E. K. Arthur**, E. Ampaw, M. G. Zebaze Kana, A. R. Adetunji, O. O. Adewoye, W. O. Soboyejo, Surface Hardening of AISI 8620 Steel with Cassava (Manihot spp.) Waste, Waste and Biomass Volarization, (2016) 1-12.
21. **E. K. Arthur**, E. Ampaw, M. G. Zebaze Kana, K. J. Akinluwade, A. R. Adetunji, O. O. Adewoye, W. O. Soboyejo, Indentation Size Effects In Pack Carbo-Nitrided AISI 8620 Steels, Materials Science & Engineering A 644 (2015) 347–357.
22. **E. K. Arthur**, E. Ampaw, M. G. Zebaze Kana, A. R. Adetunji, S. O. O. Olusunle, O. O. Adewoye, W. O. Soboyejo, Nano- and Macro-Wear of Bio-Carbo-Nitrided AISI 8620 Steel Surfaces, Metallurgical and Materials Transaction A, (2015) Volume 46, Issue 12, pp 5810-5829.
23. Y. Danyuo, **E. K. Arthur**, T. S. Azeko, J. D. Obayemi and I. M. Asuo. "Design of Locally Produced Activated Carbon Filter from Agricultural Waste for Water Purification". Int. Journal of Engineering Research & Technology (IJERT)(ISSN: 2278-0181),Volume. 3, Issue. 06, (June 2014) pp531-540.
24. J. D. Obayemi, F. O. Anafi, S. T. Azeko, **E. K. Arthur**, D. Yiporo, Design and Fabrication of a Single Slope Solar Still with Variable Collector Angle, International Journal of Scientific & Engineering Research, Volume 5, Issue 1, January-2014.
25. **E. K. Arthur**, E. Ampaw, S. T. Azeko, Y. Danyuo, B. Agyei-Tuffour, K. Kan-Dapaah, J. D. Obayemi, Design of Thermally Reliable Environmental Barrier Coating for a SiC/SiC Ceramic Matrix Composites, *International Journal of Composite Materials*, Vol. 3 No. 6, 2013, pp. 191-197.

26. Salifu T. Azeko, Suleman Nasiru, Benjamin Agyei-Tuffour, **Emmanuel K. Arthur**, John D. Obayemi, Modification of a Multiple Decrement Model and Its Significance: A case study of Northern Ghana, International Journal of Probability and Statistics 2013, 2(2): 21-27
27. B. Agyei-Tuffour, E. Annan, E. R. Rwenyagila, E. Ampaw, **E. K. Arthur**, K. Mustapha, S. Kolawole, W. O. Soboyejo, D. D. Radev. *Untraditional Synthesis of Boron-Containing Superhard and Refractory Materials - A Review*. Global Journal of Engineering, Design and Technology. GJEDT Vol. 1(2) 2013: 21-26.
28. B. Agyei-Tuffour, E. Annan, E. R. Rwenyagila, E. Ampaw, **E. K. Arthur**, K. Mustapha, S. Kolawole, W. O. Soboyejo, D. D. Radev. *Untraditional Synthesis of Ni-based Alloys for Medical Application.* ARPN Journal of Engineering and Applied Sciences Vol. 8, No. 4, 2013.

(b) Book Chapter(s)

29. **E. K. Arthur**, E. Ampaw, K. J. Akinluwade, A. R. Adetunji, O. O. Adewoye and W. O. Soboyejo, Carbon and Nitrogen Concentration Profiles of Bio-Carbonitrided Steel: Model and Experiment, Advanced Materials Research Vol. 1132 (2016) pp 313-329.
30. E. Ampaw, **E. K. Arthur,** O. O. Adewoye, A. R. Adetunji, S. O. O. Olusunle, W. O. Soboyejo, Carbonitriding "Pack Cyaniding" of Ductile Irons, Advanced Materials Research Vol. 1132 (2016) pp. 330-348.

(c) Conference Proceedings

31. **E. K. Arthur**, E. Ampaw, K. J. Akinluwade, A. R. Adetunji, O. O. Adewoye and W. O. Soboyejo,Analytical Modeling of Carbon and Nitrogen Concentration Profile of Cassava-Leaf-Assisted Carbonitriding of Low Carbon Steel, Nigerian Materials Congress (NIMACON-2012), pp. 252.
32. A.T. Idowu, **E. K. Arthur**, S. Kolawole, W.O. Soboyejo, The Corrosion Behavior of Bitumen Coated Low Carbon Steels (API 5L X65), Nigerian Materials Congress (NIMACON-2013), Book of Abstract pp. 42
33. **E. K. Arthur**, E. Ampaw, M. G. Zebaze Kana, K. J. Akinluwade, A. R. Adetunji, O. O. Adewoye, W. O. Soboyejo Nano-Indentation Studies of Pack Cyanided Mild Steel Quenched in Cassava Leaf Solution, African Materials Research Society Conference, 2013, Addis Ababa, Ethiopia
34. S. A. Mensah, D. Dodoo-Arhin, **E. K. Arthur** and S. T. Azeko, Synthetic Coarse Aggregates As A Substitute In Conventional Concrete: A Case Study Of Used Car Tyre, Nigerian Materials Congress (NIMACON-2013), AUST, Abuja, Nigeria, pp. 220.
35. **E. K. Arthur**, Utilization of Cassava Waste for Improving Mechanical Properties of Steels, 1st Annual African University of Science and Technology International Conference on Technology (AUSTECH), October 12 - 13, 2015, Abuja, Nigeria.
36. **E. K. Arthur**, J. D. Obayemi, S. T. Azeko, Y. Danyuo, Development of Aqueous Processing Route for the Removal of Aluminium Impurities from Metallurgical Grade Silicon, Nigerian Materials Congress (NIMACON-2013), AUST, Abuja, Nigeria, pp. 244.

Edited/Reviewed Journal Article/Book of Proceedings

- Reviewer, Journal of Scientific Africa (2018 to date)
- Reviewer, Journal of Materials Research, (2016 to date)
- Proceedings of the AUST PhD Colloquium (AP'Col 2015)
- Proceedings of the Nigerian Materials Congress (NIMACON 2013); Materials Society of Nigeria (Publishers).

- Proceedings of the Nigerian Materials Congress (NIMACON 2014); Materials Society of Nigeria (Publisher).

Supervision of Student Project Work/Thesis/Research

POSTGRADUATE THESIS SUPERVISION

2021/2022 Academic Year

SN	Name of Student	Thesis Title	Status
1	Fuseini Abdallah	Electrochemical Performance of Corncob-Derived Activated Carbon-Graphene Oxide and TiO_2 Ternary Composite Electrode for Supercapacitor Applications	Completed
2	Desmond Ankobiah Kusi	Electrochemical Performance of Chemically-Treated Pyrolytic Carbon Black from Recycled Waste Car Tyres	Completed
3	Rebecca Zida Afriyie	Potential Risk of Heavy Metals in some Vegetable Crops at an Artisanal Gold Mining Site: A Case Study at Moseaso in the Wassa Amenfi West District of Ghana	Completed
4	Emmanuel Afriyie	Catalyst Assisted Carbonization of Waste PET for Removal of Selected Heavy Metals from Polluted Water	Ongoing
5	Michelle Mimi Vandyck	Stabilization of heavy metals in contaminated soils in artisanal mine lands: A case of Wassa Akropong	Completed
6	Patience Oduroa Agyapong	Extraction of MgO from pumpkin seed for stabilization of heavy metals in contaminated soils	Completed

2020/2021 Academic Year

SN	Name of Student	Thesis Title	Status
1	Perseverance Dzikunu	Utilization of spent pot lining (SPL) as a porous material for supercapacitor electrode	Completed
2	Ebenezer Baako-Rockson	Synthesis of doped spent potliner as an efficient electrode material for supercapacitor	Ongoing
3	Bleppony Elike	Synthesis and Electrochemical Analysis of Supercapacitor Electrode Material from Purified Spent Potlining Doped with Titanium Oxide	Completed

2019/2020 Academic Year

SN	Name of Student	Thesis Topic	Status
1	Najaat Haruna	Assessment of pesticide residue in spring onion in the Asokore Mampong municipal in the Ashanti region of Ghana	Completed
2	Eric Ackah	Assessment of resource recovery from landfill composting in Ejisu-Juaben municipality, Ghana	Completed
3	Felix Odom	Characterisation and stabilization of heavy metals in soil and leachate at Dompoase landfill site, Kumasi-Ghana	Completed
4	Lois Pokua	Spatial patterns of hazardous cyanide in soils and groundwater in a cassava processing area: the case of Adaklu-Anyigbe district of Ghana	Completed
5	Andrews Amoako Atta Jnr.	Investigation of thermochromic properties of polymer matrix with recycled liquid crystals from waste LCDs	Completed

UNDERGRADUATE PROJECT SUPERVISION

2021/2022 Academic Year

SN	Name of Student(s)	Project Topic	Status
1.	Elijah Mankoh Emmanuella Adamah Mohammed Naji Abdullah	Mechanical properties and electrochemical behaviour on post-weld heat treated low carbon steel in an acidic medium	Completed
2.	Edmuch Owusu William Darko Owusu Edward Osei Ampomah Kwasi Osei Kwakye	Corrosion behaviour of X-65 steel coated with modified bitumen	Completed
3.	Edmund Jephter Charles Danquah Stephen Gyasi	Removal of heavy metals from mine waste water using agricultural wastes	Completed
4.	Bismark Kobby Arthur Kwaku Asante Boateng Enoch Raymond Poku	Production and characterisation of porous carbon as an adsorbent for heavy metals using agricultural wastes	Completed
5.	Samuel Agyei Baffour Sandra Enyonam Apatu Richmond Affum	Comparative study of the electrochemical properties of graphene and activated carbon produced from waste synthetic polymers	Completed
6.	Matthew Nti Amoateng Kennedy Blankson	Physical and mechanical properties of paper egg trays reinforced with plant	Completed

	Kwadwo Essoun Ofosu	fibres	
7.	Christopher Bassanyin Daniel Amuzu Samuel Asare Boateng	Synthesis of reduce graphene oxide from rice husk for super capacitor applications	Completed
8.	Anthony Cudjoe Ruth Ebela Kwofie Bright Addo	Acidic leaching performance of mechanically and thermally activated Ghanaian bauxite ore deposit for alumina extraction	Completed
9.	Obed Asmah Eyram Vodjogbe Caleb Antwi Asamoah	Corrosion inhibition activity of expired anti-malaria drugs on mild steel in acidic medium	Completed
10.	Mary Augustina Aikins Desmond Emmu Kenneth Kusi Kyere	Synthesis of AL-MOF and its utilization in fluoride contaminated water remediation	Completed
11.	Obed Tawiah Nyavor Belinda Awudu Agamah	Physical, thermal, electrical and dielectric properties of selected anthill clay doped with various metal oxides	Completed
12.	Juan-Carlos Nii Lamptey Jude Obuwah Nana Kwame Agyei Kwakye Mark Anthony Hanson	Effect of processing parameters on the microwave and mechanical properties of low carbon steel	Completed

2020/2021 Academic Year

SN	Name of Student	Project Title	Status
1	Jeremiah Emmanuel Thompson Raphael Kwasi Sarfo Gyebi Richard Quaidoo	Acidic Leaching Performance of Mechanically and Thermally Activated Ghanaian Bauxite Ore deposit for Al_2O_3 extraction	Completed
2	Benedicta Mensah George Kwesi Asare Emmanuel Addae	Fluoride Removal from Polluted Water by Zeolite-Activated Carbon Hybrid: Adsorption Equilibrium and Kinetics	Completed
3	Justice Owiredu Frimpong Kwame Boakye Attakora Abdul Latif Abubakar	Synthesis of Zeolite from Spent Alumino Silicate Refractory and Its Utilization in Fluoride Contaminated Water Remediation	Completed
4	Christiana Ampofoa Banning Kingsley Yeboah Gyabaah Jilac Nana Yaw Amponsah Dante	Purification and Characterization of Carbon Black Produced from Pyrolysis of Used Car Tyres for Supercapacitor Electrode	Completed
5	Emmanuel Kwame Abaidoo	Fabrication and Characterization of Porous Carbon from Spent Pot Liner as	Completed

	Nana Kwame Asa-Mensah Paul Mensah Sarpong	an Adsorbent for Removal of Fluoride from Polluted Water	
6	Rebecca Love Gawuah Sylvia Akar Mawufemor Mathias Anokye Ameah	A Study on the Physical and Mechanical Properties of Asphaltic Concrete Incorporating Ferrous Slags	Completed
7	Ebenezer Acquah Joshua Alabi	Wood Plastic Composites: Effect of Filler Size and Coupling Agents on Physical, Thermal and Mechanical Properties	Completed
8	Mary Sintim Donkor Selasi Dafeamekpor Godfred Akugre	Mechanical, Thermal Conductivity Properties and Morphology of Epoxy/Carbon Fiber Composites Filled with Carbon Black	Completed
9	Bernard Amankwah Benjamin Arkoh Jude Kpare	Thermal Conductivity and Mechanical Properties of Polymer Nanocomposites by Addition of Graphene Oxide	Completed
10	Elizabeth Atswei Laryea Martin Asare Joseph Tamirka Bawah	Investigation of Phytochemical Constituents and Eco-friendly Corrosion Inhibition Property of Citrullus lanatus and Ananas comosus Peel Extracts on 304L in BIOX Tanks Condition	Completed
11	Henry Joseph Tsibuah Jamilla Musah Ahmed Yashir Arafat	Investigation of Microstructural and Electrochemical Behaviour of Post-Heat Treated Welded 304L/316L Stainless Steel against BIOX Tanks Operating Conditions	Completed
12	Kelvin Atuiri Apatewen Chris Selorm Fumey-Nassah Bernard Nartey Oware	Dielectric Property Investigation of Electrical Insulator Produced from Selected Anthill Clay Deposits in Ghana	Completed

2019/2020 Academic Year

SN	Name of Student	Project Title	Status
1	Evans Acheampong Isaac Gyenin Isaac Yaw Awuni	Sensitivity of settling solids to pH in gold sulphide ore slurries	Completed
2	Kwabena Safo Maureen Hansen-Malm Agbodzatse King James	Kinetic studies of adsorption of heavy metals from polluted water by as-synthesized zeolite from anthill clay.	Completed
3	Annor Desmond Amevor Francis Kelvin	Speciation analysis of heavy metals in artisanal gold mining site in Ghana and its removal	Completed
4	Isaac Owusu Dapaah Phillip Ankrah Thomas Amenlemah	Utilization of waste from aluminium smelting industry for engineering application	Completed
5	Afriyie Emmanuel Torgbor Torto Jerry Agbeme Richard Komla	Design, production and characterization of porous aluminium slabs for light weight applications	Completed

6	Vanessa Ofosu Dankyi Agyeman Boateng Enis Jonathan Abbam	Thermochromic properties of recycled liquid crystal displays from waste phone/TV screens	Completed
7	Blankson Samuel Otiase Doreen Moro Boateng Asiwome	Investigation of heat treatments on microstructure and mechanical properties of 316L and 304 stainless steel weld metal	Completed
8	Ahinampong Joseph Sarfo Naa Adjeley Adjei-Boye Adesa Tetteh Kojo Boampon	Effect of organic-based coupling agents on thermophysical properties of wood-polymer composites	Completed
9	Nettey-Oppong Ezekiel Edward Martey Anthony Kwasi Adzia Dzidzienyo Adzo	The use of as-synthesized zeolite for the removal of cyanide from cassava processing land sites in Ghana	Completed
10	Erzuah Miezah Kulu Osarfo Padmore Frimpong Amos Nyarko Yeboah	Reduction and characterisation of foundry slag for recovery of valuable metals and oxide materials	Completed
11	Webb Jeff Nancy Boye Adu Sraku Joshua	Electrochemical removal of metal contaminants from polluted water	Completed

2018/2019 Academic Year

SN	Name of Student	Project Title	Status
1	Afful Richard vzzz Agyiri Agbley Keteku Daniel Appiateng Gyasi Nana	Bamboo fibre / waste plastic composite for automobile bumpers	Completed
2	Awortwe Emmanuel Awuah Angelo Yeboah Kwabena Ezack	Improving cyanide content in cassava extract for metallurgical application (cyaniding of ferrous metal)	Completed
3	Acquah Lionel Deku Romeo Whajah Geofrey	The effects of bio-based nitrogenous treatment on the fatigue life of AISI 1020 carbon steel	Completed
4	Micheal Anning Cecol Selase K. Derrick Sablah A.	Effect of Locally Sourced Coupling Agents on the Physical and Mechanical Properties of Wood Plastic Composites	Completed
5	Benjamin Quainoo Carlos Ovulley Maxwell Kusi B.	Mechanical and Thermal Property Determination of Refractories Made from Anthill Clay	Completed
6	Jennifer Antwi Sowah Stephanie Anyeley Oduro Emmanuel	Synthesis and Characterization of Zeolite LTA from some selected Anthill Clays for Heavy Metals Removals	Completed
7	Blay George Kofi	The Analysis of Concentration/Toxicity Levels of Heavy Metals in Aluminium Sand Cast Products	Completed

2017/2018 Academic Year

SN	Name of Student	Project Title	Status
1	Alhassan Mamani Nurideen, Arthur Ebenezer Ato, Dogbey Julius	Production and Characterisation of Porous Insulating Refractory brick using ant-hill clay and an Agro-Waste	Completed
2	Asare Baffour Francis Y., Richard Darko, Prince Obeng Wilson	Thermal Conductivity and Acoustic Properties of an Alternative Roofing Materials Made of Epoxy Bamboo Fibre Composite	Completed
3	Ibrahim Mubarak Baba, Bodzah Alfred, Ayaim Joojo Enu.	Effect of Cassava Extract (Cyanide) On Corrosion Behaviour of Mild Steel	Completed
4	Appoh Lawrence Amoafo, Kobena Arthur Arko	Computation of Charge Calculation for Ferrous Metals	Completed
5	Ofori Amanfo Samuel, Jebuni Edmund Jarry, Omane-Derick Aboagye	Recovery of copper, Aluminium and Lead from Electronic Waste	Completed
6	Addae Philip Sarfoh, Adu Nti Justice, Danquah Evans Owusu	Production of activated carbon from local Bamboo	Completed
7	Awuah Angelo, Awortwe Emmanuel, Yeboah Kwabena Ezack	Improving Cyanide Content in Cassava Extraction and Metallurgical Application	Completed
8	Okyere Andrew, Dadson Andrew Slaw, Ampong K. Emmanuel	Effects of Polyethylene Waste/Saw Dust Flour Additions on Thermal and Acoustic Properties of Sandcrete Materials	Completed
9	Aninakwa Paul, Akwasi Abila Michael, Amfo Enoch Kwakye	Effect of Ant-Hill Clay Addition on Selected Properties of Foundry Sand	Completed
10	Abdul-Aziz Imam, Danso Asante Richmond, John Ato Koomson	Sensitivity of Settling Solids to pH in Gold Ore Slurries	Completed

2015/2016 Academic Year at Kwara State University

SN	Name of Student	Project Title	Status
1	Bakare Kehinde Folashade	Degradation and Mechanical Properties of Bio-Thermally Modified Bamboo.	Completed
2	Zakariyyah Kehinde Mariam	Evaluation of Bamboo-Epoxy Composite as a Potential Material for Roofing Sheet	Completed
3	Zakariyyah Taiwo	Mechanical Properties of PDMS Reinforced with Banana and Palm Nut Fibres for Impact Resistance	Completed
4	Oshifowora O. Tobi	Recycled Polyethyelene Matrix Composite Reinforced with Natural Fibres for Impact Resistance	Completed

Computational and Experimental Skills for Research and Teaching

- Pro Engineer Software Proficiency for Modelling and Simulation
- ABAQUS Software Proficiency for Modelling and Simulation
- Proficiency in GRANTA Material Inspiration Software for Materials Selection
- CUMSOL Multiphysics Software Proficiency for Modelling, Simulation and Analytical Analysis
- MATLAB Software Proficiency for Modelling, Simulation and Analytical Analysis
- Ability to use Microsoft Word, Excel and Power Point for Typing, and Lecturing
- Ability to use Laboratory equipment: SEM, AFM, Instron, Optical Microscope, UV-Spectrophotometer, Surface Profiler, Magnetic Inspection Testing, etc.

Extra-Curricular Activity

- Reading, researching, writing, watching movies and reasoning.

Referees

- **Prof. Wole Soboyejo**
  - Department of Mechanical Engineering, Worcester Polytechnic Institute, Worcester, U.S.A and
  - African University of Science and Technology, Abuja, Nigeria
    Tel: +6092585609
    Email: soboyejo@wpi.edu

- **Prof. Samuel Kwofie,**
  - Dean, Faculty of Chemical and Mechanical Materials Engineering, KNUST, Ghana.
    Telephone: +233-275768664
    Email: drskwofie@yahoo.com

- **Dr. A. R. Adetunji**
  - Senior Lecturer, Obafemi Awololo University, Osun State, Nigeria.
    Telephone: +2348036734142
    Email: aderade2004@yahoo.com