

CURRICULUM VITAE



ENGR. DR. KINGSLEY CHIDI NNAKWO

Department of Metallurgical and Materials Engineering
Faculty of Engineering Nnamdi Azikiwe University, Awka, Nigeria

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Nationality: Nigerian Marital Status: Married

ACADEMIC QUALIFICATIONS WITH DATES

- 2017** **Doctor of Philosophy (Ph.D.):** Metallurgical and Materials Engineering:
Nnamdi Azikiwe University, Awka. Distinction (CGPA: 4.86).
- 2014** **Master of Engineering (M. Eng.):** Metallurgical and Materials Engineering:
Nnamdi Azikiwe University, Awka. Distinction (CGPA: 4.53).
- 2009** **Bachelor of Engineering (B.Eng.):** Metallurgical and Materials Engineering:
Nnamdi Azikiwe University, Awka. 2nd Class Honours (Upper Division,
CGPA-3.9)
- 2003** **West Africa Senior School Certificate (W.A.S.S.C.):** Local Government
Secondary School, Ajaokuta, Kogi State
- 1995** **First School Leaving Certificate (F.S.L.C.):** Central School Umulokpa

ADMINISTRATIVE/RELEVANT EXPERIENCE

- 2022** **Senior Lecturer:** Metallurgical and Materials Engineering, Nnamdi
Azikiwe University, Awka
- 2019** **Lecturer I:** Metallurgical and Materials Engineering, Nnamdi Azikiwe
University, Awka
- 2018** **Lecturer II:** Metallurgical and Materials Engineering, Enugu State
University of Science and Technology, Agbani
- 2015** **Assistant Lecturer:** Metallurgical and Materials Engineering, Enugu State
University of Science and Technology, Agbani
- 2014** **Physics and Basic Science Teacher:** British Spring College, Awka
- 2013** **Mathematics and Physics Teacher:** St. Raphael Secondary
School, Awkuzu

PROFESSIONAL QUALIFICATIONS WITH DATES

- 2017** Council for the Regulation of Engineering in Nigeria (**Cert No: R.37081**)
- 2016** Corporate Member Nigerian Society of Engineers (MNSE) (**Cert NO: 39293**)

COURSES TAUGHT AND RESPONSIBILITY IN THE UNIVERSITY

- Supervision of masters and degree students
- Physical Metallurgy II (MME 542)
- Corrosion Engineering I (MME 563)
- Mechanical Processing of Materials II (MME 533)
- Thermal Treatment of Materials (MME 532)
- Metallurgical Thermodynamics and Kinetics II (MME 324)
- Engineering in Society (MME 601)
- Extractive Metallurgy II (MME 564)
- Extractive Metallurgy I (MME 463)
- Corrosion Science and Engineering (MME 471)
- Materials Engineering Design (MME 451)
- Physical Chemistry of Materials (MME 361)
- Metallurgical and Materials Process Design (MME 585)

MEMBERSHIP OF INTERNATIONAL JOURNAL REVIEWERS TEAM

2021-Till date	Reviewer: Materials Letters-Elsevier
2020-Till date	Reviewer: Materials Research Today-Elsevier
2020-Till date	Reviewer: Open Access Journal of Science-Springer
2017-Till date	Reviewer: Metallurgical and Materials Transaction A- Springer
2017-Till date	Reviewer: American Journal of Engineering, Technology and Society

MEMBERSHIP OF LEARNERED PROFESSIONAL SOCIETIES

2017	Council for the Regulation of Engineering in Nigeria (Cert No: R.37081)
2016	Corporate Member Nigerian Society of Engineers (MNSE) (NO: 39293)
2012	Corporate Member Nigeria Metallurgical Society (MNMS) (No: 948)
2012	Corporate Member Material Science and Technology Society of Nigeria (MMSN)
2011	Member Nigerian Institute of Management-Chartered (MNIM) (No: 0090483)

CRATIVE OUTPUT

Journal Articles

1. **Kingsley C. Nnakwo**, J. U. Odo, K. O. Eweka, J. S. Okafor, A. I. Ijomah, E. A. Maduka, B. C. Ugwuanyi. (2022) Evaluation of the Electrical Conductivity and Mechanical Properties of Cu–3Ti–1.5Ni–0.5Si Quaternary Alloy, *JOM: the journal of the minerals, metals, and materials society*, Vol. 74, (Issue 5); 4174-4180.
2. **Nnakwo, K. C.**, Osakwe, F. O., Ugwuanyi, B. C., Oghenekowho, P. A., Okeke, I. U., & Maduka, E. A. (2021). Grain characteristics, electrical conductivity, and hardness of Zn-doped Cu–3Si alloys system. *SN Applied Sciences*, 3(11). <https://doi.org/10.1007/s42452-021-04784-1>

3. **Kingsley C. Nnakwo**, Christopher N. Mbah, Sabina N. Ude (2020) Influence of chemical composition on the conductivity and on some mechanical properties of Mg-doped Cu-Si alloy. *Journal of King Saud University–Engineering Science*.32 (5),287-292 <https://doi.org/10.1016/j.jksues.2019.03.005>. **Elsevier**
4. Christopher Nwankwo Mbah, Cynthia Chinyere Onah, **Kingsley Chidi Nnakwo** (2020) Effectiveness of Irvingia wombolu extract on corrosion inhibition of mild steel in hydrochloric acid solution. *Engineering Research Express*. 2(1), 015039. <https://doi.org/10.1088/2631-8695/ab78ec>.
5. **K. C. Nnakwo**, C. N. Mbah and C. C. Daniel-Mkpume (2019) Investigation of the structural sensitive behavior of Cu-3Si-xMn ternary Alloys. *Journal of King Saud University –Science*, 31(4), 1056-1063.<https://doi.org/10.1016/j.jksus.2019.01.001>. **Elsevier**
6. **K.C. Nnakwo** (2019) Effect of Tungsten Content on the Structure, Physical and Mechanical Properties of Silicon Bronze (Cu-3wt%Si), *Journal of King Saud University - Science*, 31(4), 844-848. doi: <https://doi.org/10.1016/j.jksus.2017.12.002>. **Elsevier**
7. **Kingsley C. Nnakwo**, Christopher N. Mbah, and Eugene E. Nnuka (2019) Influence of trace additions of titanium on grain characteristics, conductivity and mechanical properties of copper-silicon-titanium alloys. *Heliyon*. 5(10),e02471. <https://doi.org/10.1016/j.heliyon.2019.e02471>. **Elsevier**.
8. J. U. Odo, G. N. Ugwu, **K. C. Nnakwo**, J. N. Chukwuma (2019) Foundry industry-a vital tool of wealth creation through materials utilization. *Journal of Educational Development and Productivity*. 3(1), 47-53.
9. **Kingsley C. Nnakwo**, Felix E. Amadi, and Christopher N. Mbah (2019) Influence of heat treatment regimes on crystalline phase formation and physical properties of Li₂O-SiO₂-Al₂O₃ glass system. *Materials Research Express*. 6, 095202. <https://doi.org/10.1088/2053-1591/ab2c25>. **Thomson Reuters**.
10. C. C. Daniel-Mkpume, E. G. Okonkwo, V. S. Aigbodion, P. O. Offor and **K. C. Nnakwo** (2019) Silica sand modified aluminium composite: an empirical study of the physical, mechanical and morphological properties. *Materials Research Express*. 6, 076539. <https://doi.org/10.1088/2053-1591/ab14c6>. Thomson Reuters.
11. Cynthia C. Onah, Christopher N. Mbah, **Kingsley C. Nnakwo** (2019). Inhibitive characteristics of Irvingia Gabonensis extract on mild steel corrosion in hydrochloric acid. *American Journal of Chemistry and Materials Science (ajcms)*. 6 (2), 15-20.
12. S. A. Adzor, E. E. Nnuka, and **K. C. Nnakwo** (2019) Effect of welding consumable on mechanical properties of micro-alloyed steel weldment. *International Journal of Innovative Science and Research Technology*. 4 (6), 419-425.
13. Robert A. Onwumere, **Kingsley C. Nnakwo** and Boniface A. Okorie (2019). Effect of alkaline treatment on mechanical and thermal properties of coconut shell particulates reinforced epoxy composite. *American Journal of Chemistry and Materials Science (ajcms)*. 6 (1), 10-14.
14. **K. C. Nnakwo** and E. E. Nnuka (2018) Correlation of the structure, mechanical and physical properties of Cu3wt%Si-xwt%Sn silicon bronze. *Journal of Engineering and Applied Sciences*, 13, 83-91.

15. **Nnakwo K. C.**, Okeke I. U. and Odo J. U. (2017) Effect of nickel and iron addition on the structure and mechanical properties of tin bronze (Cu-10wt%Sn). *American Journal of Engineering, Technology and Society*, 4 (6), 110-118.
16. **Nnakwo K. C.**, Obi C. A. and Odo J. U. (2017) Effect of heat treatment parameters on the structure and mechanical properties of aluminium bronze (Cu-10wt%Al). *American Journal of Material Science and Application*, 5 (3), 16-24.
17. **Nnakwo K. C.** (2017) Investigative study of the structure and mechanical properties of Cu-Sn-Zn and Cu-Sn-Mg alloys. *American Journal of Material Science and Application*, 5 (5), 37-48.
18. **Nnakwo K. C.**, Okeke I. U. and Nnuka E. E. (2017) Structural modification and mechanical properties of Cu-3wt%Si-xwt%Sn alloy. *International Journal of Scientific Research in Science, Engineering and Technology*, 3(5), 184-187.
19. **Nnakwo K. C.**, Okeke I. U. and Nnuka E. E. (2017) Effect of zinc content on the structure and mechanical properties of silicon bronze. *International Journal of Scientific Research in Science, Engineering and Technology*, 3(5), 179-183.
20. Emeruwa O. E., **Nnakwo K. C.** and Atuanya C. U. (2017) Investigative study of the structure and mechanical behaviour of horse eye bean seed shell ash reinforced aluminium alloy matrix composite. *International Journal of Scientific Research in Science, Engineering and Technology*, 3(5), 8-13.
21. Odinachi C. C., **Nnakwo K. C.**, Nwoke V. I. and Nnuka E. E. (2017) Effect of soaking time and quenching media on the structure and mechanical properties of Al-5.6wt%Zn-2.5wt%Mg alloy. *International Journal of Scientific Research in Science, Engineering and Technology*, 3(5), 1-7.
22. Obi C. A., Nnuka E. E. and **Nnakwo K. C.** (2017) Effect of soaking time and quenching media on the structure and mechanical properties of aluminium bronze (Cu-10%wt.Al). *IJSRSET*, 3(2), 311-317.
23. Nwigbo S. C, Nnakwo N. C. and **Nnakwo K. C.** (2016) Effect of fiber content on the physio-mechanical properties of irvingia gabonensis shell fiber reinforced polyester composite. *International Journal of Innovative Research and Advanced Studies*, 3(10), 107-111.
24. Odo J. U., **Nnakwo K.C.**, Obiorah S.M.O., Mbah C.N., Nwoye C. I. and Ifejika A.C. (2015) Effect of iron removal on the structure and mechanical properties of aluminium-silicon alloys. *International Journal of Scientific Research in Science, Engineering and Technology*, 1(6), 555-562.
25. **Nnakwo K.C.**, Nnuka E.E., Odo J.U., Obiorah S.M. and Oghenekowho P.A. (2014) Effect of magnesium and manganese on the secondary phase and mechanical properties of aluminium-4% copper alloy. *International Journal of Engineering Research and Technology*, 3(8), 1267-1276.
26. Nwoye C.I., Abgo A.O., **Nnakwo K.C.**, Ameh E.M. and Nwogbu C.C (2013) Reliability level of methane gas production dependence on organic loading rate and hydraulic retention time during biodegradation of fruit wastes. *International Journal of Environmental Bioremediation and Biodegradation*, 1(2), 66-72.

Conference Papers

1. Odo J.U., **Nnakwo K. C.**, Nwoye C.I. and Nnuka E.E. (2012) Effect of precipitation hardening on the structure and mechanical property of aluminium - copper alloy. *Annual Nigerian Materials Congress (NIMACON), National Centre for Technology Management, Conference Hall, Obafemi Awolowo University, Ile-Ife, Nigeria, P1-13085.*
2. **Nnakwo K.C.**, Odo J.U. and Nwoye C.I. (2012) Blast furnace waste-good source of materials for construction industries and energy generation. Annual Nigerian Materials Congress (NIMACON). *National Centre for Technology Management, Conference Hall, ObafemiAwolowo University, Ile-Ife, Nigeria. P4-08036.*
3. **Nnakwo K.C.**, Odo J.U. and Nnuka E.E. (2013) Impact of iron and steel industries on economic development. *The Nigerian Metallurgical Society (NMS-2013), 29th Annual Conference/AGM, Ajaokuta Steel Company, Ajaokuta, Kogi State.*

Dissertations

1. **Nnakwo K. C.** (2017) Effect of dopants and heat treatment parameters on the structure, physical and mechanical properties of silicon bronze, Ph.D. Dissertation.

Thesis

1. **Nnakwo K. C.** (2014) Effect of micro-alloying on the structure and mechanical properties of aluminium-4% copper alloy, Master Thesis.

Projects

1. **Nnakwo K. C.** (2009) Effect of heat treatment on the structure and mechanical properties of aluminium-4% copper alloy, Final Year Project.

ACADEMIC LEADERSHIP QUALITIES

Supervisions

1. "Microstructure Evolution, Mechanical, and Physical Properties of Cu-Si-Ni-W Quaternary Alloys System" (2021). *Ongoing Masters project by OBIEKWE CHARLES IFEANYICHUKWU, 202025004P.*
2. "Effects of Thermomechanical Treatment on Structure, Mechanical, and Physical Properties of Cu-Nb-Si-Ni quaternary alloys system" (2021). *Ongoing Masters project by OKAFOR CHINEDU CORNELIUS, 202025002F.*

Reviewerships

1. Reviewer, "Correlation between Jc enhancement and phase homogeneity in Sn-Ge co-doped Nb₃Al superconducting wires" (November, 2022).
2. Reviewer, "Physical aging-induced embrittlement of PLA/PBAT blends probed by tensile test and AFM nanomechanical mapping" (November, 2022).

3. Reviewer, "An antibacterial coaxial electrospun polylactic acid/silk fibroin loaded with nano-ZnO and Voltaren" (October, 2022).
4. Reviewer, "Preparation and mechanical properties of a composite by glass-forming alloy bonding aluminum oxide" (February, 2022).
5. Reviewer, "A Potential Dual-Functional Thermoelectric and Electroelectric Polymer Composite" (February, 2022).
6. Reviewer, "Effect Of Process Parameters On The Microstructure And Mechanical Properties Of Micro-alloyed Steel" (December, 2019).

Contributions to the University/Society

1. Alumni Faculty Representative, "Unizik Alumni" (February, 2022)
2. Member, "Committee on Faculty of Engineering Business Venture" (July, 2021).
3. Member, "Committee on Convocation/National Engineering Project Exhibition" (April, 2021).
4. Secretary, "Committee on Faculty of Engineering Space Allocation" (March, 2021).
5. Exam Officer, "Department of Metallurgical and Materials Engineering" (March, 2019).
6. Chairman, Education Committee, "Umulokpa Academic Congress (UMAC)" (January, 2022)
7. President, "National Association of Catholic Corps Members, Taraba State" (2010-2011).
8. Secretary General, Ukpali Community, Uzo-uwani LGA, Enugu State" (2014).

Relevant Events Attended

Confrences

1. "Domestication and Development of Codes, Standards, and Regulations as a Panacea of Engineering Infrastructure Failures in Nigeria", (*COREN*), 8th August, 2022 to 8th October, 2022; International Conference Center Abuja.
2. "Waste in Green Economy for Sustainable Industrial Development", (*Faculty of Engineering, Nnamdi Azikiwe University, Awka*), 9th February, 2022 to 10th February, 2022; Nnamdi Azikiwe University, Awka.
3. "Materials Development and Utilization: Catalyst For Economic Advancement", (*Materials Science and Technology Society of Nigeria (MSJ)*), 8th December, 2021 to 10th December, 2021; Nnamdi Azikiwe University, Awka.
4. "Expansion of the Energy Mix for National Economic Growth", (*The Nigerian Society of Engineers*), 6th December, 2021 to 10th December, 2021; International Conference Centre, Abuja.

5. "Council for the Regulation of Engineering Assembly", (*COREN*), 9th August, 2021 to 11th August, 2021; International Conference Centre (ICC), Abuja.
6. "Raw Materials Processing and Utilization for Sustainable Development", (*Faculty of Engineering, Nnamdi Azikiwe University, Awka*), 13th August, 2018 to 14th August, 2018; University Auditorium, Unizik, Awka, Nigeria.
7. "29th Annual Conference and AGM, Timely Completion of Nigerian Iron and Steel Projects: The Key to Rapid Industrialization", (*Nigerian Metallurgical Society (NMS)*), 30th October, 2013 to 2nd November, 2013; Ajaokuta Steel Complex

COMPUTER KNOWLEDGE

- Proficient in the use of Design software for research modeling and analysis (Design Expert, Taguchi, SPSS etc.).
- Proficient in the use of Microsoft office packages such as Excel, Word and PowerPoint etc.

EXTRA CURRICULUM ACTIVITIES

- Reading, Playing Football and Research

REFEREES

Engr. Prof. E. E. Nnuka

Former Head, Department of Metallurgical and Materials Engineering
Nnamdi Azikiwe University, Awka
07065467379

Engr. Prof. B. A. Okorie

Enugu State University of Science and Technology, Agbani
08034714355

Engr. Dr. C. N. Mbah

Sub-Dean Faculty of Engineering
Enugu State University of Science and Technology, Agbani
08036704313