Martison Addo Nartey

Faculty of Mechanical and Chemical Engineering
Kwame Nkrumah University of Science and Technology

ORCID 0000-0002-7564-1609 · Google Scholar scholar.google.com/citations?user=kiVXc9wAAAAJ&hl=en · Profile knust.peerford.com/staff/6eac9f02-f671-4191-91f8-f9d7e5b369dd

RESEARCH

Interests	Composites · Functional Alloys · Energy Materials · Sustainable Construction Materials
Areas	Electronic, Optical and Magnetic Materials · Mechanical Engineering · Biomedical Engineering · Electrical and Electronic Engineering · Materials Chemistry · Civil and Structural Engineering

RESEARCH SUMMARY

29	410	11	12	1.23	12%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 29 publications listed below, 2015–2026. Field-weighted impact is the mean over the 25 works scored for it; 1.00 is the world average for works of the same field, type and year. 3 of the 25 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Lecturer 2020–present
Materials Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

EDUCATION AND QUALIFICATIONS

Ph.D. Materials Science and Engineering 2016–2020
Materials Science and Engineering, Zhejiang University, Hangzhou, China

MSc Metallurgy (Materials Science) 2014–2016
Physical Metallurgy of Non Ferrous Metals, National University of Science and Technology, Moscow, Russia

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

PUBLICATIONS

Journal articles 27

1. Daniel Nframah Ampong, Emmanuel Agyekum, Perseverance Dzikunu, Emmanuel Acheampong Tsiwah, Martin Luther Yeboah, Patrick Aggrey, **Martinson Addo Nartey**, Frank Ofori Agyemang, Kwadwo Mensah-Darkwa, Ram K. Gupta (2026). Exploring the potential of 1D materials in enhancing lithium-sulfur battery performance: A comprehensive review. *Materials Today Nano*. https://doi.org/10.1016/j.mtnano.2026.100783
2. Aminata Fall, **Martinson Addo Nartey**, Daniel Nframah Ampong, Kwadwo Mensah-Darkwa, Ram K. Gupta (2026). Green synthesis of biomass-derived graphene for supercapacitor application. *Dalton Transactions*. https://doi.org/10.1039/d5dt02322j
3. Abigail Menson, **Martinson Addo Nartey**, Anthony Andrews, Mark Bediako, Eugene Atiemo (2026). Reducing clinker factor using snail shell as main constituent for CEM II formation. *Discover Concrete and*

Cement. https://doi.org/10.1007/s44416-026-00082-4

4. Ezekiel Edward Nettey-Oppong, Emmanuel Essel Mensah, Per Peter Badasu, Stefania Akromah, Eric Asare, **Martinson Addo Nartey** (2026). Structured Entropy Analysis (SEA): A computational framework for latent biomolecular insights beyond conventional descriptors in molecular dynamics simulations. *Journal of Molecular Graphics and Modelling*. https://doi.org/10.1016/j.jmgm.2026.109338
5. Clement Nyarko Opoku, Anthony Andrews, **Martinson Addo Nartey**, Eric Kwame Asare (2025). Effect of gibbsite in lithomargic clay on the mechanical and physical properties of limestone calcined clay cement. *International Journal of Ceramic Engineering & Science*. https://doi.org/10.1002/ces2.70000
6. Kofi Mawuli Djokoto, Mark Bediako, **Martinson Addo Nartey** (2025). Effects of Calcium Silicate Hydrate Seeding on the Strength and Durability of Calcined Clay Pozzolan Cement. *Advances in Materials Science and Engineering*. https://doi.org/10.1155/amse/7864653
7. Eugene Sefa Appiah, Samuel Olukayode Akinwamide, Eric A. K. Fangnon, Kwadwo Mensah-Darkwa, Anthony Andrews, Frank Ofori Agyemang, **Martinson Addo Nartey**, Katlego Makgopa, Mahadeen N. Nashiru, Pedro Vilaca (2025). Electrochemical assessment of nanostructured phosphorus-doped Fe2O3 via diatomite template as a pseudocapacitive electrode material. *Chemical Papers*. https://doi.org/10.1007/s11696-025-04338-4
8. Daniel Nframah Ampong, Emmanuel Agyekum, Perseverance Dzikunu, Daniel Ocloo, Isaac Clottey, Patrick Aggrey, **Martinson Addo Nartey**, Frank Ofori Agyemang, Kwadwo Mensah-Darkwa, Ram K. Gupta (2025). Harnessing hydrogels for electrochemical energy and environmental sustainability. *Renewable and Sustainable Energy Reviews*. https://doi.org/10.1016/j.rser.2025.116628
9. Francis Oppong, Xiaolu Li, Chen Yuan, Sven Eckart, Abdellatif M. Sadeq, Francis Kemausuor, **Martinson A. Nartey**, Xu Cangsu, Li Yuntang (2025). Recent developments on ethyl levulinate as a promising bio-based transportation fuel. *Biomass and Bioenergy*. https://doi.org/10.1016/j.biombioe.2025.107964
10. Ezekiel Edward Nettey-Oppong, Emmanuel Essel Mensah, Stephen Takyi Taylor, Anthony Kwasi Martey, Eric Asare, **Martinson Addo Nartey** (2025). Unravelling the creep behavior of equiatomic cocrfemnni high-entropy alloy foam: a molecular dynamics study. *Multiscale and Multidisciplinary Modeling Experiments and Design*. https://doi.org/10.1007/s41939-025-01006-8
11. Eugene Sefa Appiah, Perseverance Dzikunu, Samuel Olukayode Akinwamide, Eric A. K. Fangnon, Kwadwo Mensah-Darkwa, Anthony Andrews, Frank Ofori Agyemang, **Martinson Addo Nartey**, Katlego Makgopa, Sven Bossuyt (2024). A review on progress and prospects of diatomaceous earth as a bio-template material for electrochemical energy storage: synthesis, characterization, and applications. *Ionics*. https://doi.org/10.1007/s11581-024-05825-6
12. Eugene Sefa Appiah, Samuel Olukayode Akinwamide, Eric A.K. Fangnon, Kwadwo Mensah-Darkwa, Anthony Andrews, Frank Ofori Agyemang, **Martinson Addo Nartey**, Katlego Makgopa, Pedro Vilaça (2024). Corrosion behaviour of Cu-plate current collector under ex-situ cyclic stability testing for energy storage application. *Next Materials*. https://doi.org/10.1016/j.nxmate.2024.100430
13. Bowen Gong, Yijian Liao, Yuzhong Ge, Wenting Ouyang, Huan Wang, **Martinson Nartey**, Xiang Gao, Hua-Xin Peng (2024). Delamination bridging response of Z -pins under mixed mode loading: The influence of carbon and Kevlar Z-pins. *Polymer Composites*. https://doi.org/10.1002/pc.28795
14. Daniel Nframah Ampong, Perseverance Dzikunu, Frank Ofori Agyemang, Patrick Aggrey, **Martinson Addo Nartey**, Amit Kumar Pal, Emmanuel Gikunoo, Anthony Andrews, Kwadwo Mensah-Darkwa, Ram K. Gupta (2024). Facile Synthesis of Colocasia esculenta Peels-Derived Activated Carbon for High-Performance Supercapacitor. *Energy Storage*. https://doi.org/10.1002/est2.70057
15. Frank Ofori Agyemang, Kwadwo Mensah-Darkwa, Nashiru Mahadeen Nanzumani, Eugene Sefa Appiah, Frederick Aziadzo, Patrick Aggrey, Daniel Nframah Ampong, **Martinson Addo Nartey**, Emmanuel Kwesi Arthur, Emmanuel Gikunoo, Ram K. Gupta (2024). Graphene oxide from coconut shells for high-performance supercapacitor application. *Discover Electrochemistry.*. https://doi.org/10.1007/s44373-024-00005-7
16. Eugene Sefa Appiah, Kwadwo Mensah-Darkwa, Anthony Andrews, Frank Ofori Agyemang, **Martinson Addo Nartey**, Katlego Makgopa, Yongdan Hou, Patrick Aggrey, David Ato Quansah (2024). Tailoring a

hierarchical porous carbon electrode from carbon black via 3D diatomite morphology control for enhanced electrochemical performance. *Nanoscale Advances*. https://doi.org/10.1039/d4na00680a

17. Fuseini Abdallah, Emmanuel Kwesi Arthur, Kwadwo Mensah-Darkwa, Emmanuel Gikunoo, Samuel Agyei Baffour, Belinda Awudu Agamah, **Martinson Addo Nartey**, Frank Ofori Agyemang (2023). Electrochemical performance of corncob-derived activated carbon-graphene oxide and TiO2 ternary composite electrode for supercapacitor applications. *Journal of Energy Storage*. https://doi.org/10.1016/j.est.2023.107776
18. Ezekiel Edward Nettey-Oppong, Emmanuel Essel Mensah, Elijah Effah, Eric Asare, **Martinson Addo Nartey** (2023). Mechanical properties and deformation behavior of equiatomic CoCrFeMnNi high-entropy alloy foam: A molecular dynamics study. *Solid State Communications*. https://doi.org/10.1016/j.ssc.2023.115236
19. Kwadwo Mensah-Darkwa, Daniel Nframah Ampong, Emmanuel Acheampong Tsiwah, Anuj Kumar, **Martinson Addo Nartey**, Patrick Aggrey, Frank Ofori Agyemang, Ram K. Gupta (2023). Realization of molecular models as heterogeneous electrocatalysts for activation of dioxygen. *Molecular Catalysis*. https://doi.org/10.1016/j.mcat.2023.113375
20. Bowen Gong, Huan Wang, **Martinson Nartey**, Wenting Ouyang, Jing Ye, Shaoxing Qu, Hua-Xin Peng (2022). Fatigue life assessment and damage evolution in Z-pinned laminates. *Composites Science and Technology*. https://doi.org/10.1016/j.compscitech.2022.109328
21. Jingze Wang, Weicheng Cui, **Martinson Addo Nartey**, Fuhong Dai, Hua-Xin Peng (2021). A virtual scale approach to multi-scale calculations and its application in fiber-reinforced composites. *Mechanics of Materials*. https://doi.org/10.1016/j.mechmat.2021.104184
22. Jingze Wang, **Martinson Addo Nartey**, Fabrizio Scarpa, Weicheng Cui, Hua-Xin Peng (2021). Design and manufacturing of highly tailorable pre-bent bi-stable composites. *Composite Structures*. https://doi.org/10.1016/j.compstruct.2021.114519
23. Patrick Aggrey, **Martinson Nartey**, Yuliya Kan, Julijana Cvjetinovic, Anthony Andrews, Alexey I. Salimon, Kalin I. Dragnevski, Alexander M. Korsunsky (2021). On the diatomite-based nanostructure-preserving material synthesis for energy applications. *RSC Advances*. https://doi.org/10.1039/d1ra05810j
24. **MA Nartey** (2020). Designing multi-stable structures with enhanced designability and deformability by introducing transition elements. *Composite Structures*. https://www.sciencedirect.com/science/article/pii/S0263822319320471
25. **M Nartey** (2020). Minimizing the in-plane damage of Z-pinned composite laminates via a pre-hole pin insertion process. *Composites Science and Technology*. https://www.sciencedirect.com/science/article/pii/S026635382032203X
26. **M Nartey** (2020). Understanding the impact of fibre wrinkle architectures on composite laminates through tailored gaps and overlaps. *Composites Part B: Engineering*. https://www.sciencedirect.com/science/article/pii/S1359836820312907
27. **MA Nartey** (2015). Study of damping capacity of Fe–5.4 Al–0.05 Ti alloy. *Journal of Alloys and Compounds*. https://www.sciencedirect.com/science/article/pii/S0925838815310070

Book chapters 2

1. Daniel Nframah Ampong, Kwadwo Mensah-Darkwa, **Martinson A. Nartey**, Emmanuel Agyekum, Ram K. Gupta (2026). Carbon-Based Supercapacitors. https://doi.org/10.1007/978-981-95-2947-6_13
2. Daniel Nframah Ampong, Kwadwo Mensah-Darkwa, **Martinson A. Nartey**, Emmanuel Agyekum, Ram K. Gupta (2022). Carbon-Based Supercapacitors. https://doi.org/10.1007/978-981-16-4480-1_13-1