Daniel Adjah Anang

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RESEARCH

Interests: Energy storage-Batteries-Supercapacitor · Corrosion · Food Product Development · Waste Res. Utilization

Areas: Electrical and Electronic Engineering · Electronic, Optical and Magnetic Materials · Materials Chemistry · Plant Science · Biomaterials · Biomedical Engineering

RESEARCH SUMMARY

25	811	12	14	3.34	30%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 25 publications listed below, 2012–2026. Field-weighted impact is the mean over the 10 works scored for it; 1.00 is the world average for works of the same field, type and year. 3 of the 10 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Lecturer 2011–present
Chemical Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Research Scientist 2010–2011
Engineering, Food Research Institute, Accra, Ghana

EDUCATION AND QUALIFICATIONS

Doctor of Engineering 2015–2021
Energy and Materials Engineering, Dongguk University, Jung-gu, Korea

MSc Chemical and Process Engineering 2006–2008
Chemical Engineering, Lappeenranta University of Technology, Lappeenranta, Finland

BSc Chemical Engineering 1999–2003
Chemical Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

PUBLICATIONS

Journal articles 22

1. Ibrahim Hamidu, Benjamin Afotey, Bright Kwakye-Awuah, **Daniel Adjah Anang** (2026). Fractional Factorial Design for Process Optimization in Rice Husk Valorization: Integrating Citric Acid Leaching and Hydrothermal Treatment. *Waste and Biomass Valorization*. https://doi.org/10.1007/s12649-026-03630-y
2. Ibrahim Hamidu, Benjamin Afotey, Bright Kwakye-Awuah, **Daniel Adjah Anang** (2026). Pretreatment strategies for rice husk valorization: comparative analysis of leaching and hydrothermal regimes on silica recovery and purity. *Waste Management Bulletin*. https://doi.org/10.1016/j.wmb.2026.100340
3. Williams Kweku Darkwah, Alfred Bekoe Appiagyei, Samuel Nartey Kofie, Samuel Twum Akrofi, **Daniel Adjah Anang**, Godfred Kwesi Teye, Joshua Buer Puplampu (2025). Single Atom and Nanocluster

Photocatalysts for Hydrogen Peroxide Synthesis under Visible Light. *ACS Engineering Au*. https://doi.org/10.1021/acsengineeringau.4c00017

4. Ibrahim Hamidu, Benjamin Afotey, Bright Kwakye-Awuah, **Daniel Adjah Anang** (2025). Synthesis of silica and silicon from rice husk feedstock: A review. *Heliyon*. https://doi.org/10.1016/j.heliyon.2025.e42491
5. B Afotey, EG Ankudey, **DA Anang** (2024). Fuel Properties and Emission Characteristics of Biodiesel Fuel Produced from Waste Cooking Oil Using CaO/CaFe2O4 catalyst. *Journal of Ghana Science Association*. https://scholar.google.com/scholar?cluster=4608353449147547154&hl=en&oi=scholarr
6. **DA Anang** (2023). Cd-Doped Li4−xCdxTi5O12 (x = 0.20) as a High Rate Capable and Stable Anode Material for Lithium-Ion Batteries. *ACS Applied Energy Materials*. https://pubs.acs.org/aaemcq/article-abstract/6/8/4198/331933
7. B Afotey, **DA Anang** (2023). Recent Advances in Methods for Synthesizing Composite Nanocatalysts and Their Applications: A Literature Review. *Int. J. Thin. Fil. Sci. Tec*. https://www.naturalspublishing.com/files/published/77298p76b2b8bf.pdf
8. Alfred Bekoe Appiagyei, **Daniel Adjah Anang**, Jacob Otabil Bonsu, Lois Asiedua-Ahenkorah, Suresh D. Mane, Hyun-Seok Kim, Chinna Bathula (2023). Sucrose-directed porous carbon interfaced α-Fe2O3-rGO for supercapacitors. *Journal of Electroanalytical Chemistry*. https://doi.org/10.1016/j.jelechem.2023.117383
9. Tawakalitu AbdulRasheed, Benjamin Afotey, Emmanuel Godwin Ankudey, **Daniel Adjah Anang** (2023). Synthesis and Characterization of Novel Calcium Oxide/Calcium Ferrite, CaO/CaFe2O4 Composite Nanocatalyst for Biodiesel Production. *ES Materials & Manufacturing*. https://doi.org/10.30919/esmm922
10. Kwadwo Koram, Emmanuel Gikunoo, Emmanuel Kwesi Arthur, **Daniel Adjah Anang**, Frank Ofori Agyemang, Gordon Foli, Douglas Siaw Baah (2023). Synthesis of magnesium oxide from waste magnesium-rich Cucurbita pepo (pumpkin) seeds. *Sustainable Environment*. https://doi.org/10.1080/27658511.2023.2258473
11. **EAAT Daniel A. Anang**, Benjamin Afotey, MAD Rockson (2022). Petrol Filling Station Safety Assessment and Fire Safety Knowledge of Fuel Pump Attendants. *Journal of Ghana Science Association*.
12. Alfred Bekoe Appiagyei, Lois Asiedua-Ahenkorah, Chinna Bathula, Hyun-Seok Kim, Sung Soo Han, Kummara Madhusudana Rao, **Daniel Adjah Anang** (2022). Rational design of sucrose-derived graphitic carbon coated MnMoO4 for high performance asymmetric supercapacitor. *Journal of Energy Storage*. https://doi.org/10.1016/j.est.2022.106383
13. **Daniel A. Anang**, Deu S. Bhange, Basit Ali, Kyung-Wan Nam (2021). New O3-Type Layer-Structured Na0.80[Fe0.40Co0.40Ti0.20]O2 Cathode Material for Rechargeable Sodium-Ion Batteries. *Materials*. https://doi.org/10.3390/ma14092363
14. **DA Anang** (2020). Ge-doped Li4Ti5-xGexO12 (x= 0.05) as a fast-charging, long-life bi-functional anode material for lithium-and sodium-ion batteries. *Ceramics International*. https://www.sciencedirect.com/science/article/pii/S0272884220308695
15. **DA Anang** (2020). NaFeSnO4: Tunnel structured anode material for rechargeable sodium-ion batteries. *Electrochemistry Communications*. https://www.sciencedirect.com/science/article/pii/S1388248120302241
16. **DA Anang** (2019). Carbon quantum dots from glucose oxidation as a highly competent anode material for lithium and sodium-ion batteries. *Electrochimica Acta*. https://www.sciencedirect.com/science/article/pii/S0013468618326513
17. **DA Anang** (2019). O3-type layer-structured Na0. 8 [Ni1/5Fe1/5Co1/5Mn1/5Ti1/5] O2 as long life and high power cathode material for sodium-ion batteries. *Ceramics International*. https://www.sciencedirect.com/science/article/pii/S0272884219322060
18. **DA Anang** (2018). Facile room temperature synthesis and application of MnMoO4· 0.9 H2O as supercapacitor electrode material. *Materials Letters*. https://www.sciencedirect.com/science/article/pii/S0167577X18300806
19. **DA Anang** (2018). Facilely synthesized NiMoO4/CoMoO4 nanorods as electrode material for high

performance supercapacitor. *Journal of Alloys and Compounds*. https://www.sciencedirect.com/science/article/pii/S0925838818302974

20. **Daniel A. Anang**, Ruth A. Pobee, Edward Antwi, Eugene M. Obeng, Amy Atter, Foster K. Ayittey, John T. Boateng (2018). Nutritional, microbial and sensory attributes of bread fortified with defatted watermelon seed flour. *International Journal of Food Science & Technology*. https://doi.org/10.1111/ijfs.13727
21. **DA Anang** (2017). Honeycomb layered oxide Na3Ni2SbO6 for high performance pseudocapacitor. *Journal of Alloys and Compounds*. https://www.sciencedirect.com/science/article/pii/S0925838817305376
22. **DA Anang** (2017). Honeycomb-layer structured Na3Ni2BiO6 as a high voltage and long life cathode material for sodium-ion batteries. *Journal of Materials Chemistry A*. https://pubs.rsc.org/ta/article-abstract/5/3/1300/549393

Reports 3

1. **DA Anang** (2021). New O3-Type Layer-Structured Na0. 80 [Fe0. 40Co0. 40 Ti0. 20] O2 Cathode Material for Rechargeable Sodium-Ion Batteries. Materials 2021, 14, 2363. *s Note: MDPI stays neutral with regard to jurisdictional claims in published* …. https://www.academia.edu/download/90566635/pdf.pdf
2. **DA Anang** (2018). Facile room temperature synthesis and application of $MnMoO_4 \cdot 0.9\ H_2O$ as supercapacitor electrode material. *Deakin University*. https://dro.deakin.edu.au/articles/journal_contribution/Facile_room_temperature_synthesis_and_application_of_MnMoO_0_9H_O_as_supercapacitor_electrode_material/20677008
3. **D Anang** (2012). Sensory properties of pre-treated blast-chilled yam (Dioscorea rotundata) as a convenience food product. *International Research Journals*. https://scholar.google.com/scholar?cluster=3995631293595496 23&hl=en&oi=scholarr