**DANIEL ADJAH ANANG**

**Postal Address:** Chemical Engineering Department, PMB, K.N.U.S.T, Kumasi, Ghana.

**Email:** daanang.coe@knust.edu.gh; [taadjah@yahoo.com](mailto:taadjah@yahoo.com)

**Phone:** +233549085490

**Date of birth:** 16th December, 1978.

**Place of birth:** Accra, Ghana.

**Nationality:** Ghana

**Research interest:** Energy storage systems, Renewable energy applications, Food product development, Waste resource recovery, Water/wastewater treatment.

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**Education**

1. **Name:** Dongguk University

**Period:** 2015 - 2021

**Address:** 30, Phildong-ro 1gil, Jung-gu, Seoul (Korea Republic)

**Degree obtained:** D. Eng Energy and Materials Engineering

**Website:** <http://www.dongguk.edu/mbs/kr/index.jsp>

1. **Name:** Lappeenranta University of Technology

**Period:** 2006 - 2008

**Address:** Skinnarilankatu 34, 53850 Lappeenranta (Finland)

**Degree obtained:** MSc Chemical and Process Engineering

**Website:** https://www.lut.fi/web/en

1. **Name:**  Kwame Nkrumah University of Science and Technology

**Period:** 1999-2003

**Address:** K.N.U.S.T, Private Mail Bag, Kumasi (Ghana)

**Degree obtained:** BSc Chemical Engineering

**Website:** https://www.knust.edu.gh/

**Work Experience**

1. **Date:** September, 2011–present.

**Position held:** Lecturer/Researcher

**Name and Address of Employer:** Kwame Nkrumah University of Science

and Technology, PMB, K.N.U.S.T, Kumasi, Ghana.

1. **Date:** August, 2010 to August 2011

**Position held:** Research Scientist

**Name and Address of Employer:** Food Research Institute, P. O. Box M 20,

Madina, Accra, Ghana.

1. **Date:** September 2003 – August 2004

**Position held:** Research/Teaching Assistant

**Name and Address of Employer:** K.N.U.S.T, PMB, Kumasi, Ghana.

**Publications**

**Journal publications**

1. ***Daniel A. Anang***, Deu S. Bhange, Basit Ali and Kyung-Wan Nam., (2021) New O3-Type Layer-Structured Na0.80[Fe0.40Co0.40Ti0.20]O2 Cathode Material for Rechargeable Sodium-Ion Batteries. *Materials*, 14(9), 2363. <https://doi.org/10.3390/ma14092363>
2. Deu S. Bhange, ***Daniel A. Anang***, Ghulam Ali, Jae-Ho Park, Ji-Young Kim, Jee-Hwan Bae, Woo Young Yoon, Kyung Yoon Chung, Kyung-Wan Nam., (2020) NaFeSnO4: Tunnel structured anode material for rechargeable sodium-ion batteries. *Electrochemistry Communications*, 121, 106873. [doi.org/10.1016/j.elecom.2020.106873](https://doi.org/10.1016/j.elecom.2020.106873)
3. Ali B., Muhammed R., ***Anang D. A***., Cho M. K., Kim J. Y., and Nam K. Y., (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*, 46, 16556 – 16563. <https://doi.org/10.10.1016/j.ceramint.2020.03.223>.

# *Daniel A. Anang*, Jae-Ho Park, Deu S. Bhange, Min K. Cho, Woo Y. Yoon, Kyung Y. Chung, Kyung-Wan Nam, (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*, 45, 23164-23171. doi: <https://doi.org/10.1016/j.ceramint.2019.08.011>

1. Mohsin Javed, Ahmad Nauman Shah Saqib, Ata-ur-Rehman, Basit Ali, Muhammad Faizan, ***Daniel Adjah Anang***, Zafar Iqbal, Syed Mustansar Abbas, (2019) Carbon quantum dots from glucose oxidation as a highly competent anode material for lithium and sodium-ion batteries, *Electrochimica Acta, 297, 250-257*. doi: <https://doi.org/10.1016/j.electacta.2018.11.167>
2. Frederick Nti, ***Daniel Adjah Anang***, Jeong In Han, (2018) Facile room temperature synthesis and application of MnMoO4⋅0.9H2O as supercapacitor electrode material, *Materials Letters*, 217, 146–150
3. Frederick Nti, ***Daniel Adjah Anang***, Jeong In Han, (2018) Facilely synthesized NiMoO4/CoMoO4 nanorods as electrode material for high performance supercapacitor, *Journal of Alloys and Compounds*, 742, 342-350.
4. ***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 and Technology*, 58(6), 1468-1475.
5. Derick Gyabeng, ***Daniel Adjah Anang***, Jeong In Han, (2017) Honeycomb layered oxide Na3Ni2SbO6 for high performance pseudocapacitor, *Journal of Alloys and Compounds*, 704, 734-741.
6. Deu Soudagar Bhange, Ghulam Ali, Dong-Hyun Kim, ***Daniel A Anang***, Tae Joo Shin, Min Gyu Kim, Yong-Mook Kang, Kyung Yoon Chung and Kyung-Wan Nam, (2017) [Honeycomb-layer structured Na3Ni2BiO6 as a high voltage and long life cathode material for sodium-ion batteries](http://pubs.rsc.org/en/content/articlelanding/2016/ta/c6ta08661f#%21divAbstract),*Journal of Materials Chemistry A*, Vol. 5, Iss. 3 pp 1300-1310.
7. Tortoe C., Johnson P-N. T., Abbey L., Baidoo E., ***Anang D.***, Acquaah S. G., and Saka E., (2012) Sensory properties of pre-treated blast-chilled yam (Dioscorea rotundata) as a convenience of food product. *African Journal of Food Science and Technology, Vol 3(3)* pp 59–65.
8. ***Anang Daniel Adjah*** (2011) Catalytic wet oxidation of paper mill debarking water: factors affecting it. *Hydrol Current Res 2:1 16* doi: 10.4172/2157-7587.1000116.

**Scientific Exhibition and Conferences**

1. ***Daniel Adjah Anang***, Jae-ho Park, Kyung-Yoon Chung, Kyung-Wan Nam, (2019), Comparative studies of Sodium ion insertion/extraction characteristics of NiMoO4 and CoMoO4, *2019 Spring Meeting of The Korean Electrochemical Society*, pp 36., International Convention Center Jeju, South Korea, 4–6th April, 2019.
2. ***Daniel Adjah Anang*** and Kyung-Wan Nam (2018), New layer structured honeycomb Na3Ni2MO6 as high voltage material for Sodium ion batteries**,** *Joint conference of the 30th KOSUA annual meeting and the International symposium on Synchrotron application in the materials industry,*pp 129., Postech, South Korea, 22–23rd November, 2018.
3. ***Daniel Adjah Anang***, Ruth Pobee (2018), Sensory properties of defatted watermelon seed bread (Plenary speaker), Proceeds from 2nd *GHASKA Innovation Conference*, pp 45., Hanbat National University, South Korea, 5th May, 2018.
4. ***Daniel Adjah Anang***, Jae-Ho Park, Kyung-Wan Nam (2017), Na0.8Ni0.2Fe0.2Co0.2Mn0.2Ti0.2O2 as a long life cathode material for Sodium ion Batteries, *Joint conference of the 29th KOSUA annual meeting and the International symposium on Synchrotron application in the materials industry,*pp 103., Postech, South Korea, 23 – 24th November, 2017.
5. ***Daniel Adjah Anang***, Emmanuel Amankwah, Kyung-Wan Nam, (2017), Synthesis and Electrochemical properties of layer structured NaNi1/5Fe1/5Co1/5Mn1/5Ti1/5O2 as cathode material for Sodium ion batteries, *2017 Spring Meeting of The Korean Electrochemical Society*, pp 45., International Convention Center Jeju, South Korea, 6 – 8th April, 2017.
6. Derick Gyabeng, ***Daniel Anang***, Jeong In Han, (2016) Synthesis of layered Na3NiCuSbO6 as enhanced supercapacitor electrode, *Proceedings of the Korean Society of Industrial and Engineering Chemistry*, pp 172.
7. ***Anang DA*** (2011) Wet Oxidation of Paper Mill Debarking Water: Improving the rates of contaminant removal. 3rd Ghana Water Forum, *Ghana Water Forum Journal*, First edition, pp 87–93., Accra, Ghana.

**Conference without exhibition/presentation**

1. 3rd Ghaska Innovation Conference, Korea Advanced Institute of Science and Technology (KAIST), Daejon, South Korea, 13th July 2019.
2. International Conference for Advanced Cathodes in Lithium ion batteries: NCM and NCA, Hanyang University, Seoul, South Korea, 10-12th September 2018.
3. 1st Ghaska Innovation Conference, Ajou University, Suwon, South Korea, 5th May 2017.
4. Biogas 24th International Convention and Trade Fair, Fair and Convention Center, Bremen, Germany, 27th -30th January, 2015.

**Patents**

1. Kyung Y. Chung, Kyung-Wan Nam, Jaeho Park, ***Daniel A. Anang***, (2021) Anode Electrode Active Material for Sodium Secondary Battery Comprising Nickel Cobalt Molybdenum Oxide, Anode Electrode for Sodium Secondary Battery Including Anode Electrode for Sodium Secondary Battery, and Method for Manufacturing same. ***Pub***. ***No***.: US 2021/0057744 A1.

**Training**

1. Battery Modelling and Simulation for Electric Vehicles, Automotive Skills Development Council (ASDC), India, 4th – 29th January 2021.
2. Structural Refinement Training, Korea Atomic Energy Research Institute (KAERI), Daejo, South Korea, 20th–24th February, 2017.

**Additional information**

**Awards**

-Unilever Excellence Award for the best Chemical Engineering graduating student in 2003 in Ghana.

-Lappeenranta University of Technology award for excellent graduating students, 2008.

**Computer Skills**

-Microsoft office tools - Word, Excel and PowerPoint.

-Engineering and Scientific software - Matlab, Polymath, Aspen plus, R.

**Attributes**

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| - Able to adjust well in multicultural environments.  - Very sociable.  - Team player and can also work alone with little or no supervision. |
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**Professional Membership**

- Graduate member, Ghana Institution of Engineers.

- Student member, Korea Electrochemical Society.

**Referees**

1. Name: Professor Kyung-Wan Nam

Address: 30, Phildong-ro 1gil, Jung-gu, Seoul (Korea Republic)

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2. Name: Dr. M. Y. Woode

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