

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI  
COLLEGE OF ENGINEERING

# Curriculum Vitae

YEN ADAMS SOKAMA-NEUYAM, PhD

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## 1. Personal details

**Family name:** Sokama-Neuyam

**First name:** Yen Adams

**Date of birth:** 1<sup>st</sup> November 1985

**Nationality:** Ghanaian

**Civil Status:** Married

## 2. Education

<b>Institution attended / Duration</b>	<b>Degrees obtained / Specialisation</b>
University of Stavanger, Norway <i>2013 – 2017</i>	PhD Petroleum Engineering <i>Carbon Capture and Storage (CCS)</i>
University of Stavanger, Norway <i>2011 – 2013</i>	MSc Petroleum Engineering <i>Reservoir Engineering</i>
Kwame Nkrumah University of Science and Technology, Ghana <i>2006 – 2010</i>	BSc Petroleum Engineering <i>General</i>

## 3. Current and previous positions

November 2023 – Date	<b>Head of Department</b> , Department of Petroleum Engineering, Faculty of Civil and Geo Engineering, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi.
January 2023 – Date	<b>Principal Investigator</b> , Net-Zero Carbon Emission Lab (NCEL), Kwame Nkrumah University of Science and Technology (KNUST), Kumasi.
August 2022 – November 2023	<b>Postgraduate Programmes Coordinator</b> , Department of Petroleum Engineering, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi.

August 2023 – Date                      **Senior Lecturer**, Department of Petroleum Engineering, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi.

February 2019 – August 2023        **Lecturer**, Department of Petroleum Engineering, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi.

#### 4. Grants And Awards

2024 - 2025                      **The CO<sub>2</sub> Storage Resource Assessment Project (CO<sub>2</sub>SRAP)**  
*Role:* Principal Investigator  
*Funding Source:* AGATE Project (24\_25\_RSGW\_0017)  
*Amount Awarded:* AUD 8,000.

2023 - 2024                      **AI-Powered Net-Zero Emissions Tracker (ANET) Project**  
*Role:* Principal Investigator  
*Funding Source:* Responsible Artificial Intelligence Lab (RAIL), KNUST.  
*Amount Awarded:* GHS 10,000

2022 - 2023                      **Data-Driven Optimization Of Nano-Based Biocement For Sustainable Oil-Well Cementing**  
*Role:* Principal Investigator  
*Funding Source:* KNUST Research Fund (KReF7)  
*Amount Awarded:* GHS 45,000

#### 5. Selected Publications

##### ***Peer reviewed Journals***

1. Darkwah-Owusu, V., Yusof, M. A. M., **Sokama-Neuyam, Y. A.**, Turkson, J. N., & Fjelde, I. (2024). A comprehensive review of remediation strategies for mitigating salt precipitation and enhancing CO<sub>2</sub> injectivity during CO<sub>2</sub> injection into saline aquifers. *Science of The Total Environment*, 175232. <https://doi.org/10.1016/j.scitotenv.2024.175232>

2. Andersen, P. Ø., Wojnarowski, P., **Sokama-Neuyam, Y. A.**, Le-Hussain, F., & Cai, J. (2024). Editorial of special issue “Advances in CCUS for the Natural Gas Industry”. *Gas Science and Engineering*, 205463.  
<https://doi.org/10.1016/j.igsce.2024.205463>
3. Darkwah-Owusu, V., Md Yusof, M. A., **Sokama-Neuyam, Y. A.**, Turkson, J. N., & Fjelde, I. (2024). Assessment of Advanced Remediation Techniques for Enhanced CO<sub>2</sub> Injectivity: Laboratory Investigations and Implications for Improved CO<sub>2</sub> Flow in Saline Aquifers. *Energy & Fuels*. <https://doi.org/10.1021/acs.energyfuels.4c00949>
4. Turkson, J. N., Md Yusof, M. A., Fjelde, I., **Sokama-Neuyam, Y. A.**, Darkwah-Owusu, V., Tackie-Otoo, B. N., ... & Kwon, S. (2024). Carbonated Water Injection for Enhanced Oil Recovery and CO<sub>2</sub> Geosequestration in Different CO<sub>2</sub> Repositories: A Review of Physicochemical Processes and Recent Advances. *Energy & Fuels*. <https://doi.org/10.1021/acs.energyfuels.3c04423>
5. **Sokama-Neuyam, Y. A.**, Amezah, S. M., Adjei, S., Adenutsi, C. D., Erzuah, S., Quaye, J. A., ... & Sarkodie, K. (2024). Predictive modeling of energy-related greenhouse gas emissions in Ghana towards a net-zero future. *Greenhouse Gases: Science and Technology*. <https://doi.org/10.1002/ghg.2251>
6. **Sokama-Neuyam, Y.A.**, Yusof, M.A.M., Owusu, S.K. *et al* (2023). Experimental and theoretical investigation of the mechanisms of drying during CO<sub>2</sub> injection into saline reservoirs. *Sci Rep* **13**, 9155. <https://doi.org/10.1038/s41598-023-36419-3>
7. Quaye, J.A., Jiang, Z., Liu, C., Adenutsi C.D., Adjei S., Sarkodie K., **Sokama-Neuyam Y.A.**, *et al* (2023). Understanding the role of bioturbation in modifying petrophysical properties: a case from well L5 of the third-member Paleocene Funing Formation (E<sub>1f3</sub>), Gaoyou Sag, Subei Basin, China. *Arab J Geosci* **16**, 407. <https://doi.org/10.1007/s12517-023-11506-x>
8. Erzuah, S., Aggrey, W. N., Tetteh, J. T., Bodi, V., Adenutsi, C. D., **Sokama-Neuyam, Y. A.**, ... & Biritwum, K. N. (2023). Zeta Potential Prediction of Dominant Sandstone Minerals Via Surface Complexation Modelling. *Scientific African*, e01721. <https://doi.org/10.1016/j.sciaf.2023.e01721>
9. Adenutsi C.D, Turkson J.N, Wang L, Zhao G, Zhang T, Quaye J.A., Erzuah S., and **Sokama-Neuyam Y. A.** (2023). Review on Potential Application of

- Saponin-Based Natural Surfactants for Green Chemical Enhanced Oil Recovery: Perspectives and Progresses. *Energy & Fuels*. <https://doi.org/10.1021/acs.energyfuels.3c00627>
10. Nsiah-Gyambibi, R., **Sokama-Neuyam, Y.A.**, Boakye, P. *et al* (2023). Valorization of coal fly ash (CFA): a multi-industry review. *Int. J. Environ. Sci. Technol.* <https://doi.org/10.1007/s13762-023-04895-9>
  11. Adjei, S., Elkaktatny, S., **Sokama-Neuyam, Y. A.**, Sarkodie, K., & Quaye, J. A. (2023). Evaluation and remediation techniques for barite sagging: A review. *Geoenergy Science and Engineering*, 211731. <https://doi.org/10.1016/j.geoen.2023.211731>
  12. Yusof M.A.M., **Sokama-Neuyam, Y.A.**, Ibrahim M.A., Saaid I.M., Idris A.K., Mohamed M.A. (2022). Experimental study of CO<sub>2</sub> injectivity impairment in sandstone due to salt precipitation and fines migration. *Journal of Petroleum Exploration and Production Technology*, SpringerLink (2022). <https://doi.org/10.1007/s13202-022-01453-w>
  13. Boakye, P., Ohemeng-Boahen, G., Darkwah, L., **Sokama-Neuyam, Y. A.**, Appiah-Effah, E., Oduro-Kwarteng, S., ... Woo, S. H. (2022). Waste Biomass and Biomaterials Adsorbents for Wastewater Treatment. *Green Energy and Environmental Technology*, 2022, 1–25. [HTTPS://DOI.ORG/10.5772/GEET.05](https://doi.org/10.5772/GEET.05)
  14. **Sokama-Neuyam, Y.A.**, Aggrey N. W., Boakye P., Sarkodie K, Oduro-Kwarteng S., Ursin J.(2021). The Effect of Temperature on CO<sub>2</sub> Injectivity in Sandstone Reservoirs. *Scientific African* 2021 (15) <https://doi.org/10.1016/j.sciaf.2021.e01066>
  15. Asilevi P.J., Boakye P., Oduro-Kwarteng S., Fei-Baffoe B., **Sokama-Neuyam Y.A.**(2021). Indoor Air Quality Improvement and Purification by Atmospheric Non-Thermal Plasma (NTP). Preprint. <https://doi.org/10.21203/rs.3.rs-763141/v1>
  16. **Sokama-Neuyam, Y.A.**, Boakye P., Aggrey N. W., Obeng N., Adu-Boahene F., Woo S. H., Ursin J.(2020). Theoretical Modeling of the Impact of Salt Precipitation on CO<sub>2</sub> Storage Potential in Fractured Saline Reservoirs. *ACS Omega* 2020 5 (24), 14776-14785. <https://dx.doi.org/10.1021/acsomega.0c01687>

17. **Sokama-Neuyam, Y.A.**, Adu-Boahene F., Boakye P., Aggrey N. W., Ursin J. Theoretical modeling of the effect of temperature on CO<sub>2</sub> injectivity in deep saline formations. *Greenhouse Gases: Science and Technology*, 10: 4 - 14 (2020). <https://doi.org/10.1002/ghg.1951>
18. **Sokama-Neuyam, Y.A.**, Ursin J., Boakye P (2019). Experimental Investigation of the Mechanisms of Salt Precipitation during CO<sub>2</sub> Injection in Sandstone. *C: Journal of Carbon Research*, MDPI, C 2019, 5(1),4. <https://doi.org/10.3390/c5010004>
19. **Sokama-Neuyam, Y.A.**, Ursin J (2018). The Coupled Effect of Salt Precipitation and Fines Mobilization on CO<sub>2</sub> Injectivity in Sandstone. *Greenhouse Gases: Science and Technology*, 00: 1 - 13 (2018). <https://doi.org/10.1002/ghg.1817>
20. **Sokama-Neuyam, Y.A.**, Ursin J., Ginting P., Timilsina B (2017). The Impact of Fines Mobilization on CO<sub>2</sub> injectivity: An Experimental Study. *International Journal of Greenhouse Gas Control*, (65) 195-202. <https://doi.org/10.1016/j.ijggc.2017.08.019>
21. **Sokama-Neuyam, Y.A.**, Forseth, S.L, Lien, J, Ursin, J (2017). The Coupled Effect of Fines Mobilization and Salt Precipitation on CO<sub>2</sub> Injectivity. *Energies* 2017, (10), 1125. <https://doi.org/10.3390/en10081125>
22. **Sokama-Neuyam, Y.A.**, Ursin J (2016). Experimental and Theoretical Investigations of CO<sub>2</sub> Injectivity. *AGH Drilling, Oil and Gas Journal*, (33) 245-258. [dx.doi.org/10.7494/drill.2016.33.2.245](https://doi.org/10.7494/drill.2016.33.2.245)

### **Book Chapters**

1. **Sokama-Neuyam, Y. A.**, Yusof, M. A. , & Owusu, S. K. (2022). CO<sub>2</sub> Injectivity in Deep Saline Formations: The Impact of Salt Precipitation and Fines Mobilization. In S. Sarvajayakesavalu, & K. Karthikeyan (Eds.), *Carbon Sequestration*. IntechOpen. <https://doi.org/10.5772/intechopen.104854>

### **Conference Publications**

1. Darkwah-Owusu, V., Yusof, M. A. M., **Sokama-Neuyam, Y. A.**, Tackie-Otoo, B. N., Turkson, J. N., Radzali, I. B., ... & Fjelde, I. (2024, February). Experimental Investigation of the Impact of Low Salinity Water and

Hydrochloric Acid Solutions as Halite Precipitation Reduction Agents for Enhancing CO<sub>2</sub> Injectivity in Deep Saline Aquifers. In *Offshore Technology Conference Asia*.

2. Darkwah-Owusu, V., Md Yusof, M. A., **Sokama-Neuyam, Y. A.**, Tackie-Otoo, B. N., Turkson, J. N., Kwon, S., ... & Fjelde, I. (2024, February). Investigating the Extent of the Impact of Acetic Acid as Halite Precipitation Reduction Agent for Enhancing CO<sub>2</sub> Injectivity in Deep Saline Aquifers. In *SPE International Conference and Exhibition on Formation Damage Control*. SPE.
3. Mardhatillah, Mutia Kharunisa, Md Yusof, Muhammad Aslam, Sa'id, Alva Andhika, Mohammad Fuad, Iqmal Irsyad, **Sokama Neuyam, Y. A.**, and Nur Asyraf Md Akhir. "Predictive Modelling of Carbon Dioxide Injectivity Using SVR-Hybrid." Paper presented at the Offshore Technology Conference Asia, Virtual and Kuala Lumpur, Malaysia, March 2022.
4. Shaibu R, **Sokama-Neuyam, Y.A.**, Ursin J (2018). A Theoretical Study of the Effect of Salt Precipitation on CO<sub>2</sub> Injectivity. SPE International Conference and Exhibition on Formation Damage Control, 7-9 February, Lafayette, Louisiana, USA.
5. **Sokama-Neuyam, Y.A.**, Ursin J (2017). Experimental Investigation of the Impact of Salt Precipitation on CO<sub>2</sub> Injectivity. International Symposium of the Society of Core Analysts, 27-30 August, Vienna, Austria.
6. **Sokama-Neuyam, Y.A.**, Ursin J (2015). CO<sub>2</sub> Well Injectivity: Effect of Viscous Forces on Precipitated Minerals. International Petroleum Technology Conference, 6-9 December, Doha, Qatar.
7. **Sokama-Neuyam, Y.A.**, Ursin J (2015). The Effect of Mineral Deposition on CO<sub>2</sub> Well Injectivity. SPE EUROPEC Conference, 1-4 June, Madrid, Spain.
8. Fjelde I., Omekeh A. V., **Sokama-Neuyam Y. A** (2014). Low Salinity Water Flooding: Effect of Crude Oil Composition. SPE Improved Oil Recovery Symposium, 12-16 April, Tulsa, Oklahoma, USA.

### ***Selected Technical Presentations***

1. Modelling and Comparative Analysis of the Carbon Intensity of Selected Oil and Gas Fields in Ghana Towards a Net-Zero Future, Local Content Conference and Exhibitions, Takoradi, Ghana, October 2024.

2. Predictive Modelling of Ghana's Energy Consumption and Corresponding Greenhouse Gas Emissions Towards a Net-zero Future, GhIE Annual General Meeting and Conference, Accra, Ghana, March 2024.
3. Energy-related Greenhouse Gas Emissions: A Data-driven Path to Net-Zero, Climate Compatible Growth Workshop, Kumasi, February 2024.
4. Leveraging Oil and Gas for a Just Transition Towards a Net-Zero Future, SPE Technical Lecture, Webinar, December 2023.
5. Building a Robust Research Ecosystem to Drive Africa's Transition to Net-Zero, A Pre COP 28 Technical Workshop, Accra, November 2023.
6. Ghana's Greenhouse Gas Emission: A Data-Driven Path to Net-Zero, KNUST Young Researchers' Forum Research Café, Webinar, August 2023.
7. Predictive Modelling of Greenhouse Gas Emissions in Ghana Towards a Net-Zero Future, KNUST Research Conference 2023, Kumasi, May 2023.

## 6. Membership of professional bodies

Society of Petroleum Engineers (SPE)

## 7. List of referees

No.	Name of Personal Referee	Name of the Organization	Title and/or Position	Email address	Telephone
1	Prof. Kwabena Biritwum Nyarko	College of Engineering, Kwame Nkrumah University of Science and Technology, Kumasi	Provost	kbnyarko.coe@knust.edu.gh	+233 208 165 515
2	Prof. Francis Kemausuor	Faculty of Mechanical and Chemical Engineering, Kwame Nkrumah University of Science and Technology, Kumasi	Dean	fkemausuor.soe@knust.edu.gh	+233 207 457 532