

# CURRICULUM VITAE of ASSOCIATE PROFESSOR ERIC BRONI-BEDIAKO

PhD, MPhil (UMaT), MSc (AUST), BSc (KNUST), MSPE, MIAEng

## 1. PERSONAL DETAILS

(A) **Name:** Dr Eric Broni-Bediako  
(B) **Date of Birth:** 02 April, 1983  
(C) **Nationality:** Ghanaian  
(D) **Marital Status:** Married  
(E) **Number of Children:** Five (5)  
(F) **Address:** Department of Petroleum and Natural Gas Engineering  
University of Mines and Technology  
P. O. Box 237, Tarkwa, Ghana.  
**Tel.** +233 243 052 455  
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## 2. ACADEMIC BACKGROUND

- | (A) Academic Degrees              | Date          |
|-----------------------------------|---------------|
| (i) PhD (Petroleum Engineering)   | July 2016     |
| (ii) MPhil (Mining Engineering)   | July 2012     |
| (iii) MSc (Petroleum Engineering) | December 2009 |
| (iii) BSc (Mining Engineering)    | June 2006     |
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- | (B) Institutions Attended   | Date        |
|---|-------------|
| (i) University of Mines and Technology, Tarkwa, Ghana                 | 2012 - 2016 |
| (ii) University of Mines and Technology, Tarkwa, Ghana                | 2008 - 2012 |
| (iii) African University of Science and Technology, Abuja, Nigeria    | 2008 - 2009 |
| (iv) Kwame Nkrumah University of Science and Technology Kumasi, Ghana | 2002 - 2006 |
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- | (C) Professional Titles                                       | Date      |
|---|-----------|
| (i) Professional Member, IET, Ghana                           | 2022-date |
| (ii) MSPE (Member, Society of Petroleum Engineers)            | 2008-date |
| (iii) MIAEng (Member, International Association of Engineers) | 2019-date |
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- | (D) Scholarships/Awards | Date |
|-------------------------|------|
| (i) DAAD Scholarship    | 2023 |

- (ii) UMaT, Ghana, Staff Development Fund for PhD 2012 - 2015
- (iii) African University of Science and Technology 2008 - 2009  
scholarship to pursue MSc in Petroleum Engineering

### 3. UNIVERSITY TEACHING AND/OR RESEARCH EXPERIENCE

#### (A) Academic Ranks Held

- (i) *August 2021 to Date: **Associate Professor***, Department of Petroleum and Natural Gas Engineering, University of Mines and Technology, Tarkwa, Ghana.
- (ii) *October 2017 to July 2021: **Senior Lecturer***, Department of Petroleum and Natural Gas Engineering, University of Mines and Technology, Tarkwa, Ghana.
- (iii) *April 2013 to August 2017: **Lecturer***, Department of Petroleum Engineering, University of Mines and Technology, Tarkwa, Ghana.
- (iv) *June 2010 to April 2013: **Assistant Lecturer***, Department of Petroleum Engineering, University of Mines and Technology, Tarkwa, Ghana.
- (v) *2007 to 2008: **Demonstrator***, Department of Mining Engineering, University of Mines and Technology, Tarkwa, Ghana.

#### (B) Subjects Taught

Since my appointment as a Lecturer in April 2013 and my promotion to Associate Professor position in August 2021, I have handled a total of 14 different courses at both the postgraduate and undergraduate level, and the details are shown in Table 1.

**Table 1 Courses Taught at the Postgraduate and Undergraduate Level in UMaT**

SN	Course Code	Course Name	Year
<b>Postgraduate Level</b>			
1	PE 551	Research Methods	2020 to date
2	PE 473	Introduction to Drilling Engineering	2018 to date
3	PE 576	Petroleum Economics and Management	2018 to date
<b>Undergraduate Level</b>			
4	PG	Petroleum Prospects and Evaluation	2022 to date
5	PE 361	Probability and Statistics	2017 to date
6	PE 452	Colloquium/Seminar	2014 and 2017
7	PE 270	Field Trip and Technical Report I	2014 to 2015
8	PE 356	Field Trip and Technical Report II	2014 to 2015

9	MN 380	Principles of Petroleum Engineering	2012 to 2015
10	PE/NG 379	Environmental Management and Safety in the Petroleum Industry	2012 to date
11	PE/NG 472	Oil and Gas Project Evaluation	2012 to date
12	PE 373	Drilling Engineering II	2011 to 2015
13	PE/NG 272	Drilling Engineering I	2010 to date
14	PE 271	Drilling Operations and Equipment	2010

### (C) Supervision of Students Project Works and Theses

Since I was appointed an Assistant Lecturer in June 2010, and my promotion to Associate Professor position in August 2021, I have successfully supervised over 96 students' thesis and/or project works at both postgraduate and undergraduate programmes. I have served as an Internal Examiner for more than 130 of such theses and or projects. Details of the thesis and/or project works I supervised since 2010 are as follows:

#### **Postgraduate Level**

1. **Ocran, D. (2022)**, "Metaheuristic Intelligent Systems for Ranking International Fiscal Systems", *PhD Thesis*, University of Mines and Technology, Tarkwa, Ghana, 269 pp.
2. **Afriyie, J. O.** "Simulink Modelling and Simulation of Managed Pressure Drilling (MPD) in an Onshore Field, River State, Nigeria", *MSc Thesis*, University of Mines and Technology, Tarkwa, Ghana, 68 pp.
3. **Oware, S.** (2023), "Prediction of Heating Value of Natural Gas from Ghana's Oil Field Using Supervised Machine Learning Techniques", *MSc Thesis*, University of Mines and Technology, Tarkwa, Ghana, 97 pp.
4. **Naatu, F. M.** (2021), "Experimental Study on the Performance of Fresh Nano Zeolite as an Oil Well Cement Additives", *Unpublished MSc Thesis*, University of Mines and Technology, Tarkwa, 87 pp.
5. **Asante, Kwabena Antwi.** "Simulation of Low Salinity Water Flooding and Alkaline-Surfactant-Polymer (ASP) Flooding", *MSc Thesis*, University of Mines and Technology, Tarkwa, Ghana, 119 pp.

#### **Undergraduate Level**

1. **Brenya, R.** (2020), "Assessing the Impact of Petroleum Production on Ghana's Economy: Opportunities and Challenges", *Unpublished BSc Project*

*Report, University of Mines and Technology, Tarkwa, 31 pp.*

2. **Osafo, T. R.** (2024), “Exploring the Effects of Dry Bamboo Leaves Powder on Water-Based Drilling Mud”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 28 pp.
3. **Osae-Mante, K. A.** (2024), “Digital Technologies in Offshore Drilling: Automation and Robotics”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 35 pp.
4. **Okpala, T.** (2024), “Modelling of Low Salinity Water Injection in Carbonate Reservoirs”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
5. **Acheampong, M. N. A.** (2024), “Comparative Studies on Reservoir Prediction Using Well Logs and Machine Learning Techniques”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 39 pp.
6. **Andrews, J. A. N. D.** (2024), “Evaluation of Dry Cocoa Leaves Powder as an Eco-Friendly Additive in Water-Based Mud”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 40 pp.
7. **Incoom, I.** (2024), “The Role of Renewable Energy Sources in the Future of Petroleum in Ghana”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 28 pp.
8. **Reynolds, S. F.** (2024), “Experimental Study of Dry Palm Tree Leaves as an Eco-Friendly Water-Based Mud”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 35 pp.
9. **Charway, O. S.** (2024), “Investigation into the Effects of Dry Mango Leaves in Water-Based Drilling Mud”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 33 pp.
10. **Daabe, H.** (2024), “Exploring the Effect of Dry Plantain Leaf Powder as an Additive in a Water-Based Drilling Fluid”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 31 pp.
11. **Hussein I.** (2023), “Corrosion Techniques for Oil and Gas Pipelines Exposed to H<sub>2</sub>S and Dissolved Acidic Chloride Environments: A Review”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 40 pp.
12. **Kwamuar, F.** (2023), “Numerical Simulation and Economic Analysis of

- Alkaline-Surfactant-Polymer Flooding”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 30 pp.
13. **Awell, M.** (2023), “Evaluation of Dry Plantain Leaf as Eco-friendly Additive in Water Based Mud”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 39 pp.
  14. **Fiave, A. A.** (2023), “Predicting the Density of Natural Gas Using Supervised Machine Learning Models”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 37 pp.
  15. **Allotey, P.** (2023), “Prediction of Natural Gas Consumption in Ghana Using Time Series Models”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
  16. **Afriyie, J. N.** (2022), “Designing an Application Software to Perform Material Balance Computations and Analysis Using Python”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 29 pp.
  17. **Kobi, A. K.** (2022), “Assessment and Rectification of Free Spanning Offshore Pipeline”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 32 pp.
  18. **Krah, M. A.** (2022), “Experimental Study of Bamboo Leaf Ash (BLA) as a Filtration Control Agent in Water-Based Mud”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 31 pp.
  19. **Johnson, R. T.** (2022), “Evaluation of Locally Sourced Weighting Material (Hematite) as a Substitute for Barite in Water Based Mud”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 44 pp.
  20. **Tuffour, A. A.** (2022), “Numerical Simulation and Economic Analysis of Enhanced Oil Recovery”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 27 pp.
  21. **Wontumi, H. C.** (2022), “CO<sub>2</sub>-SWAG for Enhanced Oil Recovery Using Numerical Simulation – A Kube Field Study”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 33 pp.
  22. **Affum, S. F.** (2021), “Natural Gas Utilisation in Ghana: Development Trends, Prospects and Challenges”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 39 pp.
  23. **Mensah, E. K.** (2021), “The Effect of Sodium Bicarbonate Contamination in a Water Based Mud”, *Unpublished BSc Project Report*, University of Mines

and Technology, Tarkwa, 32 pp.

24. **Buah, R. K. B.** (2021), "Optimisation of Rate of Penetration (RoP) Using Mechanic Specific Energy (MSE)", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 34 pp.
25. **Aidoo, T. N. O.** (2021), "Local Contents in the Oil and Gas Industry of Ghana: Prospects, Challenges and the Way Forward", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 35 pp.
26. **Ahiabile, J. P. S.** (2020), "Experimental Evaluation of Rice Husk Ash as an Additive for Oil Well Cementing Operations", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 33 pp.
27. **Dei-Dzeha, D.** (2020), "The Use of Hungarian Method to Minimize Drilling and Transportation Time: A Software Approach", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 26 pp.
28. **Owusu, A. S.** (2020), "Economic Evaluation of Argan Oil and Gas Offshore Project", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 40 pp.
29. **Sadongo, A. K. D.** (2020), "Performance of Zeolite as Additive for Oil Well Cementing at Low Temperature and Low Pressure", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 31 pp.
30. **Wiafe, A. S.** (2020), "Comparative Analysis of Analytical Models in Predicting the Inflow Performance of Multilateral Wells", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
31. **Erhabor, R.** (2019), "Evaluation of Ethanol as Additive for Gasoline Blending", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 32 pp.
32. **Essel, A.** (2019), "Evaluating the Performance of Palm Kernel Oil as a Based Fluid for Oil Based Muds", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
33. **Fokuo, S.** (2019), "A Review of Underbalanced Drilling Operations", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 34 pp.
34. **Konadu, A. S.** (2019), "Investigation into the Possibility of Using Treated Oil Based Mud from the Jubilee Field of Ghana for Agricultural Purpose", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa,

33 pp.

35. **Naziru, I. F.** (2019), "Application of Intelligent Well Completion in Optimising Oil Production from Oil Rim Reservoirs", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 45 pp.
36. **Ofori, H. J.** (2019), "Evaluating the Performance of Sweet Potato as Viscosifier and Fluid Loss Agent in Water Based Mud", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 33 pp.
37. **Agordo, O. K.** (2018), "Assessment of the Level of Contaminants in Treated Dissolved Oil Effluent at Aboadze", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 30 pp.
38. **Awuni, T.** (2018), "Evaluation of the Potential of Eggshell Powder (ESP) as a pH Control Additive in Water Based Mud (WBM)", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 37 pp.
39. **Dagadu, D. D.** (2018), "Effect of Water Cement Ratio and Temperature on Rheological Properties of Class G Cement", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 31 pp.
40. **Omodu, C. M.** (2018), "Minimising Cost of Petroleum Products Distribution in Nigeria from Refinery to Depots", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 40 pp.
41. **Korko-Oye, O. E.** (2018), "Investigation into the Factors that Affect Petroleum Products Price Fluctuation in Ghana", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 32 pp.
42. **Mensah-Ametume, G.** (2018), "An Investigation into the Quality of Diesel from Selected Fuel Stations in Tarkwa", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 29 pp.
43. **Mensah, M.** (2018), "Investigation into the Low Patronage of LPG in Rural Ghana: A Case Study at Aiyinase", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 29 pp.
44. **Nuer, B. T. M.** (2018), "An Investigation into the Effects of Cement Contamination on Some Physical Properties", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 36 pp.
45. **Suleman, N. M.** (2018), "Deregulation Policy on Diesel and Petrol in Ghana: Perspectives of Commercial Drivers", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 36 pp.
46. **Neur, M. B. T.** (2018), "An Investigation into the Effects of Cement

Contamination on Some Physical Properties of Water Based Mud”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 36 pp.

47. **Adongo, M. A.** (2017), “Impact of Petroleum Industry on the Ghanaian Economy”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 40 pp.
48. **Agala, R.** (2017), “Comparative Analysis of API Mixing Time and Non-API Mixing Time of Cement Slurry Performance”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 33 pp.
49. **Agudogo, E. K.** (2017), “Effects of Carboxymethyl Cellulose (CMC) on Local Cement Slurry Quality”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
50. **Etim, V. E.** (2017), “Evaluation of the Performance of Sodium Silicate on Local Cement”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 33 pp.
51. **Hamdan, A.** (2017), “Evaluation of the Determinants of Petroleum Investment in Ghana and its Influence on the Economy”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 33 pp.
52. **Mensah, S. M.** (2017), “Evaluation of the Performance of Locally Produced Lime from Oyster Shells as a pH Controlling Agent in Water-Based Mud”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 39 pp.
53. **Nketiah-Anning, V.** (2017), “Effect of Xanthan Gum Addition on the Behaviour of Fresh Water Based Mud (WBM)”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 31 pp.
54. **Takuk, D.** (2017), “Drilling Waste Management Processes and Efficiency of Management Techniques-A Case Study at Zoil Service Limited”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 28 pp.
55. **Unwene, K. K.** (2017), “Economic Effects of Oil Price Shocks/Volatilities on Developing Countries: The Nigeria Case Study”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 30 pp.
56. **Abdul-Moomin, M.** (2016), “Evaluation of the Effects of Bentonite Concentrations on Physical Properties of Local Cement”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 35 pp.



57. **Andoh, D. F.** (2016), "Effects of Sea Water on the Compressive Strength and Rheological Properties of Local Cement", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
58. **Apedum, S. A.** (2016), "Performance Evaluation of Calcium Chloride and Potassium Chloride on Local Cement", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 39 pp.
59. **Boadii, D. K.** (2016), Evaluation of Performance Locally Produced Lime as pH Control Agent in Water Based Mud *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 31 pp.
60. **Frimpong, F.** (2016), "Evaluation of the Effect of Temperature and Lignosulphonate (HR-5) on the Compressive Strength of Local Cement", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 28 pp.
61. **Mashud, A. G.** (2016), "Effect of Shale Contamination on Synthetic Based Mud (Coconut oil)", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 36 pp.
62. **Oppong, O. O.** (2016), "Comparative Analysis of Two-Trip Frac-Packing and One-Trip Perforate and Frac-Packing System", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 39 pp.
63. **Abdul-Waris, D.** (2015), "Economic Evaluation and Sensitivity Analysis of Warigas Project", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
64. **Agyapong, A. R.** (2015), "The Effects of Lignosulfonate Concentrations on Slurry Properties of Construction Grade Cement", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 27 pp.
65. **Amenyah, K. P. E.** (2015), "Profitability and Sensitivity Analysis of Peak Deep-Water Oil and Gas Project", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
66. **Annang, E. N. N.** (2015), "Re-Use of Produced Water: Challenges and Common Treatment Methods - A Review", *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 40 pp.
67. **Bonsu, K. T.** (2015), "The Effects of Accelerator ( $\text{CaCl}_2$ ) Concentrations on

Slurry Properties of Construction Grade Cement”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 32 pp.

68. **Awortwe-Koomson, S.** (2014), “Safety Knowledge of Domestic Users of Liquefied Petroleum Gas (LPG) in Ghana – A Case Study”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
69. **Bukari, M.** (2014), “Comparative Analysis of Ordinary Portland Cement Slurry and Oil Field Cement Slurry for Cementing Shallow Wells”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 35 pp.
70. **Gedzia, K. H.** (2014), “Assessment of Liquefied Petroleum Gas (LPG) Refilling Plants Operations in Ghana - A Study at Tarkwa Nsuaem Municipality”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 39 pp.
71. **Kuada, W. F.** (2014), “Evaluation of the Effect of Sea Water and Fresh Water on the Rheology of Water Base Mud”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 32 pp.
72. **Kwaw, A. J.** (2014), “The Use of LPG as a Fuel for Commercial Vehicles in Ghana- A Case Study”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
73. **Oppong, E. A. B.** (2014), “The Benefits of Harnessing Natural Gas from Jubilee Field as an Alternative Energy Source”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 31 pp.
74. **Sefa-Boakye, K.** (2014), “Economic Evaluation and Sensitivity Analysis of Nimpok Oil Project at the Accra Contract Area”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 34 pp.
75. **Teye, R. P.** (2014), “The Ghana LPG Promotion Programme: Challenges, Opportunities and the Way Forward”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 29 pp.
76. **Agble, P. A.** (2013), “Assessment of Liquefied Petroleum Gas Shortages in Ghana: A Case Study at Tarkwa”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 35 pp.
77. **Antwi-Boasiako, G. J.** (2013), “Analysis of Some Major Offshore Accidents”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 34 pp.
78. **Ansah-Sem, K.** (2013), “Economic and Sensitivity Analysis of BiggyBron

Offshore Project”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 33 pp.

79. **Bangolam, M. E.** (2013), “The Ghana Gas Project and Its Environmental Effect - A Case Study at Atuabo”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 33 pp.
80. **Bavoh, B. C.** (2013), “The Challenges Facing Petroleum Engineering Education in Ghana”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 32 pp.
81. **Bonah-Mensah, D.** (2013), “Assessment of Environmental Management Challenges of Offshore Oil and Gas Development in Ghana”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 24 pp.
82. **Bortsie, K. E. A. B.** (2013), “Analysis of Some Major Accidents in the Oil and Gas Industry”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 23 pp.
83. **Dapaah, K. A.** (2013), “The Socio-economic Impact of Oil and Gas Industry on the People of Cape Three Points”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 40 pp.
84. **Kanduri, T. W.** (2013), “Assessment of Petroleum Engineering Education Curriculum (PEEC) at University of Mines and Technology”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 38 pp.
85. **Klu, F.** (2013), “Ghana Gas Project: Expectations of the People of Atuabo”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 37 pp.
86. **Ntiamoah, P.** (2013), “An Investigation into the Use of NPV and IRR as Investment Decision Criteria for Oil and Gas Projects”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 24 pp.
87. **Odei-Bosompem, A.** (2013), “Risk Assessment of Filling Stations in Tarkwa-Nsuaem Municipality”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 34 pp.
88. **Okai, J. N.** (2013), “Analysis of Oil Pipeline Failures in the Oil and Gas Industry in the Sub-Sahara Africa”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 20 pp.
89. **Sagoe, B. D.** (2013), “The Effects of Oil and Gas Operation on Water Quality

in some Selected Oil Communities in Ghana”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 27 pp.

90. **Sawiri-Tutu, A. N.** (2013), “Health Risk Associated with Oil Well Drilling Fluids – A Review”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 34 pp.
91. **Ulricks, T. T.** (2013), “Economic Evaluation of Tchi Offshore Oil Project at Anguilfield”, *Unpublished BSc Project Report*, University of Mines and Technology, Tarkwa, 29 pp.

#### **(D) Other Professionally Related Experience**

##### **(i) Previous Consultancy/Employment**

<b>Date</b>	<b>Details of Consultancy/Employment</b>
<b>2021-Date</b>	<b>Focal Personal:</b> Training and Technology Transfer, Ghana Landscape Restoration and Small-Scale Mining Project.
<b>2023</b>	<b>Team Member:</b> A National Safety Assessment of the Existing LPG Supply Chain for Safe Sustainable Clean Energy for All, GCM-TEF Project.
<b>2023</b>	<b>Lead Consultant:</b> Development of an Emergency Preparedness and Response Plan for NEZO Oilfields Supplies Limited.
<b>2023</b>	<b>Team Member:</b> Training Small Scale Miners on Sustainable Small Scale Mining Practices.
<b>2022</b>	<b>Lead Consultant:</b> Development of Risk Management Policy/Plan for NEZO Oilfields Supplies Limited.
<b>2022</b>	<b>Lead Consultant:</b> Development of Occupational Health, Safety and Management Plan (OHSMP) for NEZO Oilfields Supplies Limited.
<b>2022</b>	<b>Team Leader:</b> Training Programme for District Mining Committee Members in Ghana

**2016** **Team Leader:** Training Programme for Members of the Ghana National Association of Small-Scale Miners.

**2010** **Team Member:** Organisation of Short Course Training Programme on Offshore Technology and Pipeline Engineering.

(ii) Practical Training and Academic Visits

I have had, over the years, professional and academic experience through practical training with, and visits to mines and oil companies including the following:

- (a) **Petroleum Depot:** Total Petroleum Depot at June 2020  
AngloGold
- (b) **Gas Processing Plant:** Ghana National Gas April, 2018  
Company
- (c) **Refinery:** Tema Oil Refinery, Ghana. June 2015
- (d) **Drilling Rig:** Shell Production and Development June 2015  
Company (SPDC), Nigeria.
- (e) **Production Flow Station:** Shell Production and July 2013  
Development Company (SPDC), Port Harcourt,  
Nigeria.
- (f) **Drilling Rig:** Shell Production and Development July 2013  
Company (SPDC), Bayelsa, Nigeria.
- (g) **Drilling Rig:** Total Nigeria. July 2013
- (h) **Production Flow Station:** Shell Production and July 2013  
Development Company (SPDC), Port Harcourt,  
Nigeria.
- (i) **Drilling Rig:** Total Company, Port Harcourt, Nigeria July 2013
- (j) **Service Company:** Baker Hughes, Port Harcourt, June 2011  
Nigeria.

- (k) **Refinery:** Port Harcourt, Nigeria. June 2011
- (l) **Production Flow Station:** Shell Production and Development Company (SPDC), Port Harcourt, Nigeria. April 2011
- (m) **Atwood Hunter Rig, Offshore:** Kosmos Ghana Limited. April 2011
- (n) **Service Company:** Baker Hughes, Takoradi, Ghana. April 2011
- (o) **Mining Company, Surface:** Ghana Bauxite Company Limited, Awaso, Ghana. July 2005
- (p) **Mining Company, Surface:** AngloGold Ashanti, Iduapriem Mine, Tarkwa, Ghana. Feb. 2005
- (q) **Mining Company, Underground:** AngloGold Ashanti, Obuasi, Ghana. Dec. 2004
- (r) **Mining Company, Surface:** Bogoso Gold Limited, Bogoso, Ghana. Mar. 2003

#### 4. CONFERENCES/SEMINARS/WORKSHOPS AT WHICH PAPERS WERE READ

- (i) **January 2021:** Workshop on University Teaching and Examinations Organised by Planning and Quality Assurance Unit of UMaT, Tarkwa, Ghana on “Lecture Notes Preparation, Lecture Delivery, Setting Examination Questions and Marking Scheme Preparation”, Tarkwa-Ghana.
- (ii) **January 2020:** Workshop on University Teaching and Examinations Organised by Planning and Quality Assurance Unit of UMaT, Tarkwa, Ghana on “Lecture Notes Preparation, Lecture Delivery, Setting Examination Questions and Marking Scheme Preparation”, Tarkwa-Ghana.
- (iii) **August 2020:** 6th UMaT Biennial International Mining and Mineral Conference on “Expanding the Frontiers of Mining Technology”, Tarkwa-Ghana.

- (iv) **January 2019:** Workshop on University Teaching and Examinations Organised by Planning and Quality Assurance Unit of UMaT, Tarkwa, Ghana on “Lecture Notes Preparation, Lecture Delivery, Setting Examination Questions and Marking Scheme Preparation”, Tarkwa-Ghana.
- (v) **August 2016:** Fourth Biennial UMaT International Conference on Mining and Mineral Processing, Tarkwa, Ghana. I presented a paper entitled: “Gas Hydrate Formation Phase Boundary Behaviour of Synthetic Natural Gas Systems at Keta Field of Ghana”.
- (vi) **June 2015:** First International Conference on Oil Field Chemistry and Flow Assurance (Oilflow) 2015. I presented a paper entitled: Comparative Study of Local Cements with Imported Class ‘G’ Cement at Different Temperatures for Oil Well Cementing Operations in Ghana”
- (vii) **August 2014:** Third Biennial UMaT International Conference on Mining and Mineral Processing, Tarkwa, Ghana. My co-author presented a paper entitled: “Safety Knowledge of Domestic Users of Liquefied Petroleum Gas (LPG) – A Case Study”.
- (viii) **August 2012:** Second Biennial UMaT International Conference on Mining and Mineral Processing, Tarkwa, Ghana. I presented a paper entitled: “Challenges Facing Petroleum Engineering Education in Public Universities in Ghana: The Way Forward”.
- (ix) **August 2010:** First Biennial UMaT International Conference on Mining and Mineral Processing, Tarkwa, Ghana. I presented a paper entitled: “The Oil and Gas Find at Cape Three Points-Expectations of the Neighbouring Communities”.

## 5. LIST OF ALL THE PUBLICATIONS

### (A) Referred Journal Papers (Published with Exact References)

1. **Broni-Bediako, E.**, Ocran, D. and Osafo, R. T (2024), “Exploring the Performance of Dry Bamboo Leaves Powder from *Bambusa Heterostachya* as Additive in Water-Based Mud”, *International Journal of Emerging Science and Engineering (IJESE)*, Volume 12, No. 9, pp.
2. **Broni-Bediako, E.**, Buabeng, A. and Allotey, P. (2024), Predicting Ghana’s Daily Natural Gas Consumption Using Time Series Models, *Petroleum Science and Engineering*, Vol. 8, No. 1, pp. 27-37.

3. Ocran, D. and **Broni-Bediako, E.** (2024), “Metaheuristics and the Quadrant Scale Approach for Appraising the Attractiveness of Petroleum Fiscal Systems”, *Petroleum Science and Technology*, Vol. 42, No. 17, pp. 1-22.
4. **Broni-Bediako, E.**, Oware, S, and Asante-Okyere, S. (2023), “A New Approach in Predicting the Higher Heating Value of Natural Gas from Ghana’s Oil Fields”, *Journal of Chemical and Petroleum Engineering*, Vol. 57, No. 2, pp. 321-341.
5. Bavoh, C. B., **Broni-Bediako, E.**, and Marfo, S. A. (2023), “Review of Biosurfactants Gas Hydrate Promoters”, *Methane*, Vol. 2, pp. 304–318.
6. **Broni-Bediako, E.**, Hussein, I. and Dankwa, O. K. (2023), “Corrosion of Oil and Gas Pipelines: A Review of the Common Control Methods and their Limitations”, *Journal Petroleum and Chemical Engineering*, Vol. 1, No. 1, 19-28.
7. **Broni-Bediako, E.**, Ocran, D., Johnson, R. T. and Larweh, S. L. (2023), “Characterisation of Iron Ore from Opon Mansi in Ghana and its Potential as a Weighting Agent in a Water-Based Mud”, *Ghana Journal of Technology*, Vol. 7, No. 1, pp. 62 – 72.
8. Kwaw, J. A. and **Broni-Bediako, E.** (2022), “Effect of Salinity (KCl) on Rheological Properties and Rate of Penetration of Treated Bentonite and Ca<sup>2+</sup>-Based Polymer Drilling Mud”, *International Journal of Research and Scientific Innovation (IJRSI)*, Vol. 9, No. 10, pp. 15-21.
9. Ocran, D., Ikiensikimama, S. S. and **Broni-Bediako, E.** (2023), Grey Wolf Optimizer for Solving Well Placement Optimization Problem Constrained to Minimum Well Distance, *Petroleum Science and Technology*, Vol. 41, No. 14, pp. 1391-1413,
10. Ocran, D., Ikiensikimama, S. S. and **Broni-Bediako, E.** (2022), “A Compositional Function Hybridization of PSO and GWO for Solving Well Placement Optimisation Problem, *Petroleum Research* 7, pp. 401-408.
11. **Broni-Bediako, E.**, Brantson, E. T. and Asante K. A (2021), Numerical Simulation of the Combined Effects of Low Salinity Water and Alkaline-Surfactant-Polymer Flooding”, *International Journal of Oil, Gas and Coal Engineering*, Vol. 9, No. 4, pp. 46-58.
12. **Broni-Bediako, E.** and Naatu, F. M. (2021), “Effects of Fresh Nano Zeolite on the Physical Properties of Oil Well Cement Slurry at High Temperature”, *Ghana Journal of Technology*, Vol. 5, No. 2, pp. 86-99.



13. **Broni-Bediako, E.** and Naatu, F. M. (2021), "Experimental Evaluation of the Performance of Fresh Nano Zeolite as an Oil Well Additive", *Petroleum Science and Engineering*, Vol. 5, No. 1, pp. 1-12.
14. **Broni-Bediako, E.**, Ocran, D., Amenyah, P. E. K. and Marwa, S. N. (2020), "Deregulation of Diesel and Petrol Pricing in Ghana: Perspectives of Commercial Drivers", *Petroleum and Petrochemical Engineering Journal*, Vol. 4, No. 5, pp. 1-8.
15. **Broni-Bediako, E.**, Amarin, R. and Mensah, A. G. (2020), "Assessment of Quality of Diesel Fuel from Selected Filling Stations in Tarkwa, Ghana", *Petroleum and Petrochemical Engineering Journal*, Vol. 4, No. 5, pp. 1-6.
16. Amarin, R. and **Broni-Bediako, E.** (2020), "Evaluating the Rheological Properties of Antioxidated Local Pseudo Oil Base Muds for Geothermal Drilling Environment", *Ghana Journal of Technology*, Vol. 5, No. 1, pp. 93-103.
17. Yuhaa, Y B. M, Bavoh, C. B., Lala, B. and **Broni-Bediako, E.** (2020), "Methane Hydrate Phase Behaviour in EMIM-Cl Water Based Mud (WBM): An Experimental and Modelling Study", *South African Journal of Chemical Engineering*, Vol. 34, pp. 47-56.
18. Ocran, D., **Broni-Bediako, E.** and Ofori-Sarpong, G. (2019), "Boundary Applicability of the Ghana's Oil Block Fiscal Regimes", *Ghana Mining Journal*, Vol. 19, No. 2, p. 70-76.
19. **Broni-Bediako, E.**, Fuseini, N. I., Akoto, R. N. A. and Brantson, E. T. (2019), "Application of Intelligent Well Completion in Optimising Oil Production from Oil Rim Reservoirs", *Advances in Geo-Energy Journal*, Vol. 3, No. 4, p. 343-357.
20. **Broni-Bediako, E.** and Amarin, R. (2019), "Experimental Study on the Effects of Cement Contamination in a Water Based Mud", *Advances in Geo-Energy Research*, Vo. 3, No. 3, pp. 314-319.
21. Dankwa, O. K., Prince, P. O. and **Broni-Bediako, E.** (2018), "Evaluating the Effects of Monovalent and Divalent Salts on the Rheological Properties of Water Based Mud", *The Open Petroleum Engineering Journal*, Vol. 11, pp. 98 - 106.
22. Amarin, R., **Broni-Bediako, E.**, Worlanyo, D. and Konadu, S. A. (2018), "The Use of Liquefied Petroleum Gas (LPG) as a Fuel for Commercial Vehicles

in Ghana: A Case Study at Tema Community 1”, *Current Journal of Applied Science and Technology*, Vol. 29, No.2, pp. 1 - 8.

23. **Broni-Bediako, E.** and Amarin, R. (2018), “Enhancing the Performance of Local Cement as an Alternative for Oil and Gas Well Cementing Operation”, *Petroleum and Coal*, Vol. 60, No.5, pp. 977 - 984.
24. **Broni-Bediako, E.**, Onyije, I. J. and Unwene, K. K. (2018), “Economic Effects of Oil Price Volatility on Developing Countries: A Case Study of an Oil Exporting Country”, *International Journal of Economics and Management Sciences*, Vol. 7. No. 2, pp. 1 - 5.
25. **Broni-Bediako, E.** and Amarin, R. (2018), “The Ghana Liquefied Petroleum Gas Promotion Programme: Opportunities, Challenges and the Way Forward”, *Innovative Energy and Research*, Vol. 7. No. 2, pp. 1 – 5.
26. **Broni-Bediako, E.** and Amarin, R. (2017), “Advances in the Possibility of Utilising Construction Grade Cements (CGCs) for Oil Well Cementing”, *Oil and Gas Research*, Vol. 3. No. 3, pp. 1 – 4.
27. **Broni-Bediako, E.** and Amarin, R. and Bavoh, B. C. (2017), Gas Hydrate Formation Phase Boundary Behaviour of Synthetic Natural Gas System of the Keta Basin of Ghana”, *The Open Petroleum Engineering Journal*, Vol. 10, pp. 64 - 72.
28. **Broni-Bediako, E.**, Amarin, R. and Koomson-Awortwe, S. (2017), “Safety Knowledge of Domestic Liquefied Petroleum Gas (LPG) Users in Ghana – A Case Study”, *Journal of Petroleum and Coal*, Vol. 59, No. 1, pp.54-61.
29. **Broni-Bediako, E.** and Amarin, R. (2016), “Evaluation of the Operations of Liquefied Petroleum Gas Refilling Plants in Ghana – A Case Study”, *Journal of Environmental and Natural Resources Management*, Vol. 3, No. 1, pp. 15-22.
30. **Broni-Bediako, E.**, Joel, O. F. and Ofori-Sarpong, G. (2016), “Oil Well Cement Additives: A Review of the Common Types”, *Journal of Oil and Gas Research*, Vol.2, No. 2, pp. 1-7.
31. **Broni-Bediako, E.**, Joel, O. F. and Ofori-Sarpong, G. (2015), “Comparative Study of Local Cements with Imported Class ‘G’ Cement at Different Temperatures for Oil Well Cementing Operations in Ghana”, *Journal of Petroleum and Environmental Biotechnology*, Vol. 6, No. 4, pp. 1-7.
32. **Broni-Bediako, E.**, Joel, O. F. and Ofori-Sarpong, G. (2015), “Evaluation of the Performance of Local Cements with Imported Class ‘G’ Cement for Oil

Well Cementing Operations in Ghana”, *Ghana Mining Journal*, Vol. 15, No. 1, pp. 78 - 84.

33. **Broni-Bediako, E.** and Dankwa, O. K. (2013), “Assessment of Liquefied Petroleum Gas Utilisation in Ghana – A Study at Tarkwa”, *International Journal of Scientific and Technology Research*, Vol. 2, No. 9, pp. 6-10.
34. Bimpong, O. B. and **Broni-Bediako, E.** (2012), “Theoretical Design Consideration of Artificial Lift and Tubing String for Solution Gas Drive”, *ARPJ Journal of Science and Technology*, Vol. 2, No. 5, pp. 463 - 473.
35. Amorin, R. and **Broni-Bediako, E.** (2012), “Major Challenges in Ghana’s Oil and Gas Discovery: Is Ghana Ready”, *ARPJ Journal of Science and Technology*, Vol. 3, No. 1, pp. 21 - 25.
36. **Broni-Bediako, E.** and Amorin, R. (2010), “Effects of Drilling Fluid Exposure to Oil and Gas Workers Presented with Major Areas of Exposure and Exposure Indicators”, *Research Journal of Applied Sciences, Engineering and Technology*, Vol. 2, No. 8, pp.710-719.
37. Amorin, R and **Broni-Bediako, E.** (2010), “Application of Minimum Curvature Method to Wellpath Calculations”, *Research Journal of Applied Sciences, Engineering and Technology*, Vol. 2, No. 7, pp. 679 - 686.
38. Eshun, P. A. and **Broni-Bediako, E.** (2011), “Assessment of Conflicts among Supervisors and Operational Employees in Ghanaian Mines- A Case Study”, *Asian Journal of Business and Management Sciences*, Vol. 1, No. 1, pp. 138 - 147.
39. **Broni-Bediako, E.** and Addei, I. (2010), “Managing the Huge Expectations of Ghana’s Oil and Gas”, *International Journal of Economic, Development Research and Investment*, International Centre and Institute for Development Research, Vol.1, Nos. 2 and 3, pp. 1 - 7.

#### **(B) Referred Conference Paper (Published with Exact References)**

40. Amorin, R., **Broni-Bediako, E.** and Sasu, P. (2020), “The Effects of Spent Synthetic Based-Mud on Terrestrial and Aquatic Lives”, *Proceedings of 6th UMaT Biennial International Mining and Mineral Conference*, Tarkwa, Ghana, pp. 58-63.
41. Amorin, R., **Broni-Bediako, E.**, Westkinn, C. and Appau, P. O. (2019), “Performance Assessment and Economic Analysis of Blended Class G Cement with Local Cement for Oil Well Cementing Operations: A Case Study of Ghana”, *Proceedings at the Nigeria Annual International Conference and*

*Exhibition, Society of Petroleum Engineers, August 5-7, pp. 1-13.*

42. Amorin, R., **Broni-Bediako, E.**, Adanvor, J. B. and Appau, P. O. (2019), "Evaluating the Performance of Local Anionic Emulsifier as a Possible Emulsifier for Synthetic-Based Mud System for Drilling Operations", *Proceedings at the Nigeria Annual International Conference and Exhibition, Society of Petroleum Engineers* Society of Petroleum Engineers, pp. 1-9.
43. **Broni-Bediako, E.**, Amorin, R. and Bavoh, C. B. (2016), "Gas Hydrate Formation Phase Boundary Behaviour of Synthetic Natural Gas Systems at Keta Field of Ghana", *4<sup>th</sup> UMaT Biennial International Conference on Mining and Mineral Processing*, Tarkwa, Ghana, 3<sup>rd</sup> -6<sup>th</sup> August, 2016, pp. 1 - 6.
44. **Broni-Bediako, E.** and Suglo, R. S. (2012), "A Study of the Causes of Boulder Production at Ghana Bauxite Company Limited", *2<sup>nd</sup> UMaT Biennial International Conference on Mining and Mineral Processing*, pp. 468 - 472.
45. **Broni-Bediako, E.** and Amorin, R. (2012), "Challenges Facing Petroleum Engineering Education in Public Universities in Ghana: The Way Forward", *2<sup>nd</sup> UMaT Biennial International Conference on Mining and Mineral Processing*, pp. 510 - 513.
46. Addei, I., Addei, C. and **Broni-Bediako, E.** (2010), "The Oil and Gas Find at Cape Three Points-Expectations of the Neighbouring Communities", *Proceedings of the 1<sup>st</sup> Biennial UMaT International Conference on Mining & Mineral Processing, Expanding the Frontiers of Mining Technology*, Tarkwa, Ghana, pp. 1-12.

## 6. RECORD OF SERVICE TO THE COMMUNITY

### (A) Service to the University Community (SUC)

#### (i) Appointments to Administrative and Other Statutory Positions

Aug. 2024 – Date	<b>Dean, School of Petroleum Studies,</b> University of Mines and Technology, Tarkwa.
Aug. 2022 – July 2024	<b>Dean, School of Petroleum Studies,</b> University of Mines and Technology, Tarkwa.
Aug. 2021 – July 2022	<b>Vice Dean, Planning and Quality Assurance Unit,</b> University of Mines and Technology, Tarkwa.
Aug. 2020 – July 2021	<b>Vice Dean, Planning and Quality Assurance</b>

	<b>Unit</b> , University of Mines and Technology, Tarkwa.
Aug. 2020 – July 2021	<b>Head, Department of Petroleum and Natural Gas Engineering</b> , University of Mines and Technology, Tarkwa.
Aug. 2019 – July 2020	<b>Head, Department of Petroleum Engineering</b> , University of Mines and Technology, Tarkwa.
Aug. 2018 –Aug. 2019	<b>University Training Coordinator</b> , University of Mines and Technology, Tarkwa.
Aug. 2018 -Aug. 2019	<b>Faculty Training Coordinator</b> , Faculty of Mineral Resources Technology University of Mines and Technology, Tarkwa.
Aug. 2017 - July 2018	<b>Senior Hall Tutor</b> , Chamber of Mines Hall, University of Mines and Technology, Tarkwa.
Aug., 2013 - July2015:	<b>Training Officer</b> , Petroleum Engineering Department, University of Mines and Technology, Tarkwa.
Jan. 2013 - July 2015:	<b>Department Representative</b> , Faculty Board of the Mineral Resources Technology, University of Mines and Technology (UMaT), Tarkwa.
(ii) Membership of Boards and Committees	
July 2023 – Date	<b>Member, Disciplinary Committee</b> , University of Mines and Technology, Tarkwa.
Nov. 2021 to Jul. 2022:	<b>School Representative on Academic Board</b> , Representative of the School of Petroleum Studies on the Academic Board, University of Mines and Technology (UMaT), Tarkwa.
Dec. 2018 to 2019:	<b>Faculty Representative on Academic Board</b> , Representative of the Faculty of Mineral Resources Technology on the Academic Board, University of Mines and Technology (UMaT), Tarkwa.
August 2015 to date	<b>Hall Fellow</b> , Chamber of Mines Hall, University

of Mines and Technology (UMaT), Tarkwa, Ghana.

April 2010 to July 2015      **Hall Fellow**, Gold Refinery Hall, University of Mines and Technology (UMaT), Tarkwa, Ghana.

(iii)      Membership of Non-Statutory/Ad-hoc Committees

May 2024:      **Member**, Committee to Develop Programme Structure on MSc Energy Economics, University of Mines and Technology (UMaT), Tarkwa.

August 2023:      **Chairman**, Committee for the Development of Thesis Submission and Assessment Portal for the University of Mines and Technology (UMaT), Tarkwa.

July 2023:      **Member**, Departmental Appointments and Promotions Sub-Committee, Department of Petroleum and Natural Gas Engineering, University of Mines and Technology (UMaT), Tarkwa.

May 2023:      **Chairman**, Committee to Review the Running of Postgraduate Programmes at the University of Mines and Technology (UMaT), Tarkwa.

September 2022:      **Member**, Committee to Consider the Running of Postgraduate Programmes on Weekends and Evenings at the University of Mines and Technology (UMaT), Tarkwa.

August 2022:      **Member**, Committee to Review the Sponsorship Packages for Beneficiaries of the Staff Development at the University of Mines and Technology (UMaT), Tarkwa.

July 2022:      **Principal Judge**, Member of Moderators 70<sup>th</sup> Institutional Anniversary Inter-Faculty/School Quiz Competition, University of Mines and Technology (UMaT), Tarkwa.

August, 2021      **Chairman**, Committee to Investigate Negligence

of Duty by Sylvester Koomson, a Senior Campus Guard of University of Mines and Technology (UMaT), Tarkwa, 20<sup>th</sup> August 2021.

- April, 2021: **Member**, Investigative Committee on Examinations Malpractice involving Petroleum Engineering Students, University of Mines and Technology (UMaT), Tarkwa.
- December, 2019: **Member**, Committee on Consider Proposal to Set up Drone Training Centre in UMaT.
- September, 2019: **Member**, Committee on the Brochure for certificate Programmes in UMaT.
- September, 2019: **Chairman**, Committee on the Introduction of Chemical Engineering Programme, University of Mines and Technology (UMaT), Tarkwa.
- August, 2019: **Chairman**, Committee on the Introduction of Certificate Programmes in Drilling Engineering, University of Mines and Technology (UMaT), Tarkwa.
- August, 2019: **Member**, Committee to Consider UMaT Postgraduate Admission Requirements.
- August, 2019: **Member**, Committee on Special Package of Certificate Programmes for Corporate Bodies, University of Mines and Technology (UMaT), Tarkwa.
- May, 2019: **Member**, Committee to Select MSc/MPhil/PhD Applicants for Admission into Postgraduate Programmes in Petroleum Engineering.
- March, 2019: **Assessor**, Member of Panel of Judges at 5<sup>th</sup> Innovation and Career Fair, University of Mines and Technology (UMaT), Tarkwa.
- March, 2019: **Member**, Committee on Hall Council Recorder, University of Mines and Technology (UMaT), Tarkwa.

March, 2018:	<b>Assessor</b> , Assessment of PhD Proposal, University of Mines and Technology (UMaT), Tarkwa.
August, 2018:	<b>Member</b> , Committee to Review Proposed Curricula and Statutes of Alpha University College.
January, 2018:	<b>Member</b> , Committee on Alleged Fielding of Non-UMaT Student at 25 <sup>th</sup> GUSA Games, University of Mines and Technology (UMaT), Tarkwa.
May, 2017:	<b>Member</b> , Committee to Select Applicants for Admission into Postgraduate Programmes in Petroleum Engineering, University of Mines and Technology (UMaT), Tarkwa.
April, 2017:	<b>Member</b> , Committee to Select Applicants for Admission into Postgraduate Programmes in Petroleum Engineering, University of Mines and Technology (UMaT), Tarkwa.
January, 2017:	<b>Member</b> , Committee to Formulate the Fee Regime Chargeable for Postgraduate Programmes in Petroleum Engineering, University of Mines and Technology (UMaT), Tarkwa.
September, 2016:	<b>Chairman</b> , Committee to Review/Propose a Welfare Scheme for UTAG-UMaT Branch, University of Mines and Technology (UMaT), Tarkwa.
.August, 2016:	<b>Chairman</b> , Committee to Develop Learning outcomes for Petroleum Engineering Programme, University of Mines and Technology (UMaT), Tarkwa.
August, 2016	<b>Chairman</b> , Committee on Proposal Development, Petroleum Engineering Department, University of Mines and Technology (UMaT), Tarkwa.
March, 2016:	<b>Co-opted Member</b> , Committee to Organise the



- 1<sup>st</sup> UMaT Day of Relaxation, University of Mines and Technology (UMaT), Tarkwa.
- March, 2015: **Member**, Committee on Training Co-ordination Fees and Departmental Dues, University of Mines and Technology (UMaT), Tarkwa.
- February, 2015: **Member**, Committee to Draw a Curriculum for the Establishment of BSc Petroleum Geoscience Engineering Programme, University of Mines and Technology (UMaT), Tarkwa.
- September, 2014: **Member**, Committee on Field Trip and Industrial Attachment Report Format, University of Mines and Technology (UMaT), Tarkwa.
- September, 2014: **Member/Secretary**, Committee to Draw up a curriculum for the establishment of BSc Natural Gas Engineering Programme.
- September, 2014: **Member/Secretary**, Committee to Draw up a Curriculum for the Establishment of BSc Petroleum Refining Systems Engineering, University of Mines and Technology (UMaT), Tarkwa.
- February, 2014: **Member**, Committee to Draw up Course Syllabi for Postgraduate Programme for Petroleum Refining Systems Engineering, University of Mines and Technology (UMaT), Tarkwa.
- April, 2011 - Jul., 2013: **Lecturer In-Charge of Petroleum Engineering Laboratory**, Petroleum Engineering Department, University of Mines and Technology (UMaT), Tarkwa.
- June, 2013: **Chairman**, Committee for Selecting Best Colloquium/Seminar and Project Report Student in Petroleum Department for 2012/2013 Academic Year.
- February, 2013: **Chairman**, Committee for Determining the Criteria for Selecting Best Production Student

instituted by Prof Dulu Appah, University of Mines and Technology (UMaT), Tarkwa.

January 2012: **Member**, Investigative Committee on Examinations Malpractice involving two Petroleum Engineering Students, University of Mines and Technology (UMaT), Tarkwa.

September 2010: **Team Member**, Mobilise Resources for Get Energy Workshop, University of Mines and Technology (UMaT), Tarkwa.

April 2002 to date: **Academic Tutor**, Petroleum Engineering Department.

(iv) Extension Work (Workshops and Seminar)

February 2022: **Resource Person**, Workshop on Career Progression Organised by the Planning and Quality Assurance Unit of UMaT, Tarkwa, Ghana on 21<sup>st</sup> February 2022. Activity: Preparation of Promotion Documents.

November 2021: **Resource Person**, Orientation for Newly Appointed Staff of the UMaT Organised by the Planning and Quality Assurance Unit of UMaT, Tarkwa, Ghana on 14<sup>th</sup> December 2021. Activity: Preparation of Lecture Material and Lecture Delivery.

February 2021: **Resource Person**, Workshop on University Teaching and Examinations Organised by Planning and Quality Assurance Unit of UMaT, Tarkwa, Ghana on “Lecture Notes Preparation, Lecture Delivery, Setting Examination Questions and Marking Scheme Preparation”, Tarkwa-Ghana.

January 2020: **Resource Person**, Workshop on University Teaching and Examinations Organised by Planning and Quality Assurance Unit of UMaT, Tarkwa, Ghana on “Lecture Notes Preparation, Lecture Delivery, Setting Examination Questions and Marking Scheme Preparation”, Tarkwa-Ghana.

- January, 2019: **Resource Person**, Workshop on University Teaching and Examinations Organised by Planning and Quality Assurance Unit of UMaT, Tarkwa, Ghana on “Lecture Notes Preparation, Lecture Delivery, Setting Examination Questions and Marking Scheme Preparation”, Tarkwa-Ghana.
- April, 2016: **Resource Person**, Seminar/Lecture on the topic, “*Format for the Presentation of Project Reports in University of Mines and Technology*”, Petroleum Engineering Department.
- March, 2016: **Resource Person**, Seminar/Lecture on the topic, “*Effective Presentation Skills for Academic Purposes*”, Petroleum Engineering Department.
- February, 2015: **Resource Person**, Seminar/Lecture on the topic, “*Evaluation of Locally Manufactured Cements as Possible Alternative for Oil and Gas Well Cementing Operations in Ghana*” Petroleum Engineering Department.
- October, 2012: **Guest Speaker**, Seminar/Lecture on the topic, “*Petroleum Engineer and Job Opportunities*”, Association of Mining and Mineral Engineering Students.
- December 2011: **Guest Speaker**, Seminar/Lecture on the topic, “*Petroleum Engineer and Job Opportunities*”, Association of Mining and Mineral Engineering Students.
- (v) Technical and Consultancy Work-Evidence/Reviewer of Journal Papers
- April 2021: **Technical Work**: Chairman of a Plenary Discussion on Sanctions for Small Scale Mining under the Minerals and Mining Act held at Accra International Conference Centre.
- December 2018: **Technical Work**: Panellist at the 5<sup>th</sup> National Policy Summit on Improving Performance in State-Owned Enterprises and Agencies. Topic discussed is “Protecting our National Resources through Improved Regulatory Regime”.

January 2018: **Reviewer:** Detail Measures taken by Kumasi Technical University to address deficiencies identified by the Accreditation Assessment Panel.

(vi) Special Assignments on Behalf of the University

June 2021: **Member,** Team to Assess Academic Facility of CSIR College of Science and Technology, Fumesua Kumasi, Ghana.

October 2020: **Member,** Committee on Review of Proposed New Programme (BSc Aerospace Engineering), University of Mines and Technology.

October 2020: **Member,** Committee on Review of Proposed New Programme Diploma/BSc Programme Transport Management, University of Mines and Technology.

March, 2019: **Member,** Panel of Judges at the 5<sup>th</sup> Innovation and Career Fair.

March 2019: **Member,** Assessment of MPhil Thesis Proposal for Transfer to PhD Thesis.

December 2017: **Member,** Committee on Certification of PhD Thesis of Mr Eric Mensah Amarfio, University of Mines and Technology (UMaT), Tarkwa.

(vii) Participation in University/Faculty/Department Activities

April 2010 to date: **Participant** in Seminars, Conferences, Workshops, Functions, Meetings organised by the University or School or Department

**(B) Service to the National Community (SNC)**

(i) Membership of National Boards, Committees, Organisations and Professional Bodies

June 2024: **Chairman,** Teberebie Compensation Negotiations Committee.

- October 2023: **Chairman**, Panel for Accreditation of B.Eng. Oil and Gas Engineering, Kumasi Technical University, Kumasi, Ghana.
- March 2023: **Chairman**, Teberebie Compensation Negotiations Committee.
- December 2022: **Chairman**, Panel for Accreditation of BSc Plumbing, Gas and Sanitary Technology, Akonten Appiah-Menka University of Skills Training and Entrepreneurial Development, Kumasi, Ghana.
- November 2022: **Member/Secretary**, Implementation Committee to Establish ASM Demonstration and Incubations Centres.
- October 2022: **Chairman**, Panel for Accreditation of BSc Petroleum Engineering-IDL, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
- October 2022: **Chairman**, Panel for Accreditation of M.Eng. Oil and Gas (Upstream Option)-IDL, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
- October 2022: **Chairman**, Panel for Accreditation of HND/B. Tech Plumbing and Gas Technology, Takoradi Technical University, Takoradi, Ghana.
- August 2022: **Chairman**, Panel for Accreditation of MTech Petroleum Engineering, Takoradi Technical University, Takoradi, Ghana.
- October 2021: **Chairman**, Panel for Accreditation of Diploma in Oil and Gas Engineering, All Nations University, Koforidua, Ghana.
- September 2021: **Chairman**, Panel for Re-Accreditation of MBA Oil and Gas, Ghana Communication Technology University, Tesano-Accra, Ghana.
- April 2021: **Chairman**, Plenary Discussion on Sanctions for Small Scale Mining under the Minerals and Mining Act held at Accra International Conference Centre.
- October 2020: **Chairman**, Panel for Accreditation of MPhil/MSc Oil and Gas Management, MBA Oil and Gas Management and MA

Communication in Oil and Gas Management, University of Cape Coast, Cape Coast, Ghana.

- October 2020: **Chairman**, Panel Assessors for Reaccreditation of BSc Petroleum Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
- October 2020: **Chairman**, Panel for Accreditation of HND/B. Tech Plumbing and Gas Technology, Takoradi Technical University, Takoradi, Ghana.
- March 2020: **Reviewer**, Review and Comments on the detailed measures taken by the University of Energy and Natural Resources to address Deficiencies Identified in BSc Petroleum Engineering Programme by the Accreditation Assessment Panel.
- November, 2019: **Chairman**, Panel of Assessors for Reaccreditation of BSc Petrochemical Engineering Programme at Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
- November, 2019: **Chairman**, Panel of Assessors for Reaccreditation of PhD/MPhil/BSc Chemical Engineering Programme at Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
- November, 2019: **Chairman**: Panel of Assessors for Reaccreditation of BSc Petroleum Engineering at University of Energy and Natural Resources, Sunyani, Ghana, Ghana.
- June 2018 - date: **Small Scale Mining Training Coordinator**, Programme Coordinator of Sustainable Small-Scale Mining Operations in Ghana.
- September 2018: **Member**, Panel Member of the 5<sup>th</sup> National Policy Summit held in Takoradi.
- August 2018: **Member**, Vetting Member of Inter-Ministerial Committee on Illegal Mining (IMCIM) of Small Scale.
- January, 2018: **Chairman**, Panel of Assessors, Accreditation of BTech Petroleum Engineering at the Takoradi Technical

University, Takoradi-Ghana.

- March, 2017: **Chairman**, Panel of Assessors, Accreditation of BTech Petroleum Engineering Programme at Kumasi Technical University, Kumasi-Ghana.
- December, 2016: **Presiding Officer**, Presiding Officer for Electoral Commission of Ghana for 2016 Election.
- June, 2016: **Member**, Organising Committee Member for Minerals Commission Training Programme.
- December, 2014: **Team Member**, Panel of Assessors, Accreditation of BSc Petroleum Engineering Programme at Madina Institute of Science and Technology, Madina, Ghana.
- August, 2014: **Team Member**, Panel of Assessors, Accreditation of BSc Petroleum Engineering Programme at University of Energy and Natural Resources, Sunyani, Ghana.
- April, 2013: **Member**, Review and Comments on Draft Petroleum (Exploration and Production) Bill, 2013.
- March 2012: **Member/Secretary**, Committee to Review Book and Research Allowance for University Lecturers, UMaT.

(ii) Membership of Editorial Boards of Recognised Journals

- 2018 to 2023 **Sectional Editor**, Ghana Mining Journal, University of Mines and Technology.
- 2018 to 2023 **Sectional Editor**, Ghana Journal of Technology, University of Mines and Technology.

(iii) External Examiner/Moderator/Visiting Lecturer/Scholar

- August 2022 **External Examiner**, Assessment of MBA Petroleum Accounting and Finance Project Work, University of Professional Studies Accra (UPSA), Ghana.
- July 2022 **External Examiner**, Assessment of MBA Petroleum Accounting and Finance Project Work, University of Professional Studies Accra (UPSA), Ghana.

July 2020

**External Examiner**, Takoradi Technical University

(iv) External Assessor for Promotion of Research/Academic Staff

April 2024: **External Assessor**, Assessment of documentation for promotion from Lecturer to the rank of Senior Lecturer in the Department of Petroleum and Natural Gas Engineering of the University of Energy and Natural Resources, Sunyani.

Dec. 2023: **External Assessor**, Assessment of documentation for promotion from Lecturer to the rank of Senior Lecturer in the Department of Petroleum and Natural Gas Engineering of the University of Energy and Natural Resources, Sunyani.

(v) Technical and Consultancy Work-Evidence/Reviewer of Journal Papers

August 2024: **Reviewer**, Review and Comments on the detailed measures taken by Kumasi Technical University to address Deficiencies Identified in BEng. Oil and Gas Engineering and BTech Oil and Gas Engineering Programmes by the Accreditation Assessment Panel.

October 2023: **Reviewer**, Review and Comments on the detailed measures taken by Kwame Nkrumah University of Science and Technology to address Deficiencies Identified in BSc Petroleum Engineering Programme-IDL by the Accreditation Assessment Panel.

June 2023: **Reviewer**, Review and Comments on the detailed measures taken by Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development to address Deficiencies Identified in BSc Plumbing and Gas Technology Programmes by the Accreditation Assessment Panel.

June 2023: **Reviewer**, Review and Comments on the detailed measures taken by Takoradi Technical University to address Deficiencies Identified in BTech and HND Plumbing and Gas Technology Programmes by the Accreditation Assessment Panel.



- March 2023: **Reviewer**, Review and Comments on the detailed measures taken by Takoradi Technical University to address Deficiencies Identified in BTech and HND Plumbing and Gas Technology Programmes by the Accreditation Assessment Panel.
- February 2023: **Reviewer**, Review and Comments on the detailed measures taken by the University of Cape Coast to address Deficiencies Identified in the MBA Oil and Gas Resource Management Programme by the Accreditation Assessment Panel.
- November 2022: **Reviewer**, Review and Comments on the detailed measures taken by the University of Cape Coast to address Deficiencies Identified in the MSc Oil and Gas Management Programme by the Re-Accreditation Assessment Panel.
- August 2022: **Reviewer**, Review and Comments on the detailed measures taken by the University of Cape Coast to address Deficiencies Identified in the MSc Oil and Gas Resource Management Programme by the Accreditation Assessment Panel.
- August 2022: **Reviewer**, Review and Comments on the detailed measures taken by the University of Cape Coast to address Deficiencies Identified in the MPhil Oil and Gas Resource Management Programme by the Accreditation Assessment Panel.
- May 2022: **Reviewer**, Review and Comments on the detailed measures All Nations University took to address Deficiencies Identified in Diploma in Oil and Gas Engineering Programme by the Accreditation Assessment Panel.
- February 2022: **Reviewer**, Review and Comments on the detailed measures taken by the University of Cape Coast to address Deficiencies Identified in the MA Communication in Oil and Gas Management Programme by the Accreditation Assessment Panel.
- February 2022: **Reviewer**, Review and Comments on the detailed

- measures taken by Kwame Nkrumah University of Science and Technology to address Deficiencies Identified in the BSc Petroleum Engineering Programme by the Re-Accreditation Assessment Panel.
- January 2022: **Reviewer,** Review and Comments on the detailed measures All Nations University took to address Deficiencies Identified in Diploma in Oil and Gas Engineering Programme by the Accreditation Assessment Panel.
- January 2022: **Reviewer,** Review and Comments on the detailed measures taken by the University of Cape Coast to address Deficiencies Identified in the MSc Oil and Gas Resource Management Programme by the Accreditation Assessment Panel
- January 2022: **Reviewer,** Review and Comments on the detailed measures taken by the University of Cape Coast to address Deficiencies Identified in the MPhil Oil and Gas Resource Management Programme by the Accreditation Assessment Panel.
- June 2021: **Reviewer:** Detail Measures taken by Kwame Nkrumah University of Science and Technology to address deficiencies identified in PhD/MPhil/BSc Chemical Engineering and BSc Petroleum Chemical by National Accreditation Assessment Panel.
- April 2021: **Technical Work:** Chairman of a Plenary Discussion on Sanctions for Small Scale Mining under the Minerals and Mining Act held at Accra International Conference Centre.
- June 2020: **Reviewer:** Detail Measures taken by Takoradi Technical University to address deficiencies identified by Accreditation Assessment Panel in BTech Petroleum Engineering.
- March 2020: **Reviewer:** Detail Measures taken by the University of Energy and Natural Resources to address deficiencies identified by the Accreditation Assessment Panel in BSc Petroleum Engineering.

- January 2018: **Reviewer:** Detail Measures taken by Kumasi Technical University to address deficiencies identified by Accreditation Assessment Panel in BTech Oil and Gas Engineering.
- December 2018: **Technical Work:** Panellist at the 5<sup>th</sup> National Policy Summit on Improving Performance in State-Owned Enterprises and Agencies. Topic discussed is “Protecting our National Resources through Improved Regulatory Regime”.
- June 2016: **Reviewer,** Detail Measures taken by the Madina Institute of Science and Technology to address Deficiencies Identified by the Accreditation Assessment Panel on BSc Oil and Gas Engineering.
- 2010 to date: **Principal Consultant/Team Member,** Organisation of Short Courses for the Mines and General Public.

(vi) Special Assignments on Behalf of the University

- March 2022: **Member:** Team to Reassess Academic Facilities at CSIR in Fumesua, Kumasi on 18<sup>th</sup> March, 2022.
- October 2021: **Resource Person:** Workshop for Academic City University College on 12<sup>th</sup> and 13<sup>th</sup> October, 2021.
- November 2020: **UMaT Rep:** Ghana ASM Formalisation Project, Meeting with Heads of Implementing Agencies.
- August 2019: **UMaT Rep:** Invitation to the Project Appraisal Implementation Document (PAID) of the Multi-Sectoral Mining Integrated Project.

**(C) Service to the International Community (SIC)**

(i) Membership of International Committees/Professional Bodies

- Feb. 2022 **Member,** Small Scale Training Sub-Committee of LOC, 7<sup>th</sup>UMaT International Conference on Mining and Mineral Processing.
- 2019 to date **Member,** International Association of Engineers

(MIAEng).

- Feb. 2018      **Member**, Accommodation Sub-Committee of LOC, 5<sup>th</sup>UMaT International Conference on Mining and Mineral Processing.
- July 2012:      **Member/Secretary**, Accommodation Sub-Committee of LOC, Second UMaT International Conference on Mining and Mineral Processing.
- July 2010:      **Member**, Ushering Team, First UMaT International Conference on Mining and Mineral Processing.
- 2008 to date:      **Member**, Society of Petroleum Engineers, (MSPE).

(i)      Membership of Editorial Boards of Recognised Journals

- 2021 to date      **Editorial Board Member**, International Journal of Oil, Gas and Coal Engineering.
- 2017 to date      **Editorial Board Member**, International Journal of Petroleum and Petrochemical and Engineering.
- 2016 to date      **Editorial Board Member**, Petroleum Science and Engineering.

(ii)      Reviewer

- August 2024:      **Reviewer**, A Review of Data-driven Intelligent Monitoring for Geological Drilling, *Processes*, MDPI.
- May 2024:      **Reviewer**, Development of Drilling Optimisation Models for Autonomous Rotary Drilling Systems, *International Journal of Research and Scientific Innovation*.
- May 2024:      **Reviewer**, Hierarchical Multi-granularity Joint Learning for Well-overflow Detection, *Mathematics Journal*, MDPI.
- May 2024:      **Reviewer**, Development of a Probabilistic Cost Model for Well Completion Cost Estimation, *International Journal of Research and Scientific Innovation*.
- May 2024:      **Reviewer**, Using Polymer to Improve CO<sub>2</sub> Flooding in Light Oil Reservoirs, *International Journal of Research and*

- July 2020: **Reviewer**, Auto-Detection Interpretation Model for Horizontal Well Using Pressure Transient Responses, *Advances in Geo-Energy Research*.
- July 2020: **Reviewer**, Auto-Detection Interpretation Model for Horizontal Well Using Pressure Transient Responses, *Advances in Geo-Energy Research*.
- May 2020: **Reviewer**, Modelling and Simulation of Parabolic Trough to Generate Superheated Steam for Recovery of Heavy Oil Using MATLAB Software, *Journal of Petroleum and Petrochemical Engineering*
- April 2016: **Reviewer**, Perspectives of Petrochemical Industry in Russia in the Contemporary Conditions, *Journal of Oil and Gas Research*.
- April 2016: **Reviewer**, Effect of Parameters of Selection and Replacement Drilling Bits Based on Geo Mechanical Factors, *American Journal of Engineering and Applied Sciences*.

## 7. REFEREES

- (i) Prof Grace Ofori-Sarpong  
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