

PERSONAL BRIEF

Surname: Anornu
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POSTAL ADDRESS: Civil Engineering Department,
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Date of Birth: 16th September, 1963
Place of Birth: Kpando, Ghana
Nationality: Ghanaian
Current Rank: Associate Professor

1. ACADEMIC DEGREES AND INSTITUTIONS ATTENDED

1 (a) Academic Degrees earned with dates

Ph.D. in Water Resources Engineering from Belarus Polytechnic Academy, Minsk, Belarus	June 1999
M.Sc. in Hydraulic Engineering from Byelorussian Agricultural Academy, Gorki, Belarus	June 1991

1 (b) Institutions attended with dates

1993 – 1999 Belarus Polytechnic Academy, Belarus.
1986 – 1991 Byelorussian Agricultural Academy, Belarus.

2. UNIVERSITY TEACHING AND RESEARCH EXPERIENCE

2 (a) Academic Ranks held and subjects taught

Academic Ranks held

Date	Rank
1 st August 2016 to date	Associate Professor Civil Engineering Department, Kwame Nkrumah University of Science and Technology, Kumasi
1 st Oct. 2010 – 31 st July 2016	Senior Lecturer Civil Engineering Department, Kwame Nkrumah University of Science and Technology, Kumasi
14 th March 2003 – 30 th Sept. 2010	Lecturer Civil Engineering Department, Kwame Nkrumah University of Science and Technology, Kumasi

Subjects taught at KNUST (2016 – date)

Code	Subjects	Course credit	Period Taught
First Semester			
BSc Level			
CE 471	Irrigation & Drainage Engineering	3	2016 to date
CE 457	Drainage Systems	3	2016 to date
CE 497	Civil Engineering Design (CED)	3	2016 to date
CENG 291	Engineering in Society	2	2016 to date
CE 471	Irrigation & Drainage Engineering (MasterCard)	3	2019 to date
CE 471	Irrigation & Drainage Engineering (IDL)	3	2017 to date
CE 457	Drainage Systems (IDL)	3	2017 to date
MSc Level			
CEWR 533	Hydrogeology	3	2016 to date
CEWR 517	Urban hydrology and urban drainage	3	2016 to date
CEWR 691	Individual Research Thesis	12	2016 to date
CEWS 691	Individual Research Thesis	12	2010 to date
Second Semester			
BSc Level			
CE 256	Fluid mechanics (Civil)	3	2016 to date
CE 256	Fluid mechanics (IDL Civil)	3	2018 to date
CE 256	Fluid mechanics (Geological)	3	2016 to date
CE 458	Water Resources Engineering	3	2016 to date
CE 458	Water Resources Engineering (IDL)	3	2018 to date
CE 498	Project work	3	2016 to date
MSc Level			
CEWR 536	Irrigation & Drainage Engineering	3	2016 to date
CEWR 552	Source Water Development	2	2016 to date
CEWR 582	Group Project	3	2016 to date
CEWS 582	Group Project	3	2016 to date

2(b) Supervision of students' project work/theses/research

Supervision of BSc Theses and Year of Graduation

No	Name of student	Title of project work	Year
1	Amenawonyo Prosper	Assess the efficiency of drains in the Asokwa community, Kumasi	2020
2	Bortey Edward Nii Bortei	Assessing the Factors Contributing to Drain Destructions in the Ayeduase/Kotei Community	
3	Sarpong Kofi Owusu	Assessing the Effects of Human Activities on the Bibini Stream	
4	Amoah Felix Amponsah	Assessing the Effects of Human Activities on the Sisai River	
5	Kwesi Ofosu Ofori	Assessing the Economic Importance of Urban and Peri-Urban Agriculture in the Kumasi Metropolis	
6	Bahiiseh Muftawu	Assessing the Economic Importance of Urban and Peri-Urban Agriculture in the Kumasi Metropolis	
7	Jeffery Seinaa	Effect of a Potential Human Activities on the Wewe Stream	
8	Aayire Issac	Access the Drainage Systems in Ayigya Community	
9	Quansah Emmanuel	Assessment of Drainage Systems in the Boadi Amina Community	
10	Kwartey Enoch Oduro	Assessment of the Characteristics of Self Applied Systems in the Kotei-Ayeduase Community	

11	Sarkodie Amankwah Kwasi	Evaluate or Assessment of the Effect of the Absence of Drains in the Deduako Community	
12	Boampong Nana Yaw Stephen	Assessment of the Challenges of Self Applied Systems in the Bomso Community	
13	Attoah Alfred	Assessing the Impact of Human Activities on Road Drains within Asafo	
14	Asante Boadu Johnny	Investigating the Impact of Human Activities within the Bibini	
15	Osei Afram Owusu	Assessing the Sanitary Zone Conditions of Self Supply Water Systems in Ayigya and Bomso Communities	
16	Essel Issac Boakye	Assessing the State of Drainage System in the Asafo Market and its Environ	
17	Osei-Boakye Emmanuel Snr.	Investigate Anthropogenic Activities Influencing the Bibini Stream Flow	
18	Akosah Sarpong Clinton	Investigate Anthropogenic Activities Influencing the Sesa Stream Flow	
19	Sarpong Robert	Assessment of Anthropogenic Activities Influencing the Wewe Stream Flow	
20	Afer Jude Ato Kwamena	Assessing the Challenges and Characteristics of Point Sources Within Kotei/Gyinyase Communities	
21	Abass Abdullahi	Assess the Efficiency of Drainage Systems in the Atonsu-Agogo Community	
22	Lartey Praise Kwasi	Potential Human Activities Influencing the Wiwi Catchment	
23	Adu Yeboah	Assessment of the effectiveness of drains in the Bomso community, Kumasi	
24	Bow Albert	Analysis of the effect of drainage systems in the Bomso community	
25	Anewenah Maxwell Wedam	Assessing and analysing roadside drains in the Kotei-Ayeduae area, Kumasi (Ghana)	
26	Baah Frimpong, Benjamin	Assessment of the impacts and challenges of road users on urban road side drains in the Asafo-Amakom area of the Kumasi metropolis	
27	David Kabutey Caesar	The assessment of the impact of drainage facilities on the Ayigya community in the Kumasi metropolitan area, Ghana	
28	Nikoe Elvis Harry	Assessment of drains in Ayeduase-Kotei	2019
29	Debrah Freda	Assessing the impact of human activities on the Sissan river, Kumasi	
30	Gaisie Augustus Ekow Junior	Assessment of stormwater management strategies in Aboabo, Kumasi	
31	Krakov Samuel Kingsford	Assessing the effects of drainage systems and its implications on roads pavements in Ayigya, Kumasi (Ghana)	
32	Okai nii Aryee Okine	Assessment of stormwater management strategies in urban areas in Kumasi. (Central Business District)	
33	Benin Milebasua Frank	Assessment of drains in Ayeduase new site	
34	Samuel Kwapong Tettey	Contribution of urban and peri-urban agriculture to livelihoods security and poverty reduction in Ghana	2018
35	Ahiable Cyril Kwesi	Urban roads drainage management (Case of Kumasi)	2017
36	Kornyoh Eyram Paul	Investigation on urban roadside drains and the road users: impacts and challenges	
37	Oduro-Marfo Eric	Assessment of the impact and challenges of roadside drains in the Bomso community	2016
38	Odame Adufu Mark	Urban drainage system and the citizens, perspective and challenges: case study Kumasi metropolis	

Masters Theses

No	Name of student	Title of thesis	Year
1	Emmanuel Acheampong	Influence of land use changes on white Volta basin, Ghana (Supervisors: Anornu, G.K. and Awotwi, A.)	2020
2	Benjamin Wullobayi Dekongmen	Groundwater Recharge Estimation in the Afram Plains of Ghana Using Remote Sensing and SWAT Techniques (Supervisors: Anornu, G. K. , Kabobah A.T. and Yihun D. T.)	
3	Salim Marie Fabiola Sigure	Assessing the impact of climate change impact on groundwater recharge. Case study of Kou Watershed, Burkina-Faso (Supervisors: Anornu, G.K. and Awotwi, A.)	
4	Habila Zingchang Alfred	Aquifer potential and groundwater quality assessment of Langtang area Plateau State, Nigeria (Supervisors: Anornu, G.K. and Abass G.)	
5	Gyadu Emmanuel	Impact of climate change on ground water potential zones in the Black Volta basin, Ghana (Supervisors: Anornu, G.K. and Awotwi, A.)	
6	Vuu Christopher	Groundwater recharge estimation in the Volta river basin: a case-study in Afram plains south district, Ghana (Supervisors: Anornu, G.K. , Kabobah A.T. and Abass G.)	
7	Theophilus Aryee Aryeetey	Groundwater vulnerability assessment of the Pra basin using multicriteria decision analysis (Supervisors: Anornu, G.K. and Gyamfi, C)	
8	Julia Atayi	Assessing the variations of Terrestrial Water Storage and Climate Variability of the Volta basin (Supervisors: Anornu, G.K. , Kabobah, A.T. and Adam-Akorful, S.A.)	
9	Bernard Kubi	Evaluation of index-overlay models for groundwater vulnerability and risk assessment (Supervisors: Anornu, G.K. and Gyamfi, C)	
10	Isaac Kotei	Assessment of groundwater potential in the Offin basin (Supervisors: Anornu, G.K. and Gyamfi, C)	
11	David Kabutey Akuaku	Modelling the hydrological impacts of land use land cover change in the Ankobra basin (Supervisors: Anornu, G.K. and Gyamfi, C.)	
12	James Ashaley	Assessing the impact on climate change on availability of water and its allocation for irrigation purposes-Kpong Irrigation Scheme (KIS), Asutsuare (Supervisor: Anornu, G.K.)	2018
13	Rita Akosua Anima Gyimah	Spatio-temporal analysis of water quality trends in the Densu river basin (Supervisors: Anornu, G.K. , Gyamfi, C. and Karikari, A.Y.)	
14	Albert Mendy	Assessment of knowledge and practices on water management in small holder irrigation schemes: a case study of West Coast region, the Gambia (Supervisor: Anornu, G.K.)	
15	Basadi Gassama	Basin irrigation modelling to assess the impact of SRI and CF water management practices on irrigation performance (Supervisor: Anornu, G. K.)	
16	Gbadago Jesse Senyo	Monitoring eutrophication using remote sensing techniques (Supervisor: Anornu, G. K.)	
17	Ebrima Touray	Performance of small-scale irrigation schemes in the Gambia case study: West Coast Region (Supervisor: Anornu, G. K.)	
18	Kazapoe Jesse Pwayivi	Assessing the productivity of irrigation schemes in semi-arid regions of Ghana: a case of four (4) selected schemes (Supervisor: Anornu, G.K.)	2018
19	Portia Annabelle Opoku	Groundwater quality and health risk assessment of Atonsu in the Ashanti region of Ghana (Supervisor: Anornu, G.K.)	

20	Sarah Abebrese	Assessment of groundwater potential zones in bole district using remote sensing and geographical information system (Supervisors: Anornu, G.K. , and Kabobah, A.T.)	
21	Wuyeh Tamba	Climate variability and groundnut productivity in Central River region north (CRRN) of the Gambia (Supervisor: Anornu, G.K.)	
22	Tijan Sanneh	Investigating water management efficiency in tidal irrigation on rice production "case of Central River region" (CRR), Banjul, the Gambia (Supervisor: Anornu, G.K.)	
23	Agyare Asante	Evaluation of groundwater vulnerability to pollution using f-hydra and pesticide drastic index with geographic information system. A case-study on Afram plains, Ghana (Supervisors: Anornu, G.K. and Kabobah, A.T.)	
24	Joseph Stephen Sarpong	Flow measurement for ungauged Kakayini and Kodadwen streams in support of local rice production in the Ashanti Region of Ghana (Supervisors: Anornu G.K. and Agodzo S.K.)	
25	Atakorah Edward	Optimization of irrigation management strategies under climate change (Supervisors: Anornu, G.K. , and Annor, F.)	
26	Christiana Kodua Boafo	Spatiotemporal analysis of evapotranspiration from moderate resolution imaging spectroradiometer (MODIS) over the Pra basin (Supervisors: Anornu, G.K. and Kabobah, A.T.)	
27	Edward Nunoo	Monitoring soil moisture dynamics with remote sensing to support Irrigation Scheduling in the White Volta Sub-Basin of Ghana (Supervisors: Anornu, G.K. and Annor, F.)	2017
28	Seth Ankamah	The impact of management and maintenance practices on drip irrigation performance (Supervisors: Anornu, G.K. and Annor, F.)	
29	Adum Leticia Osae	Application of gravity recovery and climate experiment (grace) satellite data for groundwater variations estimation in the Volta river basin (Supervisors: Anornu, G.K. and Kabobah, A.T.)	
30	Osei-Owusu Mark	Assessment of Sediment inflow to Lake Volta under Present Climate and Future Climate Change Scenarios (Supervisors: Anornu, G.K. and Obuobie, E.)	
31	Kwabena Debrah Djan	Hydrological framework and groundwater recharge estimation in the Tongo district of the Upper East Region of Ghana (Supervisor: Anornu, G.K.)	2016
32	Dakpalah Segtub Sixtus	Assessing Small Scale Irrigation Development in Upper West Region (Supervisor: Anornu, G.K.)	

PhD Theses

PhD Theses in the period 2016 to date: 3 completed; 8 on going

No	Name of student	Title of thesis	Year
1	Isai Bassene	Suitability analysis of a groundwater recycling system using Aquifer Storage and Recovery (ASR) (Supervisors: Anornu, G.K. , Faye S. and Abass G.)	Yet to complete
2	Kouacou Boadou Adjéi	Geochemical multi-approaches of natural and anthropogenic sources to freshwater pollution: case of Sassandra sub-watershed (Côte d'Ivoire) (Supervisors: Anornu, G.K. , Boadou Kouacou A.B. and Abass G.)	
3	John Jackson Nsiah	Predicting effect of climate and land cover changes on spatial variation of evapotranspiration within the Pra basin of Ghana (Supervisors: Anornu, G.K. , Abass G. and Gyamfi, C.)	
4	Zakaria Nafisatu	Hydrogeochemical and isotopic study of groundwater contamination sources in the Anayari catchment (Supervisors: Anornu G.K. , Owusu-Nimo F. and Adomako D.)	
5	Gustav Merrit Osiakwan	Hydrogeological and hydrochemical characterization of major formations in the Central region, Ghana (Supervisors: Anornu, G.K. , Appiah-Adjei, E. K., Kabobah, A.T.)	
6	Robert Kofi Yankey	Statistical and structural equation modeling applications to hydrogeological and aquifer vulnerability study: Case of the south western coastal basin (Supervisors: Anornu, G.K. , Appiah-Adjei, E.K. and Ganyaglo, S.Y.)	
7	Courage Davidson Egbi	Hydrogeochemistry and Environmental Isotopes Study of Groundwater in Lower Volta River Basin, Ghana: Implications for Water Resources Management (Supervisors: Anornu, G.K. , Appiah-Adjei, E.K. and Ganyaglo, S.Y.)	2020
8	Maxwell Anim Gyampo	Hydrogeochemical evolution, quality appraisal and risk assessment of shallow groundwater aquifers within the Atankwidi basin of Ghana (Supervisors: Anornu G.K. , Appiah-Adjei, E.K. and Agodzo S.K.)	2019
9	Alfred Awotwi	Assessing the impact of anthropogenic activities and climate change on hydrology in Pra river basin, Ghana (Supervisors: Anornu G.K. , Quaye-Ballard, A.J. and Annor T.)	
11	Gibrilla Abass	Recharge and groundwater sustainability studies in a semi-arid region using classical and isotopic approach: a case study of Upper East region of Ghana. (Supervisors: Anornu G.K. and Adomako, D.)	2018
12	Michael Ampim Sackey	Ground water contamination through Cyanide and Metal Migration from tailings dam operation at GFGL. (Supervisors: Anornu G.K. and Kuma, J.S.K.)	2016

2(c) Other professionally related experience

January, 2020 to date	External Examiner for Civil Engineering programme, Central University College, (CUC)
2019 to date	Council Member , Akatsi College of Education Council
2018, 2019	Vice-Dean , Faculty of Civil and Geo-Engineering, KNUST
2019 to date	Professorial Member , College of Engineering Board, KNUST, Kumasi
2019	Reviewer , Groundwater for Sustainable Development
2019	Reviewer , Polish Journal of Environmental Studies

2019	Reviewer , Environmental Pollution
2019 to date	Board Member , The Brew-Hammond Energy Centre, KNUST
2019 to date	Deputy Centre Director , Regional Water and Environmental Sanitation Centre Kumasi (RWESCK), KNUST
2019 to date	Research Leader , Water Resources Management Research of Regional Water and Environmental Sanitation Centre Kumasi, KNUST
2019 to date	Member , Committee to review the delivery of the Civil Engineering programme on the IDL platform
October, 2019	Resource Person , Training workshop on borehole drilling and construction, Kaduna, Nigeria.
2019 to date	Chairman , RWESCK Scholarship committee
March, 2019	Member , Committee to complete work on proposed MPHIL and PHD in Disaster and prevention management, Civil Engineering Department
September, 2019	External Examiner of PhD thesis, University of Energy and Natural Resources (UENR), Sunyani
23 – 24 October 2019	Participant , Administrative and leadership workshop for all Provosts, Deans and Heads of Department
2018, 2019	External Assessor of staff promotion applications from Ghana Atomic Energy Commission,
2018 to date	Member , Faculty of Civil and Geo-engineering Board, KNUST
2016 to 2018	Board Member , KNUST Representative on Princefield University college Academic Board.
November, 2018	Panel Member , re-Accreditation B. Tech Civil Engineering programme at the Accra Technical University
September 2018	Participant , One-week course on Managing Human Resources for staff development and retention, by Association of African Universities (AAU), Nairobi, Kenya
June, 2018	Chairman , Committee to investigate allegation of examination malpractices against Mr Asiedu Ennin Evans and Mr Donkor Geoffrey, BSc. Geological Engineering Degree (III) students with Department of Geological Engineering
2018	Member , RWESCK programmes Accreditation Committee
March 2018	Participant , One-week course on Project management essentials, by Maastricht School of Management, The Netherlands
March 2018	Participant , One-week course on Entrepreneurial university transformation, by Maastricht School of Management, The Netherlands
2018 to date	As the acting HOD in the absence of the substantive HOD
2016 to 2018	Coordinator , Regional Water and Environmental Sanitation Centre Kumasi (RWESCK) PhD programmes
2017 to date	Chairman , College of Engineering, KNUST Laboratory Management committee
November 2017 and August, 2016	Panel Member , re-Accreditation of HND in Civil Engineering programme at the Bolgatanga Polytechnic, Wa
2017 to date	Board Member and elected as Chairman , Adaklu Senior High School Governing Board, Adaklu District
2017 to date	Hall Fellow , Unity Hall, KNUST, Kumasi
2017 to date	Acting HOD , In the absence of the substantive HOD
???? 2017	External Assessor of staff promotion application from the Bolgatanga Polytechnic.
March 2017	Participated in one-week course on Active Teaching and Learning, KNUST, Ghana by Maastricht School of Management, The Netherlands in KNUST, Kumasi
2017	Reviewer , Current Journal of Applied Science and Technology

2017	Reviewer , Asian Journal of Environment and Ecology
August 2017	Participant , One-week Summer School at KNUST on 'Technology, Manpower Training and Development', KNUST, Kumasi
June 2017	Participant , One-week course on 'Water Productivity and the WaPOR FAO database', Accra, Ghana
2016 to date	Head , Water Resources Section, Civil Engineering Department, KNUST
2016 to date	Verification of HND examination marked scripts
2016 to date	External Moderator/Examiner , Polytechnics/Technical Universities HND examination questions
Aug. 2016 and Sep. 2016	External Assessor of staff promotion application from the Takoradi Polytechnic
Sep. to Nov. 2016	Participant , Training of Trainers, Online Course Design, Management, and Facilitation on the Cap-Net Virtual Campus
Au. 2016	Participant , One-week Summer School at KNUST on 'Strengthening the linkage amongst academia, industry and government'
2014 to date	External Moderator , Koforidua Technical University Bachelor of Technology in Civil Engineering courses
2013 to date	Member, Steering Committee , African Groundwater Network (AGW-Net)

3. DETAILS OF RESEARCH, PROJECTS OR EXHIBITION UNDERTAKEN SINCE LAST APPOINTMENT/PROMOTION TO THE UNIVERSITY

a. Research Conducted (Topics with dates)

1. Evaluation of groundwater resources in Ghana using integrated hydrogeological, hydrogeochemical and isotopic techniques, 2016 to date.
2. Water resources inventory, source identification and quantification of amount of groundwater replenishment for water supply to rural communities in Ghana, 2016 to date.
3. Contribution of informal shallow groundwater irrigation to livelihoods security and poverty reduction in the White Volta Basin: current extent and future sustainability, 2016 to date
4. Software Development for the determination of reference/crop evapotranspiration, 2016 to date.
5. Integrated Water Resources Management at Basin Level. 2016 to date.

b. Publications Arising out of the Research

i. Refereed journal papers with exact references

1. Osiakwan, G. M., Appiah-Adjei, E. K., Kabo-Bah, A. T., Gibrilla, A., & **Anornu, G.** (2021). Assessment of groundwater quality and the controlling factors in a coastal aquifers of Ghana: An integrated statistical, geostatistical and hydrogeochemical approach. *Journal of African Earth Sciences*, 104371
2. Awotwi, A., **Anornu, G. K.**, Quaye-Ballard, J. A., Annor, T., Nti, I. K., Odai, S. N., ... & Gyamfi, C. (2021). Impact of post-reclamation of soil by large-scale, small-scale and illegal mining on water balance components and sediment yield: Pra River Basin case study. *Soil and Tillage Research*, 211, 105026
3. Egbi, C.D., **Anornu, G.K.**, Ganyaglo, S.Y., Appiah-Adjei, E.K., Li, S.L. and Dampare, S.B. (2020). Nitrate contamination of groundwater in the Lower Volta River Basin of Ghana: Sources and related human health risks. *Ecotoxicology and Environmental Safety*, 191, 110227. (**Scopus**)
4. Opoku A.P., **Anornu G.K**, Gibrilla A, de-Graft Johnson Owusu-Ansah E., Ganyaglo S.Y. and Egbi C.D., (2020). Spatial distributions and probabilistic risk assessment of exposure to heavy metals in groundwater in a peri-urban settlement: case study of Atonsu-Kumasi, Ghana,

Groundwater for Sustainable Development, Volume, 10, doi: <https://doi.org/10.1016/j.gsd.2019.100327>. (**Scopus**)

5. Sarpong, J.S., Agodzo, S.K., **Anornu, G.K.** and Hirouchi, S. (2019). Flow Measurement for Ungauged Kakayini and Kodadwen Streams in Support of Local Rice Production in the Ashanti Region of Ghana. *International Journal of Innovative Science and Research Technology*, 4(2), 225-233. (**Google Scholar, Index Copernicus, Scribd, Academia**)
6. Bansah, S., Andam-Akorful, S.A., Quaye-Ballard, J., Wilson, M.C., Gidigas, S.S. and **Anornu, G.K.** (2019). An Evaluation of Catchment Transit Time Model Parameters: A Comparative Study between Two Stable Isotopes of Water. *Geosciences*, 9(7), 318. (**Scopus**)
7. Awotwi, A., **Anornu, G.K.**, Quaye-Ballard, J.A., Annor, T., Forkuo, E.K., Harris, E. and Terlabie, J.L. (2019). Water balance responses to land-use/land-cover changes in the Pra River Basin of Ghana, 1986–2025. *CATENA*, 182, 104129. (**Scopus**)
8. Anim-Gyampo, M., **Anornu, G.K.**, Appiah-Adjei, E.K. and Agodzo, S.K. (2019). Quality and health risk assessment of groundwater in the shallow aquifers within the Atankwidi basin of Ghana. *Groundwater for Sustainable Development*, 100217. (**Scopus**)
9. Bansah, S., Andam-Akorful, S.A., Quaye-Ballard, J. and **Anornu, G.K.** (2019). End-Member Selection in Two-Component Isotope-Based Hydrograph Separation. *Open Journal of Modern Hydrology*, 9, 41-53. (**SCIRP, DOAJ, Web of Science**)
10. Gyamfi, C., Amaning-Adjei, K., **Anornu, G.K.**, Ndambuki, J.M. and Odai, S.N. (2019). Evolutional characteristics of hydro-meteorological drought studied using standardized indices and wavelet analysis. *Modeling Earth Systems and Environment*, 1-15. (**Springer, Web of Science**)
11. Egbi, C.D., **Anornu, G.**, Appiah-Adjei, E.K., Ganyaglo, S.Y. and Dampare, S.B. (2019). Evaluation of water quality using hydrochemistry, stable isotopes, and water quality indices in the Lower Volta River Basin of Ghana. *Environment, Development and Sustainability*, 21(6), 3033-3063. (**Scopus**)
12. Anim-Gyampo, M., **Anornu, G.K.**, Agodzo, S.K. and Appiah-Adjei, E.K. (2019). Groundwater Risk Assessment of Shallow Aquifers within the Atankwidi Basin of Northeastern Ghana. *Earth Systems and Environment*, 3(1), 59-72. (**Scopus**)
13. Awotwi, A., **Anornu, G.K.**, Quaye-Ballard, J.A. and Annor, T. (2018). Monitoring land use and land cover changes due to extensive gold mining, urban expansion, and agriculture in the Pra River Basin of Ghana, *Land Degradation & Development*, 29(10), 1986–2025. (**Scopus**)
14. Anim-Gyampo, M., **Anornu, G.K.**, Appiah-Adjei, E.K. and Agodzo, S.K. (2018). Hydrogeochemical evolution and quality assessment of groundwater within the Atankwidi basin: the case of northeastern Ghana. *Arabian Journal of Geosciences*, 11(16), 439. (**Scopus**)
15. Gibrilla, A., **Anornu, G.** and Adomako, D. (2018). Trend analysis and ARIMA modelling of recent groundwater levels in the White Volta River basin of Ghana. *Groundwater for Sustainable Development*, 6, 150-163. (**Scopus**)
16. Boakye E., **Anornu G.K.**, Quaye-Ballard J.A. and Donkor E.A. (2018). Land use change and sediment yield studies in Ghana: Review. *Journal of Geography and Regional Planning*, Vol. 11(9), pp. 122-133. (**Academia, Web of Science**)
17. Dakpalah, S.S., **Anornu, G.K.** and Ofosu, E.A. (2018). Small Scale Irrigation Development in Upper West Region, Ghana; Challenges, Potentials and Solutions. *Journal of Civil and Environmental Research*, 10(3), 85-97. (**EBSCO, Index Copernicus, ProQuest**)
18. Awotwi, A., **Anornu, G.K.**, Quaye-Ballard, J., Annor, T. and Forkuo, E.K. (2017). Analysis of climate and anthropogenic impacts on runoff in the Lower Pra River Basin of Ghana. *Heliyon*, 3(12), e00477. (**Scopus**)
19. Gibrilla, A., Adomako, D., **Anornu, G.**, Ganyaglo, S., Stigter, T., Fianko, J.R. and Ako, A.A. (2017). $\delta^{18}\text{O}$ and $\delta^2\text{H}$ characteristics of rainwater, groundwater and springs in a mountainous region of Ghana: implication with respect to groundwater recharge and circulation. *Sustainable Water Resources Management*, 3(4), 413-429. (**Google Scholar**)

20. **Anornu, G.**, Gibrilla, A. and Adomako, D. (2017). Tracking nitrate sources in groundwater and associated health risk for rural communities in the White Volta River basin of Ghana using isotopic approach ($\delta^{15}\text{N}$, $\delta^{18}\text{O}\text{-NO}_3$ and ^3H). *Science of The Total Environment*, 603, 687-698. (**Scopus**)
21. Gyamfi, C., Ndambuki, J.M., **Anornu, G.K.** and Kifanyi, G.E. (2017). Groundwater recharge modelling in a largescale basin: an example using the SWAT hydrologic model. *Modeling Earth Systems and Environment*, 3(4), 1361-1369. (**Springer, Web of Science**)
22. Agyare, A., **Anornu, G.K.** and Kabo-bah, A.T. (2017). Assessing the vulnerability of aquifer systems in the Volta river basin: a case-study on Afram Plains, Ghana. *Modeling Earth Systems and Environment*, 3(3), 1141-1159. (**Springer, Web of Science**)
23. Awere, E. and **Anornu, G.K.** (2016). The contribution of water tanker operations to the health of water consumers in Cape Coast Metropolis, Ghana. *International Journal of Environmental Sciences*, 7(1), 105-112. (**Scopus**)

ii. Published conference papers with exact references

1. Egbi C.D., **Anornu G.**, Ganyaglo S.Y., Appiah-Adjei E.K., Samuel B. Dampare S.B. and Si-Liang Li. (2019). Nitrate contamination of groundwater in the Lower Volta River Basin of Ghana: Sources and related human health risks. 21st EGU General Assembly, EGU2019, Proceedings from the conference held 7-12 April, 2019 in Vienna, Austria, id.17934.
2. Zakaria N., **Anornu G.**, Adomako D. and Owusu-Nimo F. (2019). Identifying groundwater contamination sources in the Anayari Catchment using isotopes and hydrochemistry. 21st EGU General Assembly, EGU2019, Proceedings from the conference held 7-12 April, 2019 in Vienna, Austria, id.17934.
3. Anim-Gyampo M., **Anornu G.K.**, Agodzo S.K. and Appiah-Adjei E.K. (2019). Groundwater Risk Assessment for Shallow Aquifers within the Atankwidi Basin of (Ghana). In; H. I. Chaminé et al. (eds.), *Advances in Sustainable and Environmental Hydrology, Hydrogeology, Hydrochemistry and Water Resources*. Proceedings of the 1st Springer Conference of the Arabian Journal of Geosciences (Tunisia 2018o), pp283-286. https://doi.org/10.1007/978-3-030-01572-5_678. [Editors: Helder I. Chaminé, Maurizio Barbieri, Ozgur Kisi, Mingjie Chen and Broder J. Merkel]
4. Gibrilla A., **Anornu G.** and Adomako D. (2017), Tracking nitrate sources in groundwater and associated health risk for rural communities in the White Volta River basin of Ghana using isotopic approach ($\delta^{15}\text{N}$, $\delta^{18}\text{O}\text{-NO}_3$ and ^3H), IAUP 2017 Young Scientist Conference, Vienna, Austria, 5 - 8 JULY, 2017. [Editors: Dagmar Strohmeier, Oliver Schauer and Markus Gerschberger]
5. Gibrilla A., **Anornu G.** and Adomako D. (2017), Identification of hydrogeochemical process and groundwater quality assessment using integrated geochemical methods in the White Volta River basin of Ghana. Regional Water and environmental Sanitation Centre Kumasi (RWESCK), 1st Regional Conference and School on Water, Climate Change and Environmental Sanitation, Accra, Ghana 28 – 31 August 2017.
6. Anim-Gyampo, M., **Anornu, G.K.**, Appiah-agyei, E.K. and Agodzo, S.K., (2017). Assessment of groundwater vulnerability within the Atankwidi basin of Ghana. Regional Water and environmental Sanitation Centre Kumasi (RWESCK), 1st Regional Conference and School on Water, Climate Change and Environmental Sanitation, Accra, Ghana 28 – 31 August 2017.
7. Awotwi, A., **Anornu, G.K.** and Quaye-Ballard, J. (2017). Multiple regression method for quantifying the influence of precipitation variability and human activities on runoff at Lower Pra River Basin of Ghana. Regional Water and environmental Sanitation Centre Kumasi (RWESCK), 1st Regional Conference and School on Water, Climate Change and Environmental Sanitation, Accra-Ghana. 28 - 31 August 2017.
8. **Anornu G.K.**, Annor F.O., Van De Giesen N., Selker J.S., Boateng-Gyimah M. and Oduro-Kwarteng S. (2017). Promoting a water secured Africa through adaptive research and

innovative sensing. Proceedings of the ACEWATER₂ Scientific Workshop Accra-Ghana. AU/NEPAD Networks of Water Centres of Excellence, 31st Oct – 3rd Nov 2016. [Editors: Ronco, P. Crestaz, E. Carmona Moreno, C.]

Journals in which papers are published

1. Journal of African Earth Sciences
2. Soil and Tillage Research
3. Ecotoxicology and Environmental Safety (**Scopus**)
4. International Journal of Innovative Science and Research Technology (**Google Scholar, Index Copernicus, Scribd, Academia**)
5. CATENA (**Scopus**)
6. Geosciences (**Scopus**)
7. Groundwater for Sustainable Development (**Scopus**)
8. Open Journal of Modern Hydrology (**SCIRP, DOAJ, Web of Science**)
9. Modeling Earth Systems and Environment (**Springer, Web of Science**)
10. Earth Systems and Environment (**Scopus**)
11. Environment, Development and Sustainability (**Scopus**)
12. Arabian Journal of Geosciences (**Scopus**)
13. Land Degradation and Development (**Scopus**)
14. Sustainable Water Resources Management (**Google Scholar**)
15. Science of The Total Environment (**Scopus**)
16. Journal of Civil and Environmental Research (**EBSCO, Index Copernicus, ProQuest**)
17. Heliyon (**Scopus**)
18. Journal of Geography and Regional Planning (**Academia, Web of Science**)
19. International Journal of Environmental Sciences (**Scopus**)

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

1. 1st Conference of the Arabian Journal of Geosciences (CAJG), 12–15 November 2018, Hammamet, Tunisia.
2. 21st EGU General Assembly, EGU2019, 7–12 April, 2019, Vienna, Austria.
3. Annual Conference of the Ghana Institution of Geoscientists. Geoscience, Environmental Stewardship and Technology, 13–15 August 2019, University of mines and Technology (UMaT), Tarkwa, Ghana.
4. 2nd International Conference on Engineering, Science, Technology and Entrepreneurship, IDL Conference Center, KNUST, Kumasi Ghana, 16–18 August, 2017.
5. RWESCK, 1st Regional Conference and School on Water, Climate Change and Environmental Sanitation, Accra, Ghana 28 – 31 August 2017.
6. University of Oklahoma, OU Water Conference 2017, September 18–20, 2017 in Norman, Oklahoma, USA.
7. IAUP 2017 Young Scientist Conference, Vienna, Austria, 5–8 July, 2017.
8. Proceedings of the ACEWATER₂ Scientific Workshop Accra-Ghana. AU/NEPAD Networks of Water Centres of Excellence, 31st Oct – 3rd Nov 2016.

5. LIST OF ALL OTHER PUBLICATIONS

i. Published with exact references

1. Ahiale, E.K., Kortatsi, B.K., **Anornu, G.K.**, Kaka, E.A. and Dartey, G. (2015). Hydrogeochemical Processes Influencing Groundwater Quality in the Black Volta Basin of Ghana. *Research Journal of Applied Sciences, Engineering and Technology*, 11(9): 975-982.
2. Kabo-bah, A.T., **Anornu, G.K.**, Ofosu, E., Andoh, R. and Kamila, J. L. (2014). Spatial-temporal estimation of Evapotranspiration over Black Volta of West Africa Applying satellite remote sensing. *International Journal of Water resources and Environmental Engineering*, 6(12): 295-302.
3. Dramani, D.F., **Anornu, G.K.**, Kabo-bah, A. T. and Oduro-Kwarteng, S. (2014). Groundwater Resources Assessment in Tain River Basin of the Black Volta of West Africa. *Energy and Environment Research*, 4(3): 96-104.
4. Barnie, S., **Anornu, G.K.** and Kortatsi, B.K. (2014). Assessment of the Quality of Shallow Groundwater for Irrigation in the Atankwidi Sub-Basin of the White Volta Basin, Ghana. *Journal of Natural Sciences Research*, ISSN 2224-3186, 4(15): 1-10.
5. Barnie, S., **Anornu, G.K.** and Kortatsi, B.K. (2014). Determination of Shallow Groundwater Aquifer Geometry using Geo-Electrical Techniques in the Atankwidi Sub-Basin of the White Volta Basin, Ghana. *Journal of Environment and Earth Science*, ISSN 2224-3186, 4(4): 20-31.
6. Kabo-bah, A.T., Appiah-Sefah, G., **Anornu, G.K.** and Boateng, K. (2014). F-Hydra Index for Evaluating Groundwater Vulnerability in Data Scarce Regions. *Journal of Environment and Ecology*, ISSN 2157-6092, 5(1): 1-14.
7. **Anornu, G.K.**, and Kabo-bah, A. (2013). Evaluation of AVI and DRASTIC Methods for Groundwater Vulnerability Mapping. *Journal of Environment and Ecology*, ISSN 2157-6092 2013, 4(2): 126-125.
8. Gyamfi, C., Diabene, P.Y., Odai, S.N., **Anornu, G.K.** and Annor, F.O. (2013). Conflict prevention and resolution mechanisms in water resources management: A perspective from the Black Volta Basin – Ghana. *International Journal of Development and Sustainability*, 2(2): 1346-1356.
9. **Anornu, G.K.**, Kabo-bah, A. and Kortatsi, B.K. (2012). Comparability Studies of High- and Low-Resolution Digital Elevation Models for Watershed Delineation in the Tropics: Case of Densu River Basin of Ghana. *International Journal of Cooperative Studies*, 1(1): 2012, 9-14.
10. **Anornu, G.K.**, Kabo-bah, A.T. and Anim-Gyampo, M. (2012). Evaluation of Groundwater Vulnerability in the Densu River Basin of Ghana. *American Journal of Human Ecology*, 1(3): 79-86.
11. Ameenku, F.K.Y, Kortatsi, B. K. and **Anornu, G.K.** (2012). Water Resources Assessment of the Manya Krobo District. *Global Journal of Researches in Engineering, Civil and Structural Engineering*. 12(3): 33-42.
12. Anim-Gyampo, M., **Anornu, G.K.** and Abudu, K. R. (2012). Prediction of Potential Groundwater Over-abstraction: Case Study of Kasena-Nankana District of UE Region of Ghana. *Research Journal of Applied Sciences, Engineering and Technology*. 4(19): 3775-3782.
13. Kortatsi, B.K., Anku, Y.S.A. and **Anornu, G.K.** (2009). Characterization and appraisal of facets influencing geochemistry of groundwater in the Kulpawn sub-basin of the White Volta Basin, Ghana. *Environmental Geology*, 58(6): 1349-1359.
14. **Anornu, G.K.**, Kortatsi, B.K. and Saeed, Z.M. (2009). Evaluation of groundwater resources potential in the Ejisu-Juaben district of Ghana. *African Journal of Environmental Science and Technology*, 3(10): 332-340.
15. Kortatsi, B.K., Asigbe, J., Tay, C., Dartey, G.A., **Anornu, G.K.** and Hayford, E. (2008). Reconnaissance Survey of Arsenic Concentration in Groundwater in South-Eastern Ghana. *West African Journal of Applied Ecology*, Vol 13, 21-36.

16. Kortatsi, B.K., Tay, C.K., **Anornu, G.K.**, Hayford, E. and Dartey, G.A. (2007). Hydrogeochemical evaluation of groundwater in the lower Offin basin, Ghana. *Environmental Geology*, 53(8): 1651-1662.
17. **Anornu, G.K.** (1999). Prevention of groundwater contamination by industrial waste. National Academy of Sciences of Belarus, *Natural Resource*, N 2, 145-149.
18. **Anornu, G.K.** (1998). Can polymeric materials effectively protect groundwater from contamination? *The Journal of Water*, No 12, 9-10.

Papers in Conference Proceedings

1. Sackey, M.A., **Anornu, G.K.**, Kumah, Y., Kortatsi, B.K. and Antwi-Yeboah, K. (2013). Attenuation Potential of Clay Liner Carbon-in-Leach Tailings Storage Facilities – A Case Study at Gold Fields Ghana Limited, Tarkwa Mine (GFGL). *Proceedings of the International Mine Water Association Annual Conference 2013, Reliable Mine Water Technology*, Vol. 1, pp 451-456.
2. Sackey, M.A., **Anornu, G.K.**, Kumah, Y. and Kortatsi, B.K. (2013). Cyanide Decay and Metal Speciation in Decant Ponds of Carbon-in-Leach Tailings Storage Facilities – A Case Study at Gold Fields Ghana Limited, Tarkwa Mine (GFGL). *Proceedings of the International Mine Water Association Annual Conference 2013, Reliable Mine Water Technology*, Vol. 1, pp 457-461.
3. Abungba, J.A., Odai, S.N., Annor, F.O., Boateng-Gyimah, M. and **Anornu, G.** (2013). Impacts of Agricultural Water Management Interventions on the o... Hydrology of the White Volta River Basin: The Case of Reservoirs and Dugouts. Volta Basin Development Challenge Final Scientific Workshop. Ouagadougou, Burkina Faso, 17-19 September, 2013.
4. Ampadu-Mintah, A.A., Sackey, M.A., **Anornu, G.K.** and Kortatsi, B. (2012). Groundwater Quality in Tailings Storage Facility (TSF) Basin at Gold Fields Ghana Limited - Tarkwa Mine Concession. Greening China and her relations with Africa – Environmental sustainability in Sino-African “cooperation, FOCAC and beyond. Stellenbosch, South Africa, 17-18 May 2012.
5. **Anornu, G.K.** and Oduro-Kwarteng, S. (2011). The Challenges of Sustainable Urban Drainage Management in Ghana. SWITCH Paris Conference: The future of urban water – Solutions for livable and resilient cities. Hosted by UN ESCO and IHP. 24th – 26th January, 2011
6. Ofori-Agyeman, M.C., Kpordze, C.S.K. and **Anornu, G.K.** (2008). Viability of marginal yield boreholes in selected geological formations in Ghana. 33rd WEDC International conference on water and sanitation, 7 – 11 April, 2008, Accra. 490-494.
7. **Anornu, G.K.** and Kpordze, C.S.K. (2006). Impact of KNUST activities on the water quality and quantity of the Wiwi stream. Presented at the 5th College of Engineering Research Retreat. Eusbett Hotel, Sunyani, 25 – 28 July, 2006.
8. **Anornu, G.K.** (2003). Determination of equivalent diameter of subsurface drain tube with permeable material in the form of wings. Proceedings of the 3rd School of Engineering Research Retreat, Busua Beach Resort, 5 – 8 August, 2003, 102-106.
9. Sapognikov, E.G., **Anornu, G.K.**, Korbut, O.B. and Eliseev, A.E. (1999). Reasons and Characteristics of damages to polymeric anti-filtration systems. Proceedings of the material of the 53rd International Technical and Scientific Conference. Belarusian State Polytechnic Academy, part 3, 114-115.
10. **Anornu, G.K.** (1998). Modelling of filtration leakages through the retention base of a reservoir. Belarusian State Polytechnic Academy, Minsk. Dep. in VINITI 16.11.98. No 3326-V98. 10 pp.
11. **Anornu, G.K.** (1998) Uniform moisture transfer. Belarusian State Polytechnic Academy, Minsk. Dep. in VINITI 16.11.98. No 3327-V98. 8 pp.
12. Sapognikov, E.G. and **Anornu, G.K.** (1997). Filtration leakages through damaged water retention walls. Proceedings of the material of the 52nd International Technical and Scientific Conference. Belarusian State Polytechnic Academy, part 5, 83-84.

13. Sapognikov, E.G. and **Anornu, G.K.** (1995). Drainage and anti-filtration systems for prevention of groundwater contamination. Proceedings of the material of the 51st International Technical and Scientific Conference. Belarusian State Polytechnic Academy, part 1, 124-125.

6. RECORD OF SERVICE TO THE COMMUNITY

(a) Service to the University

Year	Activity
2018	Team member , wrote and won World Bank/Ghana Government grant of US\$5,500,000 for the Regional Water and Environmental Sanitation Centre (RWESCK), KNUST, 2018
2017	Team member , Develop National Framework for Human Capacity Development for WASH Young Professionals and Technicians.' KNUST-RWESCK has a total of USD 20,000 for the study
Aug. 2018 to July 2019	Vice-Dean , Faculty of Civil and Geo-Engineering, KNUST, Kumasi
Aug. 2019 to date	Vice-Dean , Faculty of Civil and Geo-Engineering, KNUST, Kumasi
2019 to date	Professorial Representative , College of Engineering Board, KNUST, Kumasi
2019 to date	Deputy Centre Director , Regional Water and Environmental Sanitation Centre Kumasi (RWESCK), KNUST
2019 to date	Board Member , The Brew-Hammond Energy Centre, KNUST.
2019 to date	Research Leader , Water Resources Management Research of Regional Water and Environmental Sanitation Centre Kumasi, KNUST
2019 to date	Member , Committee to review the delivery of the Civil Engineering programme on the IDL platform
2019 to date	Chairman , RWESCK Scholarship committee
2019 to date	Member , Committee to complete work on proposed MPHIL and PHD in Disaster and prevention management, Civil Engineering Department
June, 2018	Chairman , Committee to investigate allegation of examination malpractices against Mr Asiedu Ennin Evans and Mr Donkor Geoffrey, BSc. Geological Engineering Degree (III) students with Department of Geological Engineering
2018 to date	Member , Faculty of Civil and Geo-engineering Board, KNUST
2019 to date	Member , RWESCK programmes Accreditation Committee
2016 to 2018	Coordinator , Regional Water and Environmental Sanitation Centre Kumasi (RWESCK) PhD programmes
2016 to date	Chairman , College of Engineering, KNUST Laboratory Management committee
2017 to date	Hall Fellow , Unity Hall, KNUST, Kumasi
2017 to date	Acting HOD , In the absence of the substantive HOD
2016 to date	Head , Water Resources Section, Civil Engineering Department, KNUST

(b) Service to the Nation

Year	Activity
Jan. 2020 to date	External Examiner for Civil Engineering programme, Central University College, (CUC)
2019 to date	Council Member , Akatsi College of Education Council
2018, 2019	External Assessor of staff promotion application from Ghana Atomic Energy Commission
Sep. 2019	External Examiner of PhD thesis, University of Energy and Natural Resources (UENR), Sunyani
Nov. 2018	Panel Member , re-Accreditation of HND in Civil Engineering programme at the Accra Technical University
2017 to date	Board Member and elected as Chairman , Adaklu Senior High School Governing Board, Adaklu District
2017	External Assessor of staff promotion application from the Bolgatanga Polytechnic
Nov. 2017 and Aug. 2016	Panel Member , re-Accreditation of HND in Civil Engineering programme at the Bolgatanga Polytechnic, Wa
2016 to 2018	Board Member , KNUST Representative on Princefield University college Academic Board
2016 to date	Verification of HND marked scripts
2016 to date	External Moderator/Examiner , Polytechnics/Technical Universities HND examination questions
Aug. 2016 and Sep. 2016	External Assessor of staff promotion application from the Takoradi Polytechnic
2014 to date	External Moderator , Koforidua Technical University Bachelor of Technology in Civil Engineering courses

(c) Service to the International Community

Year	Activity
2019	Resource Person , Training workshop on borehole drilling and construction, Kaduna, Nigeria
2019	Reviewer , Groundwater for Sustainable Development
	Reviewer , Environmental Pollution
2017	Reviewer , Asian Journal of Environment and Ecology
	Reviewer , Current Journal of Applied Science and Technology
2017, 2019	Reviewer , Polish Journal of Environmental Studies
2013 to date	Member, Steering Committee , African Groundwater Network (AGW-Net).

Membership of Professional Body

2015 to date	Member Ghana Institution of Engineers (MGhIE)
2008 to date	Member African Groundwater (MAGW-Net)
2005 to date	Member International Union Geodesy and Geophysics IUGG-Ghana (MIUGG)