

# ANNA AMANKWAH-MINKAH

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## PROFILE

ANNA AMANKWAH-MINKAH has over 14 years of experience ranging from research in water resources and environmental sanitation in Ashanti and Eastern Regions, to leading field work to evaluate and refine technology relevant to enhancing the productivity of smallholder, dry season vegetable farmers in Northern Ghana and Southern Burkina Faso. Anna Amankwah-Minkah has also been involved in capacity building and research in the area of groundwater utilization in the White Volta basin. She has strong experience working in multicultural and multidisciplinary teams. She teaches and trains tertiary students and is currently a doctorate candidate researching into sustainable groundwater management in peri-urban communities in Ghana.

## 1. EDUCATION / TRAINING

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Institution	Date	Qualification earned
Kwame Nkrumah University of Science and Technology, Kumasi, Ghana	2017 – 2024 (Expected)	PhD in Water Resources Management (Expected 2024)
Hebrew University of Jerusalem, Rehovot, Israel.	October 30 – November 24, 2016 (4 weeks)	International Postgraduate Certificate in Agrigreen Management: Agri-Environmental Considerations under Climatic Changes
Kwame Nkrumah University of Science and Technology, Kumasi, Ghana	2007 – 2009	Master of Science in Water Resources Engineering and Management
Kwame Nkrumah University of Science and Technology, Kumasi, Ghana	2002 - 2006	Bachelor of Science in Civil Engineering
Paul's Computer Institute, Bamenda, Cameroon	2001 – 2002 (9 months)	Certificate in Data Processing
Government Bilingual High School, Bamenda, Cameroon	1999 – 2001	GCE 'A' Level (Pass in 5 subjects)
St. Paul's Bilingual Comprehensive College, Bamenda, Cameroon	1994 – 1999	GCE 'O' Level (Pass in 11 subjects)

## 2. RECORD OF UNIVERSITY TEACHING

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Assistant Lecturer, Department of Civil and Environmental Engineering, University of Energy and Natural Resources (May 2021 – Date)

Lecturer, Department of Civil Engineering, Bolgatanga Technical University (Feb 2013 – Mar 2021)

Research/Teaching Assistant, Department of Civil Engineering, KNUST (Sep 2006 – Aug 2007)

### **HND Courses Taught**

CVE 105 Fluid Mechanics I	2013 – 2017
CVE 106 Fluid Mechanics 2	2013 – 2017
CVE 211 Engineering Hydraulics	2013 – 2017
CVE 208 Engineering Hydrology	2013 – 2017
CVE 309 Civil Engineering Maintenance	2013 – 2014

### **B.Sc. Courses Taught**

CIVL 106 Elementary Fluid Mechanics	2021 – Date
CIVL 210 Hydrology	2021 – Date
CIVL 263 Fluid Mechanics	2021 – Date
CIVL 312 Design Project I	2012 – Date
CIVL 361 Research Methods	2021 – Date
CIVL 404 Irrigation and Drainage Engineering	2021 – Date
CIVL 457 Design Project II	2021 – Date
EENG 205 Hydrology and Hydraulics	2021 – Date
EENG 352 Greenhouse Gas Accounting and Climate Change	2021 – Date
EENG 452 Urban Drainage	2021 – Date
MECH 106 Basic Mechanics	2022 – Date

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## **3. RESEARCH AREAS AND EXPERIENCE**

### **Research Areas:**

Water Resources Engineering and Management, Groundwater recharge and Groundwater management, Climate Change and Drought risk management, Agricultural water management

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### **Research Experience:**

International Institute of Applied Systems Analysis, Laxenburg, Austria (Jun–Aug, 2020)

- Research area: Evaluation of hydrological response to expansion of irrigated rice production in the extended Lake Victoria Basin

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana  
Graduate Researcher (2017 – Present)

- Research area: Climate variability and sustainable groundwater development in Northern Ghana

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana  
Graduate Researcher (2007 – 2009)

- Coordinated Master Plan design of borehole water supply, irrigation and livestock watering system for Boadi community close to KNUST campus
- Conducted laboratory analysis of drinking water samples from Buruli Ulcer endemic and non-endemic communities
- Participated in formulation of strategy for research and development of the Water and Sanitation Section of the International Institute of Water and Environmental Engineering, Ouagadougou, Burkina Faso
- Participated in various postgraduate seminars and workshops
- Thesis: Heavy Metal Levels in Drinking Water and Social Characteristics of Buruli Ulcer Endemic and Non-Endemic Communities in the Amansie West District (June 2009)

- Winner of tertiary category, Water Resources Commission 10th Anniversary Essay Competition (2008); Topic: Overcoming the Challenges of Water Resources Management and Utilisation in Ghana

Student BSc Projects supervised            22

Student HND Projects supervised            9

#### 4. PUBLICATIONS

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- Gbedzi, D. D., Ofosu, E. A., Mortey, E. M., Obiri-Yeboah, A., Nyantakyi, E. K., Siabi, E. K., Abdallaha, F., Domfeh, M. K. and Amankwah-Minkah, A. (2022). Impact of mining on land use land cover change and water quality in the Asutifi North District of Ghana, West Africa. *Environmental Challenges*, 100441
- Agbotui, P., Anornu, G., Agbotui, T., Gyabaah, F., Amankwah-Minkah, A., Brookman-Amisah, M., Blankson-Darku, D. and Sallah, J. (2021). Risk-based contaminated land management policy mindset: a way out for Ghana's environmental challenges. *African Geographical Review*, 1-14.
- Blankson-Darku, D.N.A., Gyabaah, F., Amankwah-Minkah, A., Agbotui, P.Y. (2017). A Review of Water Charges: Customers' Perception of the Quality of the Levels of Service in Ghana, the Water Charges and their Willingness to Pay for Improved Services. *Journal of Research in Humanities and Social Science*, 5(4), 15-26.
- Gyabaah, F., Amankwah-Minkah, A., & Dordah, G. A. (2016). Appraisal of Solid Waste Collection Effectiveness Following the Introduction of City-Wide Waste Collection Levy Scheme in Kumasi, Ghana. *International Journal of Innovation and Applied Studies*, 18(3), 828–835.
- Amankwah-Minkah, A., Gyabaah, F., & Dordah, G. A. (2016). An Assessment of Some Heavy Metal Levels in Drinking Water and Social Characteristics in Buruli Ulcer Endemic and Non-Endemic Communities in the Amansie West District. *Journal of Civil and Environmental Research*, 8(8), 64–75.

#### 5. PROFESSIONAL EXPERIENCE

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##### **Assistant Lecturer, Department of Civil and Environmental Engineering, University of Energy and Natural Resources, Sunyani (May 2021 – Date)**

- Teaching, research and community service; preparation of lecture notes, supervision of student project work, laboratory and field work; curriculum development for new and existing programs, preparation and marking of assignments and examination questions, supervision of students' internship and industrial visits, industry-related research and publication, other departmental administrative duties
- Academic tutoring and counselling of students
- Community service: extension work/service to the University, neighbouring communities and the nation
- Other duties as assigned by the Vice Chancellor and his/her representative

##### **Lecturer, Civil Engineering Department, Bolgatanga Technical University (February 2013 – Date)**

- Teaching and research; curriculum development, setting and marking of assignments and examination questions; Invigilation of examinations, submission of marked scripts and results
- Supervision of student project work, dissertation and theses; Supervision of laboratory and field work; Supervision of students' internships and industrial visits
- Offering academic counselling to students
- Industry-related research, innovation and publication
- Assisting in the administration of the department and mentoring of junior colleagues
- Extension work/service to the University and the nation

- Other duties assigned by the Vice Chancellor or his/her representative

**Program Manager, Upper East, iDE Ghana (December 2014 – May 2016)**

- Supervised capacity building and field activities for over five hundred small-scale dry season vegetable farmers in Upper East program area
- Developed annual program area work plans and budgets, as well as a monitoring and evaluation system for impact assessment and staff performance
- Assisted in development and implementation of annual marketing plans, and in the development of syllabus for IDE Ghana training programs
- Sought collaboration with other NGOs and promoted iDE Ghana activities to relevant government agencies

**Project Engineer, iDE Ghana, (Bolgatanga, Kumasi, Accra) (June 2011-November 2014)**

- Tested and developed new iDE products such as solar pumps, new model treadle pumps, low-cost drip irrigation and electric and fuel engine pumps
- Set up and monitored field tests for new products and recommended design changes and improvements, and supported iDE field staff in technical matter
- Organized formal and informal voice-of-customer events for feedback on technologies and services promoted by iDE

**Intern-Engineering Unit Eastern Region Community Water and Sanitation Agency (CWSA-ER), Koforidua, Ghana (July 2009-February 2010)**

- Participated in design of layout of structures, preparation of budgets and contracts
- Assisted in preparation of tender documents for consultancy services and construction/rehabilitation of boreholes, small town water supply systems, KVIP latrines, iron-removal plants and rain harvesting facilities, and community animation and training of water and sanitation boards
- Assisted in supervision and monitoring of on-going projects and preparation of reports at appropriate intervals
- Assisted in training for contractors, community workers and allied personnel

**National Service Personnel, KNUST-Department of Civil Engineering, (July 2006-August 2007)**

- Attached to the Water Resources and Environmental Sanitation Project Office - Assisted in organizing conferences, seminars and workshops for postgraduate students, and other office and secretarial duties
- Assisted in the preparation of lecture notes and organising tutorials for students
- Participated in the training of teachers in primary and secondary schools from five districts in the Ashanti Region in Hygiene and Sanitation Education

**Professional/Academic Affiliation**

Professional Engineer, Institution of Engineering and Technology, Ghana (IET-GH) 2013

Professional Engineer, Ghana Institution of Engineering (GhIE) 2022

Member, Institute of Electrical and Electronics Engineers (IEEE) 2018

Member, Organization for Women in Science for the Developing World (OWSD) 2018

**PROJECTS**

- Ghana NDC Action Project – Facilitating Implementation of Climate Resilient and Low Carbon Development: Climate Smart Agriculture; (August 2023 – Date)
- Innovation for Rural Prosperity (DFATD Funded); 2012 – 2015

- Jumpstarting Orange-Fleshed Sweet Potato in West Africa Through Diversified Markets (CIP Funded); 2014 - 2016
- Developing a Bayesian-based decision support system for targeting investment in small-scale pump-based shallow groundwater irrigation systems in the White Volta Basin (CGIAR-WLE Funded); May –December 2014
- Enhancing uptake and socio-economic benefits of shallow groundwater irrigation in the White Volta Basin (CPWF Funded); January 2012 – April 2014
- Rural Prosperity Initiative II (Gates Foundation Funded); 2011 - 2013

## **6. OTHER WORKSHOPS/TRAININGS/COURSES ATTENDED**

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- Innovative Teaching Practices in Higher Education, University of Energy and Natural Resources, Sunyani, Ghana. January 10, 2022
- International Institute for Applied Systems Analysis, IIASA 2020 Young Scientists Summer Program, Laxenburg, Austria. June 1 – August 31, 2020
- International Postgraduate Course on Agrigreen Management: Agri-Environmental Considerations under Climatic Changes, Hebrew University of Jerusalem; Rehovot, Israel. October 30 – November 24, 2016
- Feed the Future Innovation Laboratory for Small Scale Irrigation (FTF-ILSSI) Gender and Irrigation Technical Training Workshop; Accra, Ghana. April 13-14, 2016
- Sweet Potato Seed Systems and Market Linkages in Nigeria, Ghana and Burkina Faso; Osogbo, Osun State, Nigeria. October 26 – 28, 2015
- IDE Innovation for Rural Prosperity Incubator; Winnipeg, Canada. September 26 – October 3, 2015
- Workshop on Targeting Agricultural Water Management Interventions (TAGMI) Tool; Accra, Ghana. September 18, 2015
- ActionAid Global Platform Ghana – Young Women in Leadership Training; Tamale, Ghana. July 13 – 17, 2015
- Feed the Future Innovation Laboratory for Small Scale Irrigation (FTF-ILSSI) Stakeholder Consultation Workshop; Tamale, Ghana. April 15, 2014
- Challenge Program on Water and Food – Research-into-Use Projects Wrap-up Write-Shop; Addis Ababa, Ethiopia. December 4 – 6, 2013
- Learning Meeting for the Volta Basin Development Challenge VI Project: Targeting and Scaling Out, Radach Hotel; Tamale, Ghana. August 23-24, 2012
- Participatory Geographic Information System (PGIS) Workshop on Agricultural Water Management Interventions in the White Volta Basin Water Resources; Tamale, Ghana. February 2012
- Training in ArcGIS for water resource applications, CWSA-ER; Koforidua, Ghana. February 2010
- Creative Communities for Sustainable Livelihoods Africa Workshop, KNUST; Kumasi, Ghana. October, 2009

## **7. LEADERSHIP POSITIONS HELD**

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Head of Civil Engineering Department, Bolgatanga Technical University; August 2015 – July 2017

Chairperson, IET-Gh Women in Engineering; 2021 – Date

Secretary, IET-Gh Women in Engineering; 2019 - 2021

Manager (Upper East), International Development Enterprises; 2014 - 2016

Bible Study Coordinator, The Apostolic Church, Bolgatanga Central Assembly; 2012 - 2017

Secretary, Bolgatanga Area Women’s Movement, The Apostolic Church Ghana; 2014 - 2017

Women’s Movement Leader, The Apostolic Church – Heritage Worship Assembly, Kumasi; 2019 – 2020

## 8. BOARD/COMMITTEE EXPERIENCE

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### University of Energy and Natural Resources

- Research Officer for the Department of Civil and Environmental Engineering, August 2022 – Date
- School of Engineering Academic Board - Representative for Department of Civil and Environmental Engineering, August 2022 – July 2023
- Chair, Committee for the Implementation of the Strategic Plan for the Department of Civil and Environmental Engineering; August 2023 – Date
- Chair, Committee for development of Curriculum for a new graduate program in Hydrology and Water Resources Management; August 2022 – Date
- Chair, Committee for development of Strategic Plan for the Department of Civil And Environmental Engineering; August 2022 – July 2023
- Member, Committee for development of Curriculum for a new graduate program in Public Health Engineering; August 2022 – Date
- Member, Grant and Proposal Development Committee; August 2022 – Date
- Member, Committee for Seminars, Workshops and Conferences, August 2022 - Date
- Member, Social Media Publicity Committee; August 2022 – Date
- Member, Fundraising and Endowment Fund Committee; August 2022 - Date
- Member, Committee for development of Strategic Plan for the School of Engineering; 2022

### Bolgatanga Technical University

- Academic Board Representative, Bolgatanga Technical University; June 2013 – May 2014
- Member of Committee that finalized development of HND and B.Tech programmes for the Water, Sanitation and Hygiene (WASH) Sector for implementation in the Technical Universities, Polytechnics and affiliate institutions; 21 – 25 March, 2019
- Member of Disciplinary Committee set up to look into the examination malpractices during the end-of-first semester examination for 2012/2013 academic year (February 2013)

## 9. SERVICE TO THE COMMUNITY

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2022 – Date	Member, Strategic Planning Committee, Engineering Council
2022 – Date	Member, Disciplinary, Legal and Ethics Committee, Engineering Council
2021 – 2022	Member of committee tasked with developing proposal for the procurement and use of a drilling rig for the Civil and Environmental Engineering Department
2021 – 2022	Member of committee tasked with developing proposal for the establishment of a Centre for Transport Planning and Management
2021 – 2022	Member of committee tasked with developing proposal for the establishment of a Centre for (Public Health) Environmental Health and Sanitation
2021 – 2022	Member of committee tasked with solving the liquid waste (greywater) problem at the GETFUND Hostel, UENR, Sunyani
2015 – 2017	Head of Civil Engineering Department, Bolgatanga Technical University (BTU)
2016 – 2017	Lecturer in charge of Water Lab, BTU
2015 – 2016	Academic Advisor, Civil Engineering Department, BTU
2014 – 2015	Curriculum review and accreditation committee for Civil Engineering Department, BTU
2013 – 2014	Academic Board Representative for Civil Engineering Department, BTU
2013 – 2014	Disciplinary Committee Member, BTU

## 10. SKILLS AND INTERESTS

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**Computer:** Proficient in Microsoft Office (Word, Excel, Access, PowerPoint); ArcGIS (Intermediate); Python Programming Language (Intermediate), R Software (Intermediate); MODFLOW (Intermediate),

**Language:** English (Proficient), French (Advanced), Akan (Native)

**Driver's License:** Class AB

**Hobbies:** Family outings, mentoring/counselling, gardening, swimming

## REFEREES

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Name of Reference	Title	Phone	Email
1. Prof. Samuel Ato Akorful-Andam	Associate Professor, Geomatic Engineering Department, KNUST	+233 (0)20 910 4956	<a href="mailto:aakorful@gmail.com">aakorful@gmail.com</a>
2. Prof. Kwaku Amaning Adjei	Associate Professor, Civil Engineering Department, KNUST	+233 (0)24 958 8470	<a href="mailto:nanakadjei@gmail.com">nanakadjei@gmail.com</a>
3. Dr. Emmanuel Kwasi Nyantakyi	Senior Lecturer, Department of Civil and Environmental Engineering, UENR	+233 (0)24 848 0088	<a href="mailto:emmanuel.nyantakyi@uenr.edu.gh">emmanuel.nyantakyi@uenr.edu.gh</a>
4. Mr. Desmond Yesseh	Head of Operations, Sama Sama	+233 (0) 208337980	<a href="mailto:dyesseh@ideghana.org">dyesseh@ideghana.org</a>

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