

## **CURRICULUM VITAE**

### **A. PERSONAL DETAILS**

- i. NAME: Awortwi, Francis Emmanuel, PhD
- ii. DATE OF BIRTH: October 21<sup>st</sup>, 1975
- iii. PLACE OF BIRTH: Kumasi
- iv. MARITAL STATUS: Married
- v. NATIONALITY: Ghanaian
- vi. TOWN AND REGION OF ORIGIN: Agona-Bipoah, Ashanti Region
- vii. CONTACT ADDRESS: P. O. Box 27, Bunso, E/R
- viii. PHONE NUMBER: +233 243 188332
- ix. EMAIL ADDRESS: [awortwi8@gmail.com](mailto:awortwi8@gmail.com)
- x. PRESENT POST AND SALARY: Provided on request
- xi. LANGUAGES SPOKEN: English and Twi
- xii. ICT literacy: Microsoft office, internet, mendeley, etc

### **B. EDUCATIONAL PROFILE**

- i. EDUCATIONAL INSTITUTIONS ATTENDED (WITH DATES)
  - a. Primary school – New Tafo Local Authority 1981 - 1989
  - b. Secondary school – Adventist Day 1989 – 1992 (O' Level)  
– Asanteman 1992 – 1994 (O' Level)  
– Opoku Ware 1994 – 1996 (A' Level)
  - c. Undergraduate university:  
Kwame Nkrumah University of Science and Technology: 1999 – 2003
  - d. Postgraduate university:  
Kwame Nkrumah University of Science and Technology: 2004 – 2009
- ii. ACADEMIC AND PROFESSIONAL QUALIFICATIONS WITH DATES
  - a. General Certificate of Education 'O' Level Science 1989 - 1994
  - b. General Certificate of Education 'A' Level Science 1994 - 1996
  - c. B.Sc. (Hons.) Biological Science 1999 – 2003
  - d. Ph.D. Biological Science 2004 – 2009
- iii. AWARDS, PRIZES, HONOURS AND NATIONAL AND INTERNATIONAL RECOGNITION
  - a. Certificate, Technical Upskilling on Oil Palm Value Chain (Part I –Agronomy & Agribusiness), January, 2020.
  - b. Certificate, Technical Upskilling on Cashew Value Chain, February, 2020.
  - c. Certificate, Technical Upskilling on Mango Value Chain, February, 2020.
  - d. Certificate, Strategic Environmental Assessment (SEA) and Environmental and Social Impact Assessment (ESIA), 2018
  - e. Certificate, Electronic Library Resources Training, July, 2016.
  - f. Certificate, Most Interactive Participant at the Seventh KNUST Summer School, by the Masstricht School of Management, 2017
  - g. Commonwealth Graduate Students Award (2006 and 2007)
  - h. CIDA Students in Development Award (2007)
  - i. Kwame Nkrumah University of Science and Technology (KNUST) Staff Development Scholarship Award (2004)
  - j. Certificate for dedicated service by the Biological Science Students Association (BIOSSA) of KNUST, 1999-2004.

### **C. GENERAL RESEARCH INTERESTS**

- i. Ecological dynamics of planktonic algae in freshwaters
- ii. Water quality and ecotoxicological studies of freshwaters
- iii. Trophic cascades and impacts in freshwater aquatic environments
- iv. Environmental quality assessments

## D. TRAINING AND WORK EXPERIENCE

### i. WORK EXPERIENCE IN THE UNIVERSITY SYSTEM

1. **Acting Rector:** March 14<sup>th</sup> – April 7<sup>th</sup> 2014; November 1<sup>st</sup> – November 2<sup>nd</sup>, 2016; January 6<sup>th</sup>, 2017; April 24<sup>th</sup>, 2017; June 20<sup>th</sup> – June 24<sup>th</sup>, 2017; September 3<sup>rd</sup> – September 8<sup>th</sup>, 2017; August 8<sup>th</sup> – August 10<sup>th</sup>, 2017; May 4<sup>th</sup>, 2018 to
2. **Dean of Students** (UCAES): September, 2012 to present
3. **Head of Department**, Environmental Science: August, 2011 to July, 2015
4. **Member**, Board of Allied Programmes: September 29<sup>th</sup>, 2015 to date
5. **Member**, Search Committee for UCAES' Rectorship, December 27<sup>th</sup> 2016
6. **Member**, Admissions Board: November 29<sup>th</sup>, 2011 – present
7. **Member**, Examiners Board: November 29<sup>th</sup>, 2011 – present
8. **Member**, Faculty Board: November 29<sup>th</sup>, 2011 – present
9. **Chairman**, Workshop on Curriculum Development for Beekeeping Programme at UCAES, Bunso, 21<sup>st</sup> – 23<sup>rd</sup> February, 2018 at Bunso Cocoa College, Bunso, E/R.
10. **Acting Coordinator**, School of Allied Programmes (UCAES), Bunso, September 2018 to present
11. **Acting Dean**, Faculty of Environment and Conservation (UCAES), Bunso, July, 2018 to present
12. **Lecturer**, UCAES: August 2011 – date  
**Courses taught:** Principles of Biochemistry, Ecology of Inland Waters, Limnology, Introductory Oceanography, Environmental Toxicology, Introduction to Climatology, Climatology and Biogeography, Environment and Development, Forest Biomes and Vegetation Analysis, Wildlife Resources and Conservation, Basic Microbiology, Principles of Law, etc
13. **Teaching and Research Assistant** at the Department of Theoretical and Applied Biology, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi (National Service): July, 2003 – August, 2004.

### ii. TRAINING BACKGROUND AND WORK EXPERIENCE OUTSIDE THE UNIVERSITY SYSTEM

1. **PhD Thesis research:** Department of Theoretical and Applied Biology, KNUST, Kumasi- August 2004-January, 2009. "**Spatio-temporal variability of phytoplankton community Species composition, biomass and primary productivity of Lake Bosomtwe, Ghana**".
2. **Collaborative research training:** Department of Biology, University of Waterloo, Waterloo, Ontario, Canada- February 2007 to August, 2007 and February 2008 to August, 2008. **Training in analytical procedures of water samples in the laboratory, data analysis and software applications, library research in support of thesis write up** under the supervision of Prof. R. E. Hecky and R. I. Hall and sponsored by the Government of Canada Commonwealth Graduate Student Award Programme and National science and Engineering Research Council (NSERC) of Canada.
3. **Training in the identification, isolation, and culturing of cyanobacteria from natural waters**, June 2007 by Hedy Kling, algal taxonomist from Winnipeg, Canada and sponsored by the Department of Biology, University of Waterloo, Waterloo, Ontario, Canada.
4. **Lake Bosomtwe (Ghana) Drilling Impact Assessment (Ghana)** by the Inter-Continental Drilling Programme (ICDP). May to September, 2004. **Pre-drilling assessment** conducted with Dr Piet Verburg of University of Santa Barbara, California, USA) and Prof. Dan Livingston (Duke University, North Carolina, USA). **Post-drilling assessment** was conducted with Prof. R. E. Hecky (University of Minnesota, USA) and Dr. Greg Silsbe (University of Waterloo, Waterloo, Ontario, Canada).
5. **Participant - Multidisciplinary Research Project on Lake Bosomtwe (Ghana): Linking meteorology, hydrology, sedimentology, and the dynamics of aquatic**

**organisms in a model for the interpretation of one million years sediment record of climate variability in tropical Africa and to validate other Global Climatic Models (GCMs)** - 2004 to 2009. Financed by the National Sciences and Engineering Research Council (NSERC) of Canada.

**6. Limnological Reconnaissance Training on Lake Bosomtwe (Ghana): Field training in water sampling, launching and recovery of water profilers, lightmeters, thermistors, sediment traps, meteorological station, etc.** 10<sup>th</sup> – 24<sup>th</sup> September, 2004; May 2005; July 2006 under the supervision of Prof. R. E. Hecky (University of Minnesota, USA), Prof. R. I. Hall and Dr. Greg Silsbee and Dr. Megan Puchniak (University of Waterloo, Waterloo, Ontario, Canada) on Lake Bosomtwe, Ghana.

**7. Script writer** at 'Prof' Quarm's Publications, Ghana.: March 2010-July 2011

**8. Teaching assistant** at Asanteman Secondary School, Kumasi: Nov. 1996 - October 1997 (National Service)

#### **E. SPECIAL ASSIGNMENTS/COMMUNITY SERVICE**

- i. **Resource person**, Inauguration of the Exhibition of Atewa Range Forest Reserve, on the theme, "" – January, 2019, British Council Auditorium, Accra.
- ii. **Member**, Interview Panel for the appointment of Researchers into the Plant Genetic Resources Research Institute (PGRRI), Bunso, of the Council for Scientific and Industrial Research (CSIR), Ghana – (January, 2019), Bunso, E/R
- iii. **Resource person**, 2017 World Environment Day Celebrations Symposium on the sub-theme "Connecting people from Cape Three Points to Bawku" – May 2<sup>nd</sup> – 5<sup>th</sup> 2017, Kyebi, E/R
- iv. **Supervision** of undergraduate student projects – seven from 2015 -2019.
- v. **Reviewer** for the following peer-review journals: Ghana Science, International Journal for Biotechnology and Molecular Biology Reviews (IJBMBR) International Research Journal of Environmental Sciences and Studies (IRJESS)  
**Community educator**, Lake Bosomtwe (Ghana) ecosystem management education programme for riparian communities – September – December, 2007, funded by the Canadian International Development Agency (CIDA) for students in development programmes
- vi. **Resource person**, seminar on "Sustainable fishing practices in Lake Bosomtwe (Ghana)" organized by Friends of the Earth, an environment NGO, September 12<sup>th</sup>, 2005.

#### **F. CONFERENCES AND PROGRAMMES ATTENDED**

- i. Technical Upskilling Training Programme on Oil Palm, 6<sup>th</sup> – 10<sup>th</sup> January, 2020 at Fumesua, A/R.
- ii. Technical Upskilling Training Programme on Cashew, 10<sup>th</sup> – 14<sup>th</sup> February, 2020 at Sunyani, B/R.
- iii. Technical Upskilling Training Programme on Mango, 17<sup>th</sup> – 21<sup>st</sup> February, 2020 at Somenya, E/R.
- iv. Workshop on Legal Awareness for Effective Advocacy and Engagement of State Agencies at Accra, 7<sup>th</sup> – 8<sup>th</sup> May, 2019 at Coconut Groove Regency Hotel, G/R.
- v. Workshop on Curriculum Development for Beekeeping Programme at UCAES, Bunso, 21<sup>st</sup> – 23<sup>rd</sup> February, 2018 at Bunso Cocoa College, Bunso, E/R.
- vi. Training Workshop for CSOs and Networks of Advocacy, Lobbying, and Influencing at Kyebi, E/R, 23<sup>rd</sup> – 24<sup>th</sup> January, 2018.
- vii. Strategic Environmental Assessment (SEA) and Environmental and Social Impact Assessment (ESIA) International Training Workshop – 18<sup>th</sup> – 22<sup>nd</sup> March, 2018, organized by the Shared Resources Joint Solutions (SRJS) Ghana.
- viii. 7<sup>th</sup> KNUST Summer School on the theme "Technology, Manpower Training, and Development" at KUNST-Kumasi campus, 21<sup>st</sup> -25<sup>th</sup> August, 2017.
- ix. Landscape Governance Assessment Workshop – 19<sup>th</sup> – 20<sup>th</sup> July, 2017, organized by the Shared Resources Joint Solutions (SRJS) Ghana.

- x. Electronic Library Resources Training workshop on TEAAL and AGORA for Ghana, July 11<sup>th</sup>-13<sup>th</sup>, 2016 organized by Information Training and Outreach Centre for Africa (ITOCA) and Cornell University's Mann Library with UCAES.
- xi. United Nations International Network on Water, Environment, and Health (UN-INWEH) conference on the theme "Assessing, monitoring, and setting targets – the work of the UN in freshwaters" at McMaster University, Hamilton, Ontario, Canada, March 5<sup>th</sup>, 2007.
- xii. Workshop on cyanotoxins in natural water bodies at the University of Waterloo, Waterloo, Ontario, Canada, April 19<sup>th</sup> – 23<sup>rd</sup>, 2007.
- xiii. Field Summer Institute workshop on environmetrics at the University of Waterloo, Ontario, Canada, July 17<sup>th</sup> -19<sup>th</sup>, 2007.
- xiv. 30<sup>th</sup> Congress of the International Association for Limnologists (SIL), Montreal, Canada, August 18<sup>th</sup>, 2007.
- xv. InterContinental Drilling Programme (ICDP) Conference on the drilling of Lake Bosomtwe, Ghana, September 13<sup>th</sup> – 17<sup>th</sup>, 2004.

## **G. RESEARCH INTEREST**

### i. COMPLETED

- 1. The meteorological conditions and physical limnology of Lake Bosomtwe, Ghana, 2004 - 2009.
- 2. Influence of the physicochemical limnology of Lake Bosomtwe on the vegetative processes of phytoplankton, 2004 – 2015.
- 3. Primary production processes of the phytoplankton of Lake Bosomtwe, 2004 – 2018.

### ii. IN PROGRESS

- 1. Litterfall dynamics of Cocoa farms at Bunso, Eastern region, September 2016 – on-going.
- 2. Characterization of microorganisms on organic wastes from dumpsites at Bunso Cocoa College for bioremediation purposes and as potential sources of danger for environmental health, Eastern region, September 2016 – on-going.
- 3. Characterization of waste types, generation rates, and management adequacy at UCAES' Students' Hostel at Bunso, Eastern region, September 2016 – on-going.
- 4. Species diversity of woody plants along a gradient of increasing disturbance in the Worobong South Forest Reserve, Begoro, Eastern region, September 2016 – on-going.

### iii. DETAILS OF RESEARCH PROJECTS UNDERTAKEN (UNPUBLISHED)

- 1. Taxonomic characterization of the phytoplankton of Lake Bosomtwe, Ghana, 2004 – 2009.
- 2. Assessment of cyanobacteria cell densities of Lake Bosomtwe as an index of recreational and domestic water quality, 2004 – 2009.
- 3. Phytoplankton standing crop surrogates, the case of Lake Bosomtwe, Ghana: an analysis of the relationship between phytoplankton cell densities, wet weight biomass, and chlorophyll a, 2004 – 2009.
- 4. Impact of illegal mining operations on the physicochemical characteristics of River Birim and its fish fauna, Eastern region, September 2015 – July, 2015.
- 5. Dissolved oxygen risk characterization for fishes in the Birim River (Ghana), Eastern region, September 2015 – August, 2016.
- 6. Assessment of physicochemical water quality parameters of water from selected hand-dug wells and boreholes at Bunso, Eastern region, September 2016 – August, 2017.

## **H. PUBLICATIONS**

### i. ARTICLES IN PEER-REVIEWED JOURNALS

1. **Awortwi, F. E.**, E. Frempong, S. A. Aikins, R. E. Hecky, R. I. Hall, M. K. Puchniak. 2018. Seasonal of primary productivity of phytoplankton of Lake Bosomtwe (Ghana), West Africa. *West African Journal of Applied Ecology*, 26 (2): 105 - 119
2. **Awortwi, F. E.**, E. Frempong, S. A. Aikins, R. E. Hecky, R. I. Hall, M. K. Puchniak. 2015. The relationship between mixing and stratification regime on the phytoplankton wet weight biomass of Lake Bosomtwe (Ghana), West Africa. *West African Journal of Applied Ecology*, 23 (2): 43-75
3. Puchniak, M. K., **F. E. Awortwi**, S. O. Sanful, E. Frempong, S. A. Aikins, R. E. Hecky, R. I. Hall. 2009. Effects of physical dynamics on the water column structure of Lake Bosomtwe/Bosumtwi, Ghana (West Africa). *Verhandlungen Internationale Vereinigung fur theoretische und angewandte Limnologie*, 30 (7): 1077 - 1081

ii. UNPUBLISHED CONFERENCES, WORKSHOPS/SEMINARS

1. Planktonic microphytes of Lake Bosomtwe (Ghana) and its implication for recreational water quality, presented at the UCAES ICT lab on June 2016.

**I. INFORMATION ON PH.D THESIS**

i. PH.D THESIS SUPERVISED

1. Spatio-temporal variability of phytoplankton species composition, biomass, and primary productivity of Lake Bosomtwe (Ghana) at KNUST, July 2009.

**J. EXTRA CURRICULLA ACTIVITIES**

- i. Vice President Academic, KNUST Graduate Students Network (KRESNET), 2004 – 2007
- ii. Member, Ghana Wildlife Society, KNUST branch, 1999 - 2003
- iii. Member, Roteract Club, OWASS branch, 1994 - 1996
- iv. Member, International First Aid Society (IFAS), ASSAS branch, 1992 - 1994
- v.

**K. NAMES AND ADDRESSES OF REFEREES**

i. **Professor Robert E. Hecky**

Large Lakes Observatory, University of Minnesota Dulluth

2205 E. 5<sup>th</sup> Street, Dulluth, MN 55812

Former Chair for African Great Lakes and Rivers and Adjunct professor, University

Of Waterloo, Waterloo, Ontario, Canada.

**Associate Supervisor** for my Ph.D thesis Research

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ii. **Professor Roland I. Hall**

Associate Dean of Graduate Studies

Biology Department, University of Waterloo,

200 University Avenue West,

Waterloo, Ontario, N2L 3G1. Canada.

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