Eric Worlawoe GABA, PhD

LinkedIn: www.linkedin.com/in/ewgaba

June, 2025

EDUCATION

Vrije Universiteit Brussels: Marie Curie Postdoctoral Research Fellow – 2024 – *date*

Promotor: Prof.dr.ir. Tom Verstraten, Brussels Human Robotics and Research Centre, Department of Mechanical Engineering, Vrije Universiteit Brussel

Research area: Sustainable Materials for Prosthetic Development

University of Ghana: Doctor of Philosophy, Biomedical Engineering – 2021

Advisors: Prof. Elvis K. Tiburu, Prof. Elsie Effah Kaufmann, and Prof. Bernard O. Asimeng

Thesis title: Investigation of Pineapple Leaf Fibre as Potential Reinforcement for Prosthetic Socket Application

Boise State University, USA: Leadership in Public Management (Certificate) – 2019

Coordinators: Margaret Bundy, Dr Michelle Payne, Maya Duratovic-Bosnia and Cathe Scott

Kwame Nkrumah University of Science and Technology: Bachelor of Science, Biomedical Engineering – 2015

Advisor: Dr. Ahmed Yacub, Joseph Thompson (CPO), and Ing. Amos Dantene

Thesis title: Design of Myoelectric Orthotic Armbrace for Wrist and Elbow Joint Contracture Prevention

TECHNICAL SKILLS

- Mechanics of material analysis
- Bio-composite design, fabrication and analysis
- Prosthetic socket analysis
- Finite Element Analysis
- Human motion analysis
- COMSOL Multiphysics

CONTINUOUS PROFESSIONAL DEVELOPMENT TRAINING

Introduction to Epidemiology for Global Health (eDGH) course -University of Washington – March 2024

Instructor: Brandon Guthrie, PhD, MPH – Associate Professor, Global Health, Epidemiology, University of Washington.

Methods & Tools for conducting literature reviews by the International Society for Prosthetics and Orthotics_*Webinar*

Facilitator: Speakers: Jan Andrysek, PhD, Peng, Senior Scientist Bloorview Research Institute, Toronto, Canada; Calvin Ngan, University of Toronto, Canada; Iveta Lewis, Library & Archive manager, Bloorview Research Institute, Toronto, Canada.

Investigator Site Personnel ICH Good Clinical Practice (version 2.1) Training by Roche/Genentech_ August 2024:

Sub-ischial Socket Technique for transfemoral prosthesis users by the International Society for Prosthetics and Orthotics_*Webinar (1 CPD point)*

Facilitators: Stefania Fatone (PhD) & Ryan Caldwell (L/CP)

Coping with Technology Shift in Prosthetics and Orthotics by the International Society for Prosthetics and Orthotics (ISPO)__ *Webinar (2 CPD points)*

Facilitators: Sandra Ramdial, Danial Blocka, Gerald Stark & Nicolas Munoz

Introduction to Epidemiology for Global Health_2024 by University of Washington, Seattle-USA_ *Certificate*

Facilitator: Brandon Guthrie, PhD, MPH, Associate Professor, Global Health, Associate Professor, Epidemiology.

Mastering the Art of Writing a Scientific Abstract_ *Webinar by* International Society for Prosthetics and Orthotics (ISPO)_2024:

Facilitator: Dr Jaap Van Netten, Department of Rehabilitation of the Amsterdam UMC, The Netherlands

RESEARCH LABORATORY EXPERIENCE

- Brussels Human Robotics Research Centre (BruBotics)_ https://www.brubotics.eu/ _2024-date
- Sustainable Material and Engineering Research Laboratory, Vrije Universiteit Brussel_ https://researchportal.vub.be/en/organisations/materials-and-chemistry 2024 – *date*
- Elvis Tiburu Nanotechnology lab at the School of Engineering, University of Ghana -- https://engineering.ug.edu.gh/ Research Student, 2017 – 2021
    - Developed a protocol for natural fibre treatment from plants
    - Investigated mechanical properties of polymer composites
    - Conducted Finite Element Analysis on polymer composites
- Material Science and Engineering Department, School of Engineering Science, University of Ghana/ Research student, 2017 – 2021
    - Characterised the mechanical properties of natural and synthetic fibres
    - Characterised the mechanical properties of fibre-reinforced composites
- Material Science and Engineering Department, Virginia Polytechnic and State University – USA, https://mse.vt.edu/ -- Research Intern, 2017
    - Designed cellulose nanocomposites
    - Investigated mechanical properties of cellulose nanocomposites

PROFESSIONAL EXPERIENCE

- **Assistant Director,** Smiles of Hope (SoH) www.smilesofhope.me - 2019 to date
    - Developed a skill training program to reengage amputees in economic activities
    - Organise a quarterly symposium on health-related issues that affect amputees, such as diabetes and physiotherapy management after amputation
    - Organise monthly community amputee peer-support meetings
    - Developed memorandum of understanding with partner (Legs4Africa, UK)
- **Senior Health Tutor,** Br. Tarcisius Prosthetics and Orthotics Training College – 2016 to date
    - Taught Human Biomechanics, Biomaterials for prosthetic application, Lower limb prosthetics and orthotics technology, and Application of microprocessor in bionic prosthetics

- Supervised student project on the influence of anthropometry in prosthetic fabrication
- **National Service Personnel**, Br. Tarcisius Prosthetics and Orthotics Training College – 2015 – 2016
  - Organized tutorials in Biomechanics and Material Science and Selection for Orthopedic rehabilitation

LIST OF PUBLICATIONS

- **E. W. Gaba**, B. O. Asimeng, E. E. Kaufmann, S. K. Katu, E. J. Foster, and E. K. Tiburu, "Mechanical and Structural Characterization of Pineapple Leaf Fiber," Fibers, vol. 9, no. 8, p. 51, Aug. 2021, doi: 10.3390/fib9080051
- **E. W. Gaba**, B. O. Asimeng, E. E. Kaufmann, E. J. Foster, and E. K. Tiburu, "The Influence of Pineapple Leaf Fiber Orientation and Volume Fraction on Methyl Methacrylate-Based Polymer Matrix for Prosthetic Socket Application," Polymers, vol. 13, no. 19, p. 3381, Sep. 2021, doi: 10.3390/polym13193381

GRANTS AWARDED

- Marie Skłodowska Curie Action-IMPACT- Postdoctoral Fellowship Award, 2024
- World Connect, Inc. Amputee Economic Empowerment Project (AEEP) – 2023: $5,000.00
- Business Development Grant - Mentors Foundation – 2023: $7,840.00
- Material Innovation Research grant from the Mentors Foundation – 2021: $5,600.00
- Grant Number: 200908
- Best poster presenter, 5th Africa Interdisciplinary Health Conference, Accra, July, 2022
- Best student article presented at the Centre for Doctoral Training P&O Conference, UK, December 2021
- 2018 Distinguished Youth Leadership Council Member, Knowles Educational and Charitable Trust for International Leadership, KECTIL-USA
- 2017 Outstanding participant, Knowles Educational and Charitable Trust for International Leadership KECTIL-USA

CONFERENCE ABSTRACTS

- **Gaba WE**, Yamane A, Agyei NK, Freisem K, Spaulding SE, Murphy M, McDonald CL. Using Curriculum Mapping to Facilitate Program Self-assessment and Support the Accreditation Process. Proceedings of the 16th World Congress of the International Society for Prosthetics and Orthotics, Guadalajara, Mexico, Apr 24-27, 2023.
- **Gaba WE**, Asimeng BO, Kaufmann EE, Katu SK, Foster EJ, and Tiburu EK. "The influence of pineapple leaf fiber orientation and volume fraction on Methyl Methacrylate-Based Polymer Matrix for Prosthetic Socket Application," in 5th Africa Interdisciplinary Health Conference (AfHC), Accra, 2022
- **Gaba WE**, Asimeng BO, Kaufmann EE, Katu SK, Foster EJ, and Tiburu EK. "Emerging prosthetic technologies for application in resource limited prosthetic centers of the world," in The Future of Prosthetics and Orthotics, CDT P&O Conference, UK, 2021
- **Gaba WE**, Yamane A, Spaulding SE, McDonald CL, Friesem K, Nana Awua-Peasah, Petio P, Larbi KNH, Dordunu R. Development of an International Online Professional Learning Community Between Prosthetic and Orthotic Schools in Ghana and the United States. Proceedings of the 15th World Congress of the International Society for Prosthetics and Orthotics, Kobe, Japan, Oct, 2019.

- 19th Staffordshire Conference on Clinical Biomechanics, UK, 30th April to 1st May 2021- *Participant*

PERSONAL ATTRIBUTES

- **Based on the Clifton Strength Assessment from the Gallup Strength Center, the following attributes describe me:**
    - **Learner**: Able to devote myself to learning, unlearning, relearning and improving on skills
    - **Intellection**: Introspective (a deep thinker) and appreciates intellectual discussions
    - **Connectedness**: Believe there are links among things in our environment
    - **Individualisation**: Recognise the unique qualities of each person and try to figure out how diverse people can work together
    - **Developer**: Recognise and cultivate small progress and the potential in others, respectively