Yaw Ofosu Ansong Jnr

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EDUCATION

Ph.D. Bioengineering **Present**
University of California, Berkeley - Berkeley, CA
Advisor (Dr. Amy E. Herr)
CIRM Research Fellow

M.S. Biomedical Engineering **Spring 2018 - 2019**
University of New Haven - West Haven, CT

M.D, Doctor of Medicine **Fall 2009 - Fall 2015**
University of Cape Coast - Cape Coast, Ghana

RESEARCH AND WORK EXPERIENCE

UC Berkeley - Berkeley, CA **Spring 2021 - Present**
Graduate Student Researcher
Faculty Mentor: Dr. Amy E. Herr

- Current Project: Assessment of genotype-phenotype relationships using single cell multi-omics tools
  - Performance of whole genome amplification and primer specific PCR.
  - Assessment of protein isoforms using single cell western blot analysis.
  - Assessment of genotype-phenotype relationships using snapblot.
  - Nanofabrication of wafers for use in open microfluidic studies.
- Rotation Project: Controlling dispersion during single-cell isoelectric focusing

Bioengineering Lab
Kova Research Group - New Haven, CT **Summer 2019**
Founder and Lead Scientist

- Took part in the development of experimental procedures that involved the use of quantitative phase microscopy in imaging blood cells separated through microfluidics.
- Developed experimental concepts for microfluidic separation of hemoglobin variants
- Applied for, and won over $450K in non-dilutive grants and VC Funding.
- Lead a team of scientists to build a quicker, affordable, label-free, and easier to use cell diagnostic platform using quantitative phase imaging and deep learning.
- Successfully developed regulatory documents.
- Gained IRB approval for the project and partook in patient recruitment and writing of grant proposals and applications for funding.

BMDI Lab, University of New Haven - West Haven, CT **Fall 2018 - Spring 2019**
Research Assistant

- Worked on biomaterials for protein aided drug (Nitric Oxide) release.
- Participated in the development of experimental trials using biomaterials in improving human life.
- Participated in culture and monitoring of the growth of MDA-MB-231 cancer cells in microfluidic devices. Performed primary cell culture, validated in-vitro and cell-based assays and gained experience in basic molecular biology techniques.

- Analyzed and evaluated data gathered during research for manuscript.

Other Projects:

- Developed an ECG biosensor that uses preamplifiers and amplifiers. The system beeps with each heart sound measurement with potential application in patient monitoring.
- Wrote a literature review on the potential use of microfluidic biosensors as a tool in tracking the level of cholesterol in patients.
- Developed and tested hypotheses around the characterization and fabrication of a blend of chitosan and gelatin as a nano-fiber for engineering skin tissue.
- Proposed a way to design a scaffold that can be seeded with cardiac stem cells such that the cells can differentiate into cardiac muscle cells.

Ghana Health Service - Accra, Ghana **Fall 2016 - Spring 2018**

Medical Practitioner (Internal Medicine, Surgery, Pediatrics and Obstetrics/Gynecology)

- Diagnosed, treated and took care of children, women, and adult patients.
- Involved caring for women during prenatal, natal and postnatal periods as well as the performance of surgeries. Performed life-saving emergency surgeries for adult patients, as well as, reporting to senior supervising doctors.
- Prepared government and organizational reports on birth, death, and disease statistics, workforce evaluations, and the medical status of individuals.
- Treated children who had minor illnesses, acute and chronic health problems, as well as growth and developmental concerns. Regularly assessed the growth and development of children and referred patients to medical specialists when necessary.

PUBLICATIONS

- **Ansong Jnr**. Artificial Intelligence and Healthcare: A qualitative review of recent advances and predictions for the future. *National Journal of Medical Research,* 2019;9(3):138-140.
- **Ansong Jnr.** The promise of quantitative phase imaging and machine learning in medical diagnostics: a review. J Med Artif Intell, 2019

CONFERENCE PRESENTATIONS

Biomedical Engineering Society National Conference (Poster Presentation) **Fall 2019**
Achieving On-Demand Release of NO via Bacteriorhodopsin
Philadelphia, Pennsylvania

American Chemical Society (Poster Presentation) **Spring 2019**
Achieving On-Demand Release of NO via Bacteriorhodopsin
Yale University, New Haven, Connecticut

TEACHING EXPERIENCE

MED 203 – Molecular and Cellular Basis of Health and Disease I; Supplemental Instruction Leader
Semesters: Fall 2011, Spring 2012, Fall 2012
Responsibilities Included: Assisting approx. 40 students each semester, planning and leading 3 problem based learning discussion sessions per week, holding office hours

AWARDS

Big Ideas Prize **Spring 2021**
Award was given by **Rudd Family foundation** through the **UC System** in Support of a proposal for an idea that will solve health disparities in America.

Wilson Prize **Spring 2020**
Award was given by **Yale University** in Support of Innovation and Entrepreneurship that solves health. disparities in America

Lauchpad Summer Fellowship **Spring 2020**
Award was given by Blackstone Launchpad Summer Fellowship in support of youth entrepreneurship across America.

Second Runner Up (Poster Presentation) **Spring 2019**
Award was given by the American Chemical Society (New Haven Chapter) at **Yale University** to students who distinguished themselves during the poster presentation at the 2019 quarterly conference.

Academic Scholarship **2018 - 2019**
Award was given to University of New Haven Graduate students with excellent academic records.

Graduate College Conference Travel Grant **Fall 2019**
Biomedical Engineering Society (BMES) Travel Award given to Graduate Researchers to attend Fall 2019 Annual National Conference.

First Runner Up **Fall 2018**
Selected as the overall best startup amongst several startups from 4 Colleges across Connecticut at the annual University of New Haven Charger Startup Weekend.

Best Graduating Student in Psychological Medicine and Mental Health **Fall 2015**
The highest honor bestowed by professors in the department of Psychology and Mental Health at the University of Cape Coast upon the best graduating medical student who exemplifies himself in Psychological Medicine and Mental health over the course of 6 years.

PATENTS

Diagnostic systems and methods for hemolytic anemias and other conditions, Patent Application Filed, 2020

SKILLS

PCR, Tissue/Cell Culture, Laser cutting, Nanofab, Matlab, Nanodrop, Gel Electrophoresis, R, LabVIEW, AutoCAD, ImageJ, Molecular and Cell Biology, Genetics and Immunology, Western Blot, Fluorescent Labelling, ELISA, Entrepreneurial, Raspberry Pi.

EDUCATION TRAVEL

Spent 6 weeks at Groote Schuur Hospital in Cape Town, South Africa. Observed and assisted in cardiothoracic procedures such as heart transplant, and heart valve replacements; rotated in their microbiology and hematology labs as well as their biomedical engineering research institute.

LEADERSHIP EXPERIENCE

LifeCare Group, New Jersey **Fall 2016 - Fall 2019**

Board Member

Responsibilities: Participated in quarterly board meetings, advised leadership on key technologies to adopt, Involved in hiring key personnel.

MEMBERSHIPS

American Chemical Society (Member), National Society of Black Engineers (Member), Biomedical Engineering Society (Member), Ghana Medical Association (Member)