

University of Ghana

College of Basic and Applied Sciences Research Board

PERSONAL INFORMATION

Name: Elvis K Tiburu, PhD
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ACADEMIC BACKGROUND

YEAR	DEGREE	FIELD OF STUDY	INSTITUTION AND LOCATION
2004	Ph.D.	Biophysics	Miami University in Ohio, USA
1999	M.Phil.	Biochemistry	Indiana University of PA, USA
1990	B. SC.	Chemistry	Kwame Nkrumah University of Science & Technology, Kumasi, Ghana

RESEARCH INTEREST

- Structural Biology (NMR and EPR studies of macromolecules)
- Developing nanomaterials for cancer treatments
- Developing diagnostic tools for early detection of disease states
- Developing biological Interface materials
- Natural products isolation and characterization
- Targeted drug design and release

AREA OF SPECIALIZATION

- Biophysics
- Solid State Nuclear Magnetic Resonance Spectroscopy of Membrane Proteins
- Electron Paramagnetic Resonance of membrane Proteins
- Signalling
- Targeted drug design and delivery

ON-GOING RESEARCH PROJECTS:

- Identifying Novel Compounds Against Eukaryotic Pathogens Utilizing Archaeologically Recovered Materials from Past Human Activities in Komaland, Northern Ghana (A collaboration with Departments of Archaeology and Heritage Studies, Biochemistry, Cell and Molecular Biology and Noguchi Memorial Institute for Medical Research).

- Explore local materials to develop functional biomaterials and nanomaterials for various biomedical application (In collaboration with Virginia Tech and Northeastern University).
- Functionalizing clay minerals with various polymers with the aim to create new and functional clay nanocomposites with enhance drug upload and delivery capabilities (In collaboration with Virginia Tech, Northeastern University and Department of Biochemistry, Cell and Molecular Biology).
- To develop phase changing materials for potential utility in biosensors fabrication and other rapid diagnostic devices (In collaboration with Virginia Tech, Northeastern University and the West African Centre for Cell Biology of Infectious Pathogens).

OTHER RESEARCH RELATED ACTIVITIES

2012 – 2013

VISITING SCHOLAR

- Invited as a Visiting Scholar through the Carnegie foundation to help establish the graduate program in the School of Engineering Sciences.
- Provided series of grant proposal writing workshops across the entire university under the Carnegie foundation project

2007-2012

ASSISTANT RESEARCH PROFESSOR

- Lead investigator at the Centre for Drug Discovery (CDD) at Northeastern University, USA.
- Grant writing and supervision of Graduate students at CDD, USA.
- Maintenance and Running of Nuclear Magnetic Resonance (NMR) experiments at CDD, USA.

2004 – 2007

POST-DOCTORAL FELLOW

- National Research Science Award (NRSA) awarded by National Institute of Health (NIH) to pursue post-doctoral training at Beth Israel Deaconess Medical Centre (Harvard Institutes of Medicine, USA).
- Learned skills in Stem Cell research.
- Mentored Medical Students.
- Conducted structural biology research in collaboration with Bruker-Biospin Company, USA.

SELECTED PUBLICATIONS IN PEER REVIEWED JOURNALS:

1. Essel, T. Y. A., Koomson, A., Seniagya, M. O., Cobbold, G. P., Kwofie, S. K., Asimeng, B.O., Arthur, P.K., Awandare, G. and **Tiburu, E. K.** (2018). Chitosan composites

synthesized using acetic acid and tetraethylorthosilicate respond differently to methylene blue adsorption. *Polymers*, *10*, 466-478.

2. **Tiburu, E. K.**, Issah, I., Darko, M., Armah-Sekum, E. R., Gyampo A. O. S., Amoateng, K. N., Kwofie, S. K. and Awandare, G. (2018). Investigating the conformation of S100 β protein under physiological parameters using computational modeling: a clue for rational drug design. *The Open Biomedical Engineering Journal* *12*,73-73.
3. Anderson, D.E., Balapangu, S., Fleischer, H. N.N., Viade, R.A., Krampa, F.D., Kanyong, P., Awandare, G.A. and **Tiburu, E. K.** (2017). Investigating the influence of Temperature on Kaolinite-Base Synthesis of Zeolite and Urease Immobilization for Potential Fabrication of Electrochemical Urea Biosensor, *Sensors*, *17*, 1831-1843; doi:10.3390/s17081831.
4. **Tiburu, E. K.**, Mutocheluh, M., Arthur, P.K., Narkwa, P.W., Salifu, A.A., Agyei, M. A., Yeboah, R., Fleischer, H. N. A., Zhuang, J. and Awandare, G. V. (2017). Antiproliferative effects of zeolites a and x on yeast pathogenic and cancer cells. *Journal Biomaterials and Tissue Engineering*, *7*, 544–555.
5. **Tiburu, E. K.**, Salifu, A. A., Aidoo, E. O., Fleischer, H. N. A., Manu, G., A. Yaya, A., Zhou, H. and Efavi, J. K. (2017). Formation of chitosan nanoparticles using deacetylated chitin isolated from freshwater algae and locally synthesized zeolite A and their influence on cancer cell growth. *Journal of Nano Research*, *28*, 66-77.
6. **Tiburu, E.K.**, Zhuang, J., Fleischer, H. N. A., Arthur, P. K. and Awandare, G. (2017). Expression, purification and monitoring of conformational changes of hCB2 TMH67H8 in different membrane-mimetic lipid mixtures using circular dichroism and NMR techniques. *Membrane*, *7*, 10-24.
7. Yaya, A., **Tiburu, E. K.**, Vickers, M.E., Efavi, J. K., Onwona-Agyeman, B. and Knowles, K.M. (2017). Characterisation and identification of local kaolin clay from Ghana: A potential material for electroporcelain insulator fabrication. *Applied Clay Science*, *150*, 125-130.