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Re: Postdoctoral Chemist Opening

Dear Review Committee,

I am excited about the Helen Hay Whitney Foundation Research Fellowship. This is an exciting fellowship that will allow me to research more in Biomedical Sciences and Chemistry under the supervision of great Professors (Butler and Owen) for me to make meaningful contributions as a researcher. I have been in the field of chemistry since 2003, enriching my knowledge through classes, internships and research. My qualifications are in different fields of chemistry from industrial through organic to inorganic-materials science to be dynamic and exceptionally useful for skills, ideas and knowledge. I am always willing to learn new things, techniques and materials to expand my knowledge to be highly useful and applicable in research. That makes me to develop interest in the studies of mice brown and white fats using X-ray imaging techniques and other methods to study obesity in mice, and later in humans. This is an exciting research I am glad to pursue more with the supports from the foundation.

My MSc graduate and BSc undergraduate studies involve a very broad study of chemistry and science in general. I had several classes in organic, inorganic, physical, analytical, industrial, polymer chemistry and more. I did industrial internships at Nipol Limited plc., Nigeria (plastics manufacturing company) where I worked in the production department for sorting materials for production and operating plastic extruder machines, and also at pharmaceutical department, Lagos university teaching hospital, where I worked as a solution assistant making solutions for lab experiments. During BSc and MSc studies, I carried out research on natural products-organic chemistry, using techniques such as Gas Chromatography-Mass Spectrometry for essential oils characterization; Thin Layer Chromatography, Column Chromatography and HPLC for separation, identification and quantification of organic constituents; proton and carbon Nuclear Magnetic Resonance, Ultra-Violet spec., Infra-Red for structural elucidation of organic compounds. For anti-microbial and biological applications, I also worked in collaboration with microbiologists and biochemists for testing the compounds for anti-microbial and anti-hepatoprotective activities. This is because compounds are not just made, but should also possess biological and medicinal advantages for the society.

Through my PhD studies, I also have adequate knowledge and experience with the development and use of X-ray imaging methods such as X-ray absorption tomography and grating based interferometry for imaging and analysis of different materials like flame retarded polymer blends, petrochemical catalysts, biological samples, and geological samples. I have carried out various research ­at National Institute of Standards and Technology for hydrogen storage materials; Advanced Photon Source for X-ray single-shot interferometry of 2D imaging movies of burning samples using UL 94 burn test (flame retarded polymer blends) and 3D tomography of post-burn samples with X-ray phase stepping method; and at LSU Center for Advanced Microstructures and Devices using synchrotron and X-ray tube sources for both K-edge absorption tomography for concentration maps and interferometry for blending studies.

Based on my knowledge, I am interested in a new field of biomedical imaging because I am very hard-working and I have the ability and enthusiasm to learn fast. This is shown in my qualifications having degrees in different fields of chemistry. With the opportunities, I can contribute to the world and my developing country, Nigeria. Many diseases can be analyzed with the use of X-ray imaging such as breast cancer as reported by Pfeiffer1 *et al.* and many more.

I have strong computer proficiencies in MS Word, MS Excel, MS PowerPoint, and visualization imaging software. Please see the attached resume for details of my experience and education.

I believe such qualifications; exposure and level of experience will enable me to carry out my duties as a postdoctoral fellow.

I look forward to calling for the interview and be granted the fellowship to accomplish my career goals.

Yours sincerely,

Mutairu Bolaji Olatinwo.

**Reference**

1. Auweter SD, Herzen J, Willner M, Grandl S, Scherer K, Bamberg F*, et al.* X-ray phase-contrast imaging of the breast—advances towards clinical implementation. *The British Journal of Radiology* **87**, 20130606 (2014).