Eric Gato

Assistant Professor at Georgia Southern University
Statesboro, GA, US

Professor Gato focuses on diabetes, environmental chemistry and toxicology to examine exposure to environmental contaminants

Biography

My research interests are in the areas of environmental chemistry and environmental toxicology. Some of these research initiatives include the application of toxicogenomics and proteomics techniques to examine exposure to environmental contaminants. One area that I would like to study is the application of epigenetics to the study of pancreatic cancer. Epigenetic control connotes the idea of alterations in gene expression without changes in the underlying DNA sequence. I would also like to study susceptibility of offspring to metabolic syndrome (insulin resistance) after in utero exposure using animal models. Specific areas of current and future research are highlighted below. Toxicogenomic and Proteomic Response of Rodents and Mammalian Cells to Dietary Environmental Contaminants (2-aminoanthracene). Research to examine the effect of 2-aminoanthracene (2-AA) on pancreatic cells with specific focus on insulin production, insulin resistance and pancreatic cancer etiology. Susceptibility of offspring to metabolic syndrome (insulin resistance) after in utero exposure using animal models. Investigation of epigenetic alterations as a result of environmental chemical exposure during early years of life or in the uterine environment. Examine the effects of 2-Aminoanthracene (2AA), in utero, and in utero through postnatal period using proteomics, toxicogenomics and immunohistochemical techniques. This proposed investigation will enhance our understanding of the adverse effects associated with aromatic amines chemical exposure in utero. Fate and chemodynamics of trace metals, organics and nanomaterials. Research to study adsorption of polycyclic aromatic hydrocarbons and heavy metal mixtures by engineered nanomaterials. Determination of fate and transport of heavy metals and hydrophobic organic chemicals in soils and aquatic systems. Analysing soil physical properties such as soil texture, particle size, soil structure and pore size in response to heat derived from seasonal burning. Organic carbon, pH, cation exchange capacity, and salinity measurements in soil. Modelling heavy metal transfer from soil to vegetables. Chemical Education research in the employment of pedagogical approaches to improving student learning outcomes. This involves the use of technologies, assessment, and laboratory and lecture instruction and testing of various teaching models for example, will teaching math intensive topics later improve student outcome?

Areas of Expertise

Diabetes, Environmental Toxicology, Biochemistry, Environmental Chemistry, Environmental Contaminants

Education

Western Michigan University
Ph.D.

University of Nottingham
M.S.

University of Cape Coast
B.S.
