Undergraduate Student Research Opportunities:

- Anthropometric and Clinical assessment of the prevalence of Metabolic Syndrome (MetS) in young African American adult population, attending a Historically Black College and University (HBCU)
- Evaluation of urinary 8-hydroxy-deoxyguanosine (8-OHdG) as a non-invasive biomarker of oxidative stress in young African American adults with MetS.
- Assessment of attitudes and practice of healthy lifestyle in young African American student population.
- Assessment of anti-genotoxic potentials of dietary sulforaphane and other glucosinolates using Single Cell Gel Electrophoresis (Comet Assay).

Careers a student would be prepared for by working in your laboratory:

Biochemists in R &D, Food Safety Inspectors, Public Health Professionals, Dietary Counsellors, Nutrition & Wellness Educators, Occupational Hygienists, Genetic Toxicologists.

For more information contact:

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Current Research Efforts:

- The goal of this multidisciplinary research project is to perform a comparative evaluation of coliforms, *Escherichia Coli*, *E. Coli O157:H7*, *Salmonella* and *Listeria* isolated from small Organic and Conventional farms in the Blue-Grass region of Kentucky, to profile their antibiotic resistance. Information generated from the research will help in offering Food Safety training to small and minority organic producers dealing with fresh produce, in the context of changing scenario of Food Safety Modernization Act (FSMA).
- Aquaponics is a novel and sustainable food production system that relies on using wastes from the aquaculture processes to grow produce. However, there are food safety concerns. Our research group is currently involved in performing a comprehensive evaluation of the microbial safety of Aquaponic method of production of fish and produce.
- Kentucky has some of the poorest health statistics in the nation, driven largely by poor diet and life style practices. Current research areas include development and promotion of healthy diets and life style practices, especially among minority, limited income and at risk populations. Keeping in mind the disparities in prevalence of chronic diseases among minority young adults, the researcher in the Human Nutrition Program created the Student Health Awareness and Prevention Evaluation Program (SHAPE UP KSU). Through this program, undergraduate students receive health screenings. Those found at risk for type 2 diabetes and other chronic conditions receive counseling.

Graduate Student Research Opportunities:

- Evaluation of attitudes and practices of Good Agricultural Practices (GAP) recommendations by small and limited resource famers in KY and survey of microbial quality of fresh produce with reference to occurrence of *E.coli* (STEC), *Salmonella* and *Listeria*.
- Determination of antibiotic sensitivity and resistance profile of the strains of pathogenic bacteria isolated from the produce.
- Monitoring food safety aspects of produce and fish from the Aquaponic methods of food production and perform Hazard Analyses and Critical Control Points (HACCP) analysis.