Faculty Interest and Capability

Name:	Dr. J.A.P. McCrary, Ph.D., M.S., M.T. (ASCP) – Professor of Biology
Email:	Jo.McCrary@asurams.edu
Discipline:	Multidisciplinary and Interdisciplinary academic knowledge, skills, training and expertise in Clinical Laboratory Medicine, Plant Physiology, Botanical Sciences – Biological/Biomedical Sciences and Carcinogenesis (Biochemistry).
Subdiscipline(s):	Clinical Laboratory Sciences - Botanical Sciences – Plant Physiology – Biological/Biomedical Sciences – Carcinogenesis – Biochemistry –
Areas of Research Interests:	**Ethnopharmacology (Botanical Medicine)*:*** Scientific Investigation of the biological/biochemical mechanisms responsible for the pharmacological and medicinal properties of plants used in Traditional Medicine, Herbal Medicine and Integrative Medicine (botanical anti-carcinogens – anti-mutagens – anti-microbials). **Biochemical Toxicology:** (1) Investigation of the biochemical mechanisms responsible for the anti-carcinogenic effects of food supplements and nutrients; (2) xenobiotic metabolism; (3) development of alternative tests methods for toxicity studies and ethnopharmacological (medicinal plant) screening and validation. **Initiatives in Science:** Development, implementation and participation in programs and activities designed to increase the number of students pursuing professional careers in the sciences, especially minority students;
Skills:	**Professional and Technical Skills (Research and Clinical):** (1) Enzymology - Biochemical Characterization of Isoenzymes (Phase I - Xenobiotic Enzymes); (2) Enzymatic Analysis of Tissues and Fluids in Plants and Animals; (3) Cell Culture Techniques: Animal, Plant, Bacterial and Fungal; (4) Isolation and Identification of Bacteria, Fungi and Parasites; (5) Antimicrobial Studies;(6) Antioxidant Assay Methods; (7) Immunohematology and Serological Analysis; (8) Cell Fractionation and Centrifugation Methods; (9) Protein Purification Methods; (10) Protein Electrophoresis; (11) Chromatographic Techniques: HPLC, Ion Exchange, Gel and Affinity; (12) Automated and Manual Cell Counting Techniques; (13) Spectrophotometric Analysis: Visible and Ultraviolet Light; (14) Flame Emission and Atomic Absorption; (15) Radioisotope Methodology Including Radioimmunoassay; (16) Microscopic Analysis of Body Fluids and Tissues: (17) Drug, Mineral, Nutrient and Electrolyte Analysis; (18) Automated and Manual Biochemical Analytical Assays; (19) Basic Techniques in Recombinant DNA Technology: DNA and RNA extraction – Northern and Southern Blotting - DNA and RNA electrophoresis
Research Summary *(current, performed in the past 5 year; 300 words or less)*	Biological/biomedical research in the following areas: Scientific investigations to validate and explain the reported benefits associated with some of the teas and botanical products reported to be useful in the treatment of cancer and exhibit antimicrobial activities (antibacterial/antifungal/others).
Keywords *(5 maximum)*	Clinical Laboratory Sciences - Botanical Sciences – Plant Physiology – Biological/Biomedical Sciences – Carcinogenesis – Biochemistry