

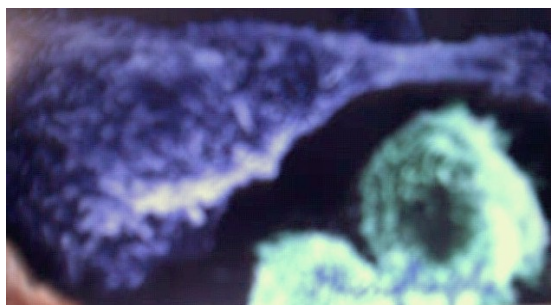
# *Clark Atlanta University*

223 James P. Brawley Drive, S.W.  
Atlanta, GA 30314



## *MBRS/SCORE/RISE Programs*

### **BIOMEDICAL RESEARCH AND RESEARCH TRAINING**



*Minority Biomedical Research Support Program (MBRS)*

*Support of Continuous Research Excellence Program (SCORE)*

*Research Initiative for Scientific Enhancement Program (RISE)*

Visit Web site for additional information: <http://www.mbrs.cau.edu>

## **Brief History of** *Clark Atlanta University*

Clark Atlanta University, incorporated on July 1, 1988, is a predominantly African-American, private, urban, coeducational institution of undergraduate, graduate and professional education. Clark Atlanta University inherits the historical missions and achievements of its two parent institutions, Atlanta University and Clark College. Founded in 1865, Atlanta University in 1929 became an exclusively graduate and professional institution, the first with a predominantly black student body. Founded in 1869, Clark College was the first Methodist-affiliated college established to serve African Americans. Each of these schools began modestly but with firm commitments to the highest standards of intellectual and responsible achievement. Thus, by 1888 Clark College had developed the independent Gammon Theological Seminary, and Atlanta University was providing black teachers and librarians throughout the South. Over the years the program of Clark College evolved from one which concentrated on training teachers and ministers to a diversified panoply of disciplines in the social and natural sciences and the arts and humanities. Atlanta University developed Schools of Education, Social Work, Library Science, and Business Administration in addition to the several disciplines of the School of Arts and Sciences.

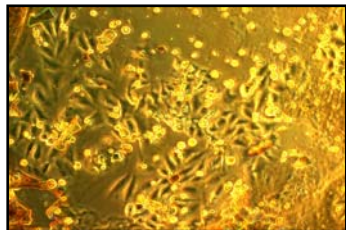
Clark Atlanta University is nationally recognized as the only private Historically Black University in the nation classified as a Doctoral/Research-Intensive University by the Carnegie Foundation for the Advancement of Teaching in 2000 and was ranked a national university by *U.S. News and World Report* in its 2003 edition. In addition, CAU was proud to be ranked as one of the top-10 institutions in the nation as a "Top College for African Americans," in the January 2001 issue of *Black Enterprise*.

### ***MBRS Program***

The MBRS Program is structured as the overall "umbrella" for two subdivisions at Clark Atlanta University, 1) the Support of Continuous Research Excellence Program (SCORE Program) and 2) the Research Initiative for Scientific Enhancement Program (RISE Program). Both are supported by the Minority Biomedical Research Support Program (MBRS Program) of the National Institutes of Health/National Institute of General Medical Sciences/MORE Program.

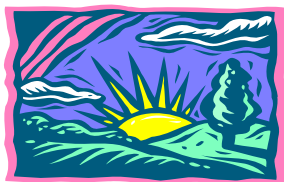
The MBRS SCORE and RISE Programs work in conjunction with the following departments in the sciences: Biological Sciences, Chemistry, Computer and Informational Sciences and Physics.

### *MBRS SCORE Program*



The MBRS SCORE Program provides financial support for the individual research projects of select faculty members. It also provides key infrastructure support to enhance the biomedical research environment at the University. Currently, scientists from the departments of Biological Sciences, Chemistry and Physics are involved in this program. It is anticipated that scientists from the departments of Psychology and Sociology will soon join the program. The varying perspectives of scientists from all these disciplines are needed for the initiation and continuation of interdisciplinary research approaches to some of today's complex biomedical, biobehavioral and social problems. The mission of the MBRS SCORE Program at Clark Atlanta University is to enhance ongoing faculty biomedical research capabilities and encourage and augment efforts of new faculty in developing biomedical research programs by fostering a productive research environment. The MBRS SCORE Program emphasizes the interdisciplinary approach to solving research problems in the biomedical sciences.

### *MBRS RISE Program*



The MBRS RISE program is a sister program affiliated with the MBRS (Minority Biomedical Research Support) program. It is a student-support program with the specific aim of producing top-notch competitive minority scientists. The ultimate goal is to prepare students for and see students through programs leading to doctoral degrees in the biomedical sciences. Research assistantships are available for graduate students who are seeking Ph.D. degrees in Cell, Developmental or Molecular Biology and/or Biochemistry or Chemistry with Biomedical applications. These assistantships include compensation packages of an annual amount of \$26,000 (which includes salary, and tuition & fees). Graduate students can only be considered for a RISE research assistantship after they have been accepted into the Ph.D. program of either the Department of Biological Sciences or the Department of Chemistry. Undergraduate students majoring in biology or chemistry may be eligible to participate in the RISE program. Undergraduate research assistants are paid \$12-\$15 per hour for 10-20 hours of research and academic work per week. Undergraduate assistantship packages exclude tuition and fees.

***MBRS SCORE & RISE***  
**Faculty Research Interests**

**Ananaba, Godwin A., Associate Professor, Ph.D., Atlanta University, 1988. [Biochemical Genetics, Cell and Molecular Biology]**

Research efforts center on the molecular mechanisms of host-pathogen interactions with the ultimate goal of engineering efficacious vaccine(s) against the pathogens. The role of epithelial cells in the recruitment, maintenance and effector functions of immune cells following Chlamydia infection of the reproductive tract, the pulmonary mucosa and protection are important to us. In cancer research, we are specifically interested in the mechanisms of immune surveillance, xenobiotic induced carcinogenesis and phytoosterol induced protection against prostate neoplasm.

**Bu, Xiu R., Associate Professor, Ph.D., Nanjing University, 1988. [Organic and Coordination Chemistry]**

Research efforts include (1) development of bioactive antitumor agents based on transition metal complexes; (2) application of organometallics and complexes to organic transformations important to synthesis of bioactive organic agents; (3) development of new ligands and host molecules for selective binding of heavy metals or organic guest molecules for environmental evaluation and remediation.

**Chaudhary, Jaideep, Associate Professor, Ph.D., National Institute of Health and Family Welfare (NIHFW), New Delhi, India. 1991. [Endocrinology]**

The overall lab hypothesis is to understand molecular events wherein a differentiated cell becomes undifferentiated, bypasses senescence, undergoes immortalization and eventually becomes transformed. By integrating a multitude of molecular, transcriptomic and genomic approaches we address the fundamental biology of these events that eventually leads to neoplastic transformation. The model systems that we use to address these molecular pathways are the prostate and ovary. Following are some of the specific projects in our laboratory: Role of dominant negative helix loop helix proteins in the initiation and maintenance of prostate cancer; Fundamental biology of Id gene/ protein expression (regulation of expression of specific isoforms, mRNA/ protein stability/ interaction partners and downstream effectors); Large scale genomic and transcriptomic changes during neoplastic transformation of epithelial cells (prostate); Androgen regulated pathways in prostate epithelial cells.

**Cook, Deborah, Associate Professor, Ph.D., North Dakota State University, 1986 [Botany]**

Research efforts center on the molecular biology of salt stress, adaptation, and tolerance in salt-tolerant and salt-sensitive plants, and the role of the MAP kinase cascade as a signal transduction pathway in plant adaptation to salt stress.

**Habte-Mariam, Yitbarek, Professor, Ph.D., Rutgers University, 1977. [Physical Chemistry]**

Research efforts center on (a) the modeling of the redox chemistry of the anthracyclines by quantum chemical-topological (AIM) and natural bond orbital (NBO) analyses, and (b) the reactivity-guided design of anthracycline analogs for potential improvement in chemotherapeutic values. These efforts are united by a common theme of our long-term objective, which is getting insight into the molecular bases of the actions of the anthracyclines.

**Jideama, Nathan, Associate Professor, Ph.D., Atlanta University, 1986. [Molecular Biology]**

Research efforts center on determining the function of site-specific phosphorylation of myosin light chain 2 in cardiac muscle physiology. The biochemical and physiological relevance of MLC 2 phosphopeptides generated by protein kinase C and myosin light chain kinase phosphorylation are evaluated.

**Khan, Ishrat M., Professor, Ph.D., University of Florida, 1984. [Organic Polymer Chemistry]**

Research efforts center on developing biofunctional macromolecules for medical, therapeutic, biomimetic applications. In order to accomplish this, we are developing synthetic macromolecules with higher structural orders (e.g., helices) and functional macromolecules in the nanoscale (less than 100 nm) range with relevant biological properties/ functions/specificity.

**Khan, Shafiq A. (Eminent Scholar)/Professor, Ph.D., University of Karolinska Institute, 1985. [Reproductive Endocrinology]**

Research efforts center on proliferation and differentiation of cells in male and female reproductive tract under both normal and disease states. The primary objective is to identify endocrine, paracrine and autocrine regulators of testicular and ovarian cell proliferation and differentiation and function, and study the mechanisms involved in development and maintenance of ovarian and prostate cancers.

**Logan, David A., Associate Professor, Ph.D., University of Tennessee, 1981. [Microbiology]**

Research efforts center on the physiology and genetics of *Neurospora crassa* and the dimorphic fungi *Mucor racemosus* and *Candida albicans*. The work in *N. crassa* is specifically focused on the regulation of the quinic acid gene cluster and studies in *M. racemosus* and *C. albicans* deal with the biology of a developmentally regulated serine carboxypeptidase.

**Mickens, Ronald E., Professor, Ph.D., Vanderbilt University, 1968. [Mathematical Modeling, Nonlinear Dynamics, Numerical Analysis]**

Research efforts center on the application of mathematical techniques to solve and analyze the differential and difference equations that arise in the modeling of dynamic systems in the biological, physical, and engineering sciences. A major emphasis is placed on how such models are to be constructed.

**Mintz, Eric A., Professor, Ph.D., University of Massachusetts, 1978. [Organic Chemistry]**

Silver and copper are easily immobilized on a solid substrate. If the surface supporting the bound copper or silver is modified, by including surface active groups that bind bacteria, an even more effective disinfectant is produced. Therefore, research efforts center on developing methods to functionalize glass, silica, and alumina. Electroless plating will then be used to deposit silver, or copper, or a combination of both onto the surface. The binding of microorganism to these surfaces is also examined.

**Musey, Paul I., Professor, Ph.D., McGill University, 1971. [Biochemistry, Biochemical Endocrinology]**

Research efforts center on studies in reproductive endocrinology; biosynthesis, metabolism and enzymology of steroid hormones; effects of environmental factors on hormones; endocrine toxicology; use and development of immunoassays.

**Seffens, William, Associate Professor, Ph.D., Texas A&M University, 1989. [Plant Embryogenesis]**

Research efforts center on the examination of relationship between mRNA folding and codon-choice to develop a classification of protein and mRNA sequences in GENBANK. Neural network model implementation. Computer modelling of proteins from calculated flexibility index and relationship to surface-active properties.



## ***Directory***

***Dr. Ishrat Khan***

Program Director, SCORE Program

404-880-6847

404-880-6640-Fax

[ikhan@cau.edu](mailto:ikhan@cau.edu)

***To Be Named***

Program Manager, SCORE Program

404-880-6716

404-880-6640-Fax

***Dr. William Seffens***

Program Director, RISE Program

404-880-6822

404-880-6433-Fax

[wseffens@cau.edu](mailto:wseffens@cau.edu)

***Martha A. Edwards***

Program Manager, RISE Program

404-880-6240

404-880-6433-Fax

[medwards@cau.edu](mailto:medwards@cau.edu)