CURRICULUM VITAE

**B. K. Robertson, Ph.D.**

# BOAKAI KEITH ROBERTSON

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# EDUCATION

Cornell University, Ithaca, NY

**Ph.D.** in Environmental Microbiology, with minor in Toxicology and Chemistry, August 1993

Dissertation Title: Occurrence and Mechanism of Transmission of Stem-nodulating Bacteria,

*Rhizobium* and *Azorhizobium.* Major advisor: Prof. Martin Alexander.

Cornell University, Ithaca, NY

**M.S**. in Environmental Soil Science, with emphasis in Microbiology and Chemistry, May 1989. Thesis Title: Phosphate Speciation and its effect on Mineralization of Surface-bound and Dissolved Organic Chemicals. Major advisor: Prof. Martin Alexander.

A.M. Doggliotti College of Medicine, University of Liberia

**M.D.** degree candidate 1986.

College of Science and Technology, University of Liberia

**B.S**. in Chemistry, with minor in Biology (Magna Cum Laude) 1979-1982

# WORK EXPERIENCE

***Professor and Executive Director*** Alabama State University, Montgomery, AL August 2008 to present. I serve as ***Executive Director*** of the Graduate Programs (MS and PhD) as well as the EnvironMentors, DOE & AGEP-T Programs (externally funded programs). I also serve as ***Chair*** of the Institutional Biosafety Committee and ***Coordinator*** of the Marine Biology program at the Dauphin Island Sea Lab in Alabama. I serve as major research advisor for B.S., M.S. and PhD students. I also serve as external advisor to 2 Ph.D. students at the University of the West Indies. My current research focuses on the fate of toxic chemicals or xenobiotics that are either deliberately or accidentally discharged in the environment (water, soil and sediment). I also study diverse population of microorganisms and factors that influence their ability to naturally detoxify xenobiotics including bioremediation of other environmental carcinogens and toxicants as well as studies of human gut microbiome and its relevance to common diseases.

***Associate Professor*** Alabama State University, Montgomery, AL August 2004 to 2008. Established and served as Environ-Mentors Program Director. I restructured the Marine Biology curriculum to attract more minority students into the program. Also serve as the key faculty consultant for the development and implementation of our new Ph.D. Program in Environmental Microbiology and Food Toxicology. Currently teach several undergraduate and graduate courses listed below. Independently developed and supervised all of the laboratory activities and field assignments, in addition to supervising graduate and undergraduate research and thesis.

***Visiting Scientist University of Cincinnati Medical Center*** Environmental Genetics and Molecular Toxicology Division, Cincinnati, OH Summer 2005 to present. We developed a real- time PCR method for detecting and quantifying *Aeromonas* in drinking water samples using *Aeromonas*-specific primers based on 16S rRNA and *gyr-B* gene. This is the first application of real-time PCR protocol to drinking water samples for detection and quantification of total (culturable and non-culturable) aeromonads.

***Visiting Scientist EPA/NAFEO*** U.S. Environmental Protection Agency, Cincinnati, OH Summer 2003. I worked with a team of EPA microbiologists to develop a fast and more accurate method superior to the already existing EPA Method 1605 which describes a membrane filtration technique for the detection and enumeration of *Aeromonas* species in water distribution systems. Our study optimized conditions using random arbitrary polymorphic DNA analysis or RAPD (a simple technique able to reproduce fingerprints of complex genomes) that enable us to accurately detect the presence of pathogenic *Aeromonas* species in drinking water.

***Assistant Professor*** Alabama State University, Montgomery, AL August 1998 to May 2004. I taught the following undergraduate courses: General Microbiology, Medical Microbiology,

Environmental Microbiology, Human Anatomy and Physiology, Introductory Ecology, Principles of Genetics and Senior Seminar. I also taught graduate classes in Advanced Ecology, Advanced Microbiology, Applied Microbiology, and Graduate Seminar. Independently developed Syllabi and labs for all of the courses listed above. I also supervised all of the laboratory activities and field assignments, in addition to supervising graduate and undergraduate research and thesis and coordinating GRE/MCAT review courses for undergraduates in the biomedical research and training program as well as serving as faculty advisor for the Bio-Med Club (undergraduate and graduate student organization).

***Faculty Teaching & Research Scientist*** Cornell University, Ithaca, NY October 1995 to August 1998. Independently developed a course syllabi and laboratory exercises in environmental microbiology and taught both at the graduate and undergraduate levels. Supervised postdocs, graduates students and lab technicians, designed and conducted independent studies to develop physical/chemical techniques for determining bioavailability of soil-bound hydrocarbons.

Investigate sequestration mechanisms of hydrophobic organic chemicals in soils and the resulting effects on bioavailability, toxicity, biodegradation, and extractability. Independently developed toxicity bioassays used by our students to determine environmentally acceptable endpoints.

Designed and implemented studies to validate a risk-based approach for contaminated site management, including project planning, analyses, interpretations and reporting of data.

***Assistant to the Director of Environmental Microbiology and Toxicology Laboratories*** Cornell University, Ithaca, NY May 1996 to August 1998. I managed the day-to-day operations of the laboratories and performed research. In addition, interviewed and hired new applicants (students and staff), accommodated guest speakers and visitors. I also supervised the day-to-day operation of the Research laboratory during the winter while the Director took winter breaks or away on sabbatical leave.

***Postdoctoral Associate*** Cornell University, Ithaca, NY September 1993 to September 1995. I devised a system for bioremediation of large volume of non-aqueous phase liquids (NAPLs) and other toxic solvents found at hazardous waste sites. I subsequently developed a method for biodegradation of organic compounds dissolved in toxic NAPLs. Investigated the significance of sorption on the biodegradation and bioremediation of 2,4,6-trinitrotoluene (TNT) and other nitroaromatic compounds in soils. Reviewed and wrote project proposals and analyzed data.

***Graduate Research Associate*** Cornell University, Ithaca, NY January 1991 to August 1993.

My studies focused on elucidating the reasons for accelerated degradation of pesticides in soils. I also worked with an international French research team in Dakar, Senegal developing a system to monitor the occurrence of a specific airborne nitrogen-fixing bacterium, its mode of dispersal and survival technique. This work led to improving natural fertilization in desert regions.

***Graduate Research Associate*** ORSTOM, Dakar, Senegal December 1989 to January 1991. Characterized specific organisms capable of fixing nitrogen in stem nodules of special plants. Studied the ecology of specific stem-nodulating bacteria and measured their nitrogen-fixing capabilities as partial fulfillment of my PhD requirement with Prof. Martin Alexander as major advisor.

***Graduate Research Associate*** Cornell University, Ithaca, NY July 1986 to April 1989. Studied phosphate speciation and availability for microbial mineralization of organic chemicals dissolved or sorbed to soil. M.S. Research was supervised by Prof. Martin Alexander.

***Staff Chemist*** Quality Controls (QC) Supervisor, Firestone Natural & Synthetic Rubber Co. August 1984 to July 1986. Supervised quality testing of field latex and processed block rubber using several analytical techniques. Developed and implemented rapid testing methods. Hired and trained Quality Control technicians.

***Instructor*** College of Science and Technology, University of Liberia 1982-1984. I taught students in Analytical and Introductory Chemistry courses including Analytical Chemistry laboratory course.

# PROFESSIONAL MEMBERSHIPS

* American Society for Microbiology (ASM)
* Society of Environmental Toxicology and Chemistry
* Society of Environmental Science and Technology
* American Chemical Society
* American Society for the Advancement of Science
* Alabama Academy of Science
* Marine Environmental Sciences Consortium
* Southeastern Branch of ASM
* Liberian Studies Association
* Africa Environmental Watch
* National Council for Science and the Environment

# PUBLICATIONS (Selected publications)

Shannon C. D., Adedoyin B.O Dosunmu-Ogunbi, Sesi O. Dosunmu-Ogunbi, Stephanie D. Barrow, and **B. K. Robertson.** 2016. Clinical Practice: New perspective of overweight and obesity causation. J Endocrinol Diabetes Obes 4(1):1082.

Davis, S.C., Dosunmu-Ogunbi, S.O., Dosunmu-Ogunbi, A.B.O., and **B.K. Robertson.** 2016. Obstetricians & Pediatricians: Cornerstone to infant gut microbiome development. JSC Journal of Microbiology 3(2):1024.

Finley SJ, Lorenco N, Mulle JG, **Robertson BK**, Javan GT. 2015. *“Assessment of DNA extraction methods of cadaver soil samples for criminal investigations.” Australian Journal of Forensic Sciences*: 1-8. doi. 10.1080/00450618.2015.1063690.

Shannon C. D., Adedoyin B.O Dosunmu-Ogunbi, Sesi O. Dosunmu-Ogunbi, Stephanie D. Barrow, and **B. K. Robertson**. 2015. Redefining the Clinical approach to the treatment of obesity. JSM Microbiology 3(2):1026

Finley SJ, Pechal JL, Benbow ME, **Robertson BK**, Javan GT. 2015. “Microbial signatures of cadaver gravesoil during decomposition.” *Microbial Ecology*. (*ahead-of-print*). doi: 10.1007/s00248-015-0725-1.

Shannon C. D., Stephanie D. Barrow, Gulnaz T. Javan, and **B. K. Robertson.** 2015. Suvey of Westernized dietary regime within the State of Alabama. J Hum Nutr Food Sci [Online], 3 (4):1071.

**Robertson, B. K.,** Carol Harden, Suresh B. Selvaraju, Suman Pradha, and Jagjit S. Yadav. 2014. Molecular Detection, Quantification, and Toxigenicity profiling of Aeromonas spp. in Source- and Drinking- Water. OPEN Journal of Microbiology, *in print.*

Palmer C., Williams, J., Dean, D., Johnson, S., Wu, H., **Robertson, B.K.,** Jackson, D.,and R. Villafane. 2014. Stem mutants in the N-terminal domain of the phage p22 tailspike protein. J. Microbiol. Res. 2: 1-7.

**Robertson**, **B.K.,** Pozhitkov,A.E., Dunkin, S., and P.A.Noble. 2016. Metagenomic analysis of Gulf of Mexico surface water impacted by deepwater horizon crude oil and dispersant corexit. Appl. Environ. Microbiol. *(in review).*

Hongzhuan, W., Jaegersen, K., **Robertson, B.K** and R. Villafane. 2011. Quantitative PCR as a diagnostic technique in veterinary parasitology, in Wang et al (eds). Bentham Science Publishers

**Robertson, B.K.** 2010. BIO 310 Ecology Laboratory Manual. Pearson Custom Publishing, Boston, MA.

**Robertson, B.K**. 2007. BIO 310 Ecology Laboratory Manual. Pearson Custom Publishing, Boston, MA.

**Robertson, B.K**., and Stroot, P. 2007. A new hybrid laboratory course christens a pipeline of biology students from Alabama State University to the University of South FL. AC 2007-2467.

Jjemba, P. K., and **B.K. Robertson**. 2005. Antimicrobial agents with improved clinical efficacy versus persistence in the environment: synthetic 4-quinolone as an example. EcoHealth 2: 171- 182.

**Robertson, B.K**., and Jjemba, P. K. 2005. Enhanced bioavailability of sorbed 2,4,6-trinitrotoluene (TNT) by a bacterial consortium. Chemosphere 58:263-270.

Thompson, R. N., **Robertson, B.K.**, Napier, A., and K. Wekesa. 2004. Gender specific responses to urinary chemicals by the mouse vomeronasal organ. Chem. Senses 29: 749-754.

Jjemba, P. K., and **B.K**. **Robertson.** 2003. The fate and potential impact of pharmaceutical compounds to non-target organisms in the environment. Proceedings of the Third International Conference on Endocrine Disrupters and Pharmaceutical Compounds in Groundwater, Minneapolis MN, National Groundwater Association, pp. 184-194.

Morrison, D. E., **Robertson, B.K**., and M. Alexander. 2000. Possible use of a solid-phase extractant to predict availability of DDT, DDE, DDD, and dieldrin in soil to *Eisenia foetida.* Environ. Sci & Technol. 34: 709-713.

Tang, J., **B.K. Robertson**, and M. Alexander. 1999. Chemical-extraction methods to estimate bioavailability of DDT, DDE, and DDD in soil. Environ. Sci. & Technol. 33: 4346-4351.

J. Tang, M. J. Carroquino, **B. K. Robertson**, and M. Alexander. 1998. Combined effect of sequestration and bioremediation in reducing the bioavailability of polycyclic aromatic hydrocarbons in soil. Environ. Sci. & Technol. 32: 3586-3590.

**Robertson, B. K.,** and M. Alexander. 1998. Sequestration of DDT and dieldrin in soil: disappearance of acute toxicity but not the compounds. Environ. Toxicol. & Chemistry 29: 1034- 1038.

**Robertson, B. K.,** and M. Alexander. 1996. Mitigating toxicity to permit bioremediation of constituents of nonaqueous-phase liquids. Environ. Sci. & Technol. 30: 2066-2070.

**Robertson, B. K.,** and M. Alexander. 1996. Three-phase system may reduce toxicity enough for biodegradation to occur. In The Groundwater Newsletter, (Geraghty & Miller, ed.), p.5.

**Robertson, B. K.,** 1995. Concepts of development in some African states in the era of global environmental awareness: the pros and cons. CASA newsletter, p2.

**Robertson, B. K.,** and M. Alexander. 1994. Growth-linked and cometabolic degradation: possible reason for occurrence or absence of accelerated pesticide biodegradation. Pestic. Sci. 4: 311-318.

**Robertson, B. K.,** and M. Alexander. 1994. Mode of dispersal of the stem-nodulating bacterium,

*Azorhizobium.* Soil Biol. Biochem. 26: 1535-1540.

**Robertson, B. K.,** B. D. Dreyfus**,** and M. Alexander. 1994. Ecology of stem-nodulating

*Rhizobium* and *Azorhizobium* in four vegetation zones of Senegal. Microb. Ecol. 29: 71-81.

**Robertson, B. K.,** and M. Alexander. 1994. Biodegradation of sorbed TNT. Abstracts of the General Meeting of the American Society for Microbiology. 94 (122); 409.

**Robertson, B. K.** 1993 occurrence and mechanism of transmission of stem-nodulating bacteria,

*Rhizobium* and *Azorhizobium.* Ph.D. Dissertation, Cornell University.

**Robertson, B. K.,** and M. Alexander. 1992. Influence of calcium, iron, and pH on phosphate availability for microbial mineralization of organic chemicals. Appl. Environ. Microbiol. 58: 38- 41.

**Robertson, B. K.** 1989. Phosphate speciation and its effect on mineralization of surface-bound and dissolved organic chemicals. M. S. Thesis, Cornell University.

# PUBLICATION IN REVIEW

**P. Noble, A. Pozhitkov, and B.K. Robertson.** 2016. Metagenomic analysis of Gulf of Mexico surface water impacted by Deepwater Horizon crude oil and dispersant corexit. Appl. Environ. Microbiol.

**B.K. Robertson and R. Grover**. 2016. Quantitative study of seasonal variation and effect of human inhabitation on Aeromonad population in Montgomery River water system. Journal of the Alabama academy of Science.

Shannon C. Davis, Jagjit S. Yadav, Stephanie D. Barrow, and **B. K. Robertson.** 2016. Gut microbiome diversity influenced more by the Westernized dietary regime than body mass index as assessed using effect size statistics. Microbiology Open Journal, Wiley Online

# PROFESSIONAL PRESENTATIONS (selected):

Title: *The Tuskegee Alliance to Forge Pathways to Academic Careers in STEM (T-PAC)*. Understanding Interventions that Broaden Participation in Science Careers Conference, Philadelphia, PA, Feb. 27, 2016.

Title: *Cadaver Gravesoil Microbial Profiles During Decomposition*. American Academy of Forensic Science (AAFS) 68th Annual Scientific Meeting February 22-27, Las Vegas, NV, 2016

Title: *Forensic Forensic Nanotechnology: Recent Advancements in Criminal Investigations*.

3rd NanoBio Summit, October 15-16, 2015, University of Alabama at Birmingham (UAB) Alumni House, and Abroms-Engel Institute for the Visual Arts, UAB, Birmingham, AL.

Title: *Putrefaction inducer Proteobacteria versus Lactobacillales in cadaver gravesoil across all stages of decomposition*. Omics International 9th Biotechnology Congress, August 31-September 2, 2015. Orlando, FL.

Title: *DNA Extraction Methods to Evaluate Soil Microbial Communities*. NSF Alliances for Graduate Education and the Professoriate (AGEP) Tuskegee Alliance to Forge Pathways to STEM Academic Careers (T-PAC) Scholar’s Meeting, October 23, 2015, Kellogg Conference Center Tuskegee University.

Title: *The Tuskegee Alliance to Forge Pathways to Academic Careers in STEM (T-PAC)*. Understanding Interventions that Broaden Participation in Science Careers Conference, San Diego, CA, May 16, 2015.

Title: *The Tuskegee Alliance to Promote Pathways to Academic Careers in STEM*. STEM Education Seminar, Auburn University, Auburn, AL, December 4, 2014.

Title: *Is there poop? Little Lagoon? Whose is it?* (2014) Research & Creative Activity Symposium. Montgomery, AL.

Title: *Obesity in 2014: A symptom of evolutionary discord*. (2014) Research & Creative Activity Symposium. Montgomery, AL.

Title: *Investigation of microorganisms in grave-soil collected under decomposing corpse bodies*. (2014) Research & Creative Activity Symposium. Montgomery, AL.

Title: *Environmental Challenges in Liberia*. (2014) Keynote speaker, Liberia Environmental Protection Agency Conference. Monrovia, Liberia.

Title: *What makes a smart university and how we can build them*. (2014) STEM Faculty of the Year, Keynote speaker, ASU Annual Research Symposium. Montgomery, AL.

Title: *Drinking water quality: challenges and opportunities in Liberia’s reconstruction and rehabilitation efforts*. (2013) Africa Environmental Watch Annual Conference. Monrovia, Liberia. (Invited Keynote Speaker).

Title: *Metagenomic analysis of Gulf of Mexico surface water impacted by Deepwater Horizon crude oil*. (2012) Annual Meeting of the American Society for Microbiology. San Francisco, CA.

Title: *Shinning new light on physical therapy equipment: Effectiveness of UV light in comparison to detergent in the reduction of bacteria*. (2012) Annual Conference and Exposition of the American Physical Therapy Association. Tampa, Florida.

Title: *Drinking water quality: challenges and opportunities in Liberia’s reconstruction and rehabilitation efforts*. (2012) Africa Environmental Watch Annual Conference. Monrovia, Liberia.

Title: *Persistence of Antimicrobial Agents Specifically Synthetic 4-Quinolon in the Environment*. (2010) Research & Creative Activity Symposium. Montgomery, AL.

Title: *Rapid detection and quantification of culturable and non-culturable Aeromonas species in source and drinking water*. (2010) Annual Meeting of the American Society for Microbiology. San Diego, CA.

Title: *Differences in antibiotic resistance level in Aeromonas species isolated from aquatic environment*. (2008) Research & Creative Activity Symposium. Montgomery, AL.

Title: *Quantification of Aeromonas species in the Tallapoosa River and drinking water system in Montgomery, AL*. (2007) Research & Creative Activity Symposium. Montgomery, AL.

Title: *Real-time PCR quantification of culturable and non-culturable Aeromonas species in source and drinking water*. (2006) Annual Meeting of the American Society for Microbiology. Orlando, FL.

Title: *Molecular-based detection and quantification of Aeromonas in drinking water samples.*

(2006) College of Arts & Sciences Symposium, Alabama State University, Montgomery AL.

Title: *Quantitative study of seasonal variation and effect of human inhabitation on Aeromonas population in rivers*. (2005) Annual Meeting of the Southeastern Branch of the Society for Microbiology. St. Pete, FL.

Title: *Microbiology on the Web*. (2004) Annual Meeting of the Southeastern Branch of the Society for Microbiology. Jacksonville, AL.

Title: *The Faith and Potential Impact of Pharmaceutical Compounds to Non-Target Organisms in the Environment*. (2003) 3rd International Conference on Pharmaceuticals and Endocrine Disrupting Chemicals in Water, Minneapolis, MN.

Title: *The Faith and Potential Impact of Pharmaceutical Compounds to Non-Target Organisms*. (2003) College of Arts & Sciences Symposium, Alabama State University, Montgomery AL.

Title: *Solution to Water Pollution*. (2002) College of Arts & Sciences Symposium, Alabama State University, Montgomery AL.

Title: *Novel methods for assessing potential exposure to toxic chemicals in the environment*. (2001) Graduate Research Seminar Series, Clark Atlanta University, Atlanta, GA.

Title: *Endpoint determination for toxic chemicals in the environment*. (2001) Annual Graduate Research Seminar, University of Alabama at Birmingham, Birmingham, AL.

Title: *Release and degradation of sorbed 2,4,6-trinitrotoluene by microbial consortium*. (2001) Alabama Academic of Sciences Annual Meeting, Auburn University, Auburn AL.

Title: *Hazardous wastes a serious environmental challenge for developed nations*. (2000) College of Arts & Sciences Symposium, Alabama State University, Montgomery AL.

Title: *Hazardous wastes a serious environmental challenge for developing countries.* (2000) LS Meeting, Delaware State University, Dover DE.

Title: *Disappearance of chemical toxicity but not the toxicant in the environment*. (1998) Annual Science & Engineering Symposium, Georgia Tech., Atlanta, GA.

Title: *Development and use of insect bioassays to evaluate acute toxicity of DDT and dieldrin aged in soil.* (1997) EPA Meeting, Cinncinatti, OH.

Title: *Bioremediation of sorbed TNT*. (1996) American Society for Microbiology Annual Conference, Las Vegas, NV.

Title: *Biodegradation of constituents of toxic NAPLS.* (1996) Departmental Symposium, Cornell University, Ithaca NY.

Title: *Sorption and TNT biodegradaton in soils*. (1995) Departmental Seminar, Cornell University, Ithaca, NY.

Title: *Airborne Transmission of Azorhizobium and Infection of Sesbania rostrata*. (1990) Annual Symposium. ORSTOM, Dakar, Senegal.

# GRANT ACTIVITY

Abiotic and Biotic Reactivity of immobilized hg Species Formed after In Situ Treatment. 2015.

B.K. Robertson (PI). DOE, Amount: $371,000.

Collaborative Research: The Tuskegee Alliance to Develop, Implement and Study a Virtual Graduate Education Model for Underrepresented Minorities in STEM. 2014. **B.K. Robertson**

(Principle Investigator) *and M. Coats and A. Waffo (*Co-PIs), Funding source: NSF, Amount:

$778.329 (funded).

Environ-Mentors program at ASU Chapter. 2015. **B.K. Robertson** (Director and PI), Funding source: NCSE, Amount: $100,000 (Renewed).

Environ-Mentors program at ASU Chapter. 2014. **B.K. Robertson** (Director and PI), Funding source: NCSE, Amount: $100,000 (Renewed).

Environ-Mentors program at ASU Chapter. 2013. **B.K. Robertson** (Director and PI), Funding source: NCSE, Amount: $100,000 (Renewed).

ASU Capacity building on environmental sustainability. 2012. **B.K. Robertson** (Principle Investigator) Funding source US EPA, Amount: $25,000 (pending).

Alabama State University Noyce Scholars Program Phase-1. 2012. **B.K. Robertson** (Principle Investigator) *and A. Stinson (*Co-PI), Funding source: NSF, Amount: $1,330,622 (not funded).

Biotransformation of BP oil spill using hydrocarbon-utilizing marine microbes (GoMRI-III) 2012.

**B.K. Robertson** (Principle Investigator), Funding source: BP, Amount: $56,000 (not funded).

ASU Environ-Mentors college and careers access program (ASU-ECCAP) 2011.

**B.K. Robertson** (Principle Investigator), Funding source: NCSE, Amount: $108,000 (funded).

Biochemical transformation of BP oil spill hydrocarbons (MESC-BP-GRI) 2011.

**B.K. Robertson** (Principle Investigator), Funding source: BP, Amount: $35,000 (funded).

Biochemical transformation of BP oil spill hydrocarbons (MESC-BP-GRI) Supplement 2011.

**B.K. Robertson** (Principle Investigator), Funding source: BP, Amount: $52,000 (not funded).

DOD Center for excellence project proposal. 2011. **B.K. Robertson** (Principle Investigator), Funding source: DOD, Amount: $851,119 (not funded).

BTOP subproject: ASU health disparity and careers access program. 2011. **B.K. Robertson** (Co- Principle Investigator), Funding source: NSF, Amount: $122,625 (not funded).

Homeland security HBCU capacity building (DHS-SLA) 2011.

**B.K. Robertson** (Principle Investigator), Funding source: DHS, Amount: $1,264,865 (not funded).

US-South Africa planning visit for collaborative research and education projects in natural resources, environmental health and toxicology. 2011. **B.K. Robertson** (Co-Principle Investigator), Funding source: NSF, Amount: $400,000 (not funded).

ASU Environ-Mentors college and careers access program (ASU-ECCAP) 2010.

**B.K. Robertson** (Principle Investigator), Funding source: EPA, Amount: $50,000 (not funded).

Collaborative Research: Connecting youth with science through mentored experiences. 2010. **B.K. Robertson** (Sub-contractor), Funding source: NSF, Amount: $966,662 (funded).

Biomedical and behavioral research enhancement at ASU. 2010. **B.K. Robertson** (Principle investigator), Funding source: NIH, Amount: $1,815,570 (not funded).

Environmental capacity building in developing countries. 2010. **B.K. Robertson** (Principle investigator), Funding source: NSF, Amount: $215,060 (not funded).

Broadband technology opportunities program subproject. 2010. **B.K. Robertson** (Principle investigator), Funding source: BroadbandUSA, Amount: $122,625 (not funded).

ASU Environ-Mentors college and careers access program. 2010. **B.K. Robertson** (Principle investigator), Funding source: EPA, Amount: $40,325 (submitted).

Building an Environ-Mentors program at ASU. 2009. **B.K. Robertson** (Principle investigator), Funding source: NCSE, Amount: $100,000 (Renewed).

Building an Environ-Mentors program at ASU. 2008. **B.K. Robertson** (Principle investigator), Funding source: NCSE, Amount: $102,000 (Renewed).

Building an Environ-Mentors program at ASU. 2007. **B.K. Robertson** (Principle investigator), Funding source: NCSE, Amount: $108,000 (Funded).

Hybrid instructional approach for “molecular techniques for engineers”. 2007. **B.K. Robertson**

(Principle investigator), Funding source: NSF, Amount: $139,351 (not funded).

The role of pharmaceuticals and heavy metals on the evolution of antibiotic resistance in *Aeromonas* species. Phase II. 2006. **B.K. Robertson** (Principle investigator), Funding source: ORD RIMI, Amount: $5,000 (funded).

Environmental health research capacity building at ASU. 2006. **B.K. Robertson** (Principle investigator), Funding source: NIEHS, Amount: $4,000,000 (not funded).

The role of pharmaceuticals and heavy metals on the evolution of antibiotic resistance in *Aeromonas* species. 2005. **B.K. Robertson** (Principle investigator), Funding source: ORD RIMI, Amount: $5,000 (Funded).

Influence of bacterial polymers on sequestered chemical (pilot project). 2005. **B.K. Robertson**

(Principle investigator), Funding source: ORD RIMI, Amount: $5,000 (Funded).

Novel method for measurement of chemical bioavailability in soils. 2004. **B.K. Robertson** (Principle investigator), Funding source: National Institute of Health, Amount: $250,000 (not funded).

Evaluating potential release of aged contaminants by bacteria extracellular polymers. 2003. **B.K. Robertson** (Principle investigator), Funding source: National Institute of Health, Amount:

$150,000. Part of a larger $4,200,000 research grant proposal (funded).

Rapid nuclear acid method for detecting *Aeromonas* sp. in water (pilot project) 2003. **B.K. Robertson** (Principle investigator), Funding source: EPA, Amount: $20,800 (funded).

Teaching Easy Access to Math and Sciences (Project TEAMS). 2003. **B.K. Robertson** (Principle investigator), Funding source: National Science Foundation, Amount: $15,000 (funded).

Teaching Easy Access to Math and Sciences (Project TEAMS). 2002. **B.K. Robertson** (Principle investigator), Funding source: National Science Foundation, Amount: $15,000 (funded).

Effect of sorption on biological treatment of explosives and organics. (1992). Martin Alexander, (Principle investigator) and **B.K. Robertson** (Co-investigator), Funding source: US Army Corps of Engineer, Amount: $100,000 (funded).

Ecological constraints and limited factors affecting the nitrogen fixing legume-Rhizobium association. 1990. **B.K. Robertson** (Principle investigator), Funding source: Rockefeller Foundation, Amount: $24,000 (funded).

# PROFESSIONAL DEVELOPMENT

* Intern (EPA Cincinnati, OH) in molecular biological techniques including, RT-PCR, DNA extraction and hybridization, cloning, gene expression, etc.
* Webmaster for College of Science, Mathematics, and Technology at ASU
* College Board’s Advanced Placement Program (AP) and Education Testing Service Reader and training in consistent application of the scoring standards, and scoring student responses.
* External Examiner for the University of the West Indies.
* Grant writing seminars.
* Seminar for training in teaching and curriculum development (Cornell University).
* Johnson C. Smith University faculty and staff development program.
* Designing and developing web pages and publishing.
* Training in gas and liquid chromatography and mass spectrophotometry.
* Radiolabel tracing and laboratory safety training, microscopy, TEM, SEM.
* Extraction, separation and determination of chemical residues, GC-MS, HPLC, TLC.
* Proficient in the use and development of techniques for assessing microbial metabolism (*in vivo* and *in vitro*), biodegradation and bioremediation.
* Developing chemical and biological assays.
* Teaching and curriculum development seminars.
* Designing and statistically analyzing experiments.
* Proficient in computers, Mac & PC.
* Environmental consulting.
* Budgeting and staff management.
* Public health services volunteer.
* Modern computer programming techniques for environmental simulation models.
* Computer programming in Java.

# HONORS AND AWARDS

2016 Recipient of the America Association for the Advancement of Science (AAAS) Travel Award for stimulating research and innovation for preservice education of STEM teachers in high-need schools.

2014 Recipient of the Arch Bishop Michael Francis Highest Achievement Award, Bishop Michael Francis Educational Foundation.

2014 STEM Faculty of the Year, College of Science, Mathematics and Technology most prestigious award, Alabama State University.

2013 Invited Reader, College Board’s Advanced Placement Program (AP) and Education Testing Service AP Examination.

2012 Recipient of the Victor E. Ward Science Award, V.E. Ward Educational Foundation. 2012 Invited by the College Board’s Advanced Placement Program (AP) and Education

Testing Service to review AP exam and score student responses in the environmental sciences.

2011 Invited by the College Board’s Advanced Placement Program (AP) and Education Testing Service to review AP exam and score student responses in the environmental sciences.

2010 Invited by the College Board’s Advanced Placement Program (AP) and Education Testing Service to review AP exam and score student responses in the environmental sciences.

2010 Recipient of Community Green Award for City of Montgomery, AL. 2010 Nominee: Presidential Award for Teaching Excellence at ASU.

2009 Ken and Mary Lynch Award for Excellence in Environmental Stewardship given by the National Council for Science and the Environment.

2009 Invited by the American Society for Microbiology to chair the ABRCMS (Annual Biomedical Research Conference for Minority Students) abstract and presentation judging committee.

2008 Invited by the American Society for Microbiology to chair the ABRCMS (Annual Biomedical Research Conference for Minority Students) abstract and presentation judging committee.

2007 Invited by the American Society for Microbiology to chair the ABRCMS (Annual Biomedical Research Conference for Minority Students) abstract and presentation judging committee.

2006 Invited by the American Society for Microbiology to chair the ABRCMS (Annual Biomedical Research Conference for Minority Students) abstract and presentation judging committee.

2006 ASPB Executive travel award to attend the Annual Meeting of the American Society for Plant Biologists.

2005 Visiting scientist, University of Cincinnati Medical Center, Division of Environmental Health, Dept. of Molecular Genetics and Toxicology.

2005 Invited to chair the ABRCMS (Annual Biomedical Research Conference for Minority Students) abstract and presentation judgingn committee.

2004 Invited to chair the ABRCMS (Annual Biomedical Research Conference for Minority Students) abstract and presentation judging committee.

2003 EPA/NAFEO Faculty Development Award.

2003 Outstanding Support Award (Alabama State University BioMed Club).

2002 Appreciation of Excellent Service Award (ASU Upper Bound Math & Science) 2001 Presidential Award for Teaching Excellence at Alabama State University.

2000 Nominee for Presidential Award for Teaching Excellence (Alabama State University). 1999 Winner of Pre-proposal Award (Alabama State University).

1995 Best Young Teacher and Curriculum Development Award (Cornell University). 1990 Rockefeller Foundation Fellow (Cornell University).

1986 Fulbright Scholar (Cornell University).

1983 Medical School Scholar for Highest Achievement (A.M. Dogliotti College of Medicine). 1982 Presidential Award for Highest Achievement (University of Liberia)

1981 Highest honors, College of Science and Technology (University of Liberia).

# HOBBIES:

Flying aircraft, reading, music, theater, soccer and tennis.