Tanganika Kenyatta Johnson, Ph.D.
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Education

- **Ph.D., Environmental Microbiology/Toxicology** (2021) Southern University and A&M College, Department of Urban Forestry
    - **Dissertation:** "Seasonal Analysis of Urban Wetland Soil Dynamics In Louisiana"
- **M.S., Biological Science (emphasis Toxicology)** (2004) Southern University and A&M College, Department of Biology
    - **Thesis:** "A Pathophysiological Assessment of Heavy-Metal Exposed *Pisum sativum*"
- **B.S., Biology (emphasis Microbiology)** (2000) Southern University and A&M College, Department of Biology

Research Interest

My research interests are at the intersection of **microbiology, environmental health, and toxicology**, with a focus on how microbial communities and toxic exposures affect public health in urban environments.

Research Experience

- **Southern University and A&M College, Department of Urban Forestry**
    - Dissertation research on the "Seasonal Analysis of Urban Wetland Soil Dynamics in Louisiana".
- **Upward Bound TRIO Program, Southern University and A&M College**
    - Served as a research mentor for high school students in the Math and Science Division.
    - Research projects focused on bacterial contamination in public places, antibiotic-resistant bacteria, and the prevalence of indicator organisms in recreational waters in the Baton Rouge area.
- **Louisiana Biomedical Research Network, Louisiana State University Vet School**
    - Conducted summer research in the Department of Pathobiological Sciences, studying respiratory bovine coronavirus (RBCV).
- **Southern University and A&M College, Department of Biology**
    - Conducted master's thesis research titled "A Pathophysiological Assessment of Heavy-Metal Exposed *Pisum sativum*".
- **Louisiana Biomedical Research Network, Louisiana State University**
    - Participated in a research project on "Gene and Gene Product Activation of Heavy-Metal Exposed *Pisum sativum*" in the Department of Biology.
- **Southern University and A&M College, Department of Biology**
    - Conducted an undergraduate research project on the antibiotic resistant susceptibility of bacteria.

Special Competencies and Interests

My special competencies and interest include a wide range of laboratory techniques and analytical methods, with a focus on microbiology, toxicology, and environmental analysis.

- **Microbiology Cellular and Molecular Techniques** : Media and culture preparation, aseptic techniques, microbial isolations, quantification of bacterial cultures, microbial staining, serial dilutions, spread plating, plate count, viable count, sterilization methods, autoclave utilization, protein/DNA/RNA isolation and purification, gel electrophoresis, SDS-Page electrophoresis, PCR, community analysis, antibiotic resistance, water analysis, and microscopy analysis (Light, Fluorescent, and Phase Contrast).
- **Histological and Toxicology Techniques**: Histological and pathological diagnosis and sample preparation, as well as Comet Assay (Single Cell Gel Electrophoresis).
- **Immunology and Virology**: Cell culture, ELISA, Western Blotting, and the study of respiratory bovine coronavirus (RBCV).
- **Analytical Chemistry Techniques**: Spectrophotometer (Atomic Absorption), pH probe, particle measurement analysis, solvent extraction, High Performance Liquid Chromatography (HPLC), Gas Chromatography Mass Spectrometry (GC-MS) , Liquid Chromatography Mass Spectrometry (LC-MS) , and Inductively Coupled Plasma Mass Spectrometry (ICP-MS).
- **Other Skills**: Remote Sensing Technology and Soil Analysis.

Skills and Certifications

- **All of Us BR Scholars Program:** R, Python, and SAS training.
- **QM Certification:** Applying the QM Rubric and Improving Your Online Course.
- **IBM Skills Certifications:** Design Thinking, Data Science, Artificial Intelligence, Cybersecurity, and Blockchain Practitioner-Instructor.
- **Open Resource Education Champion:** Southern University and A&M College (2025).

Teaching Philosophy and Experience

My teaching philosophy is shaped by several core components: demonstrating a passion for the subject, using evidence-based teaching with technology, presenting material in a way that aligns with each student's learning style, and incorporating various mediums for information. She also believes in encouraging dialogue to help students test their cognitive processes and uses a flexible, respectful approach to facilitate active participation.

- **Subjects Taught**: Microbiology lecture/laboratory, General Biology lecture/laboratory, Immunology lecture/laboratory, Anatomy and Physiology laboratory, Parasitology, Sustainability, Microbial Physiology, Ecology, Plant Physiology, and Environmental Science.
- **Proctoring Experience**: Biological Seminar, Scientific Writing, Biostatistics, and Principles of Research.

Teaching Experience

- **SUNO Dual Enrollment Teacher Certification Program, Southern University and A&M College at New Orleans** (2023): Designed courses and prepared syllabi, lectures, discussions, and laboratories for biological subjects.
- **SUS Online Programs, Southern University and A&M College** (2017-2020): Instructor for Introductory General Biology, where responsibilities included preparing lectures, leading discussions, and designing lab demonstrations.
- **SUBR-SUSLA Connect Program, Southern University and A&M College** (2014-2019): Instructor for Introductory General Biology, preparing lectures, leading discussions and labs, and designing demonstrations.
- **Summer Transportation and Energy Institute, Southern University and A&M College** (2013): Instructor for sustainability enrichment for grades 9-10 and provided instruction on STEM careers.
- **Department of Continuing Education, Southern University and A&M College** (2007-present): Science Teacher at Jaguar Kids Camp, providing science enrichment for students in grades K-7.
- **Department of Continuing Education, Southern University and A&M College** (2006-2009): Adjunct Instructor for Introductory General Biology.
- **Department of Biology, Southern University and A&M College** (2002-present): Instructor for Introductory General Biology, Microbiology, and Anatomy and Physiology.
- **Department of Biology, Southern University and A&M College** (2002-2004): Teaching Assistant for microbiology, biology, and biological seminar for undergraduate students.
- **Louisiana New School, Charter School East Baton Rouge Parish** (2001-2002): Science Teacher for elementary, middle, and high school students, teaching general biology, chemistry, physics, and earth science.
- **Scotlandville Middle School, East Baton Rouge Parish School System** (2000-2001): 6th Grade Science Teacher.

Mentoring Experience

- **Kenilworth Science and Technology** (2023-present): Research Mentor for middle school students on projects related to bacterial contamination and antibiotic resistance.
- **Upward Bound TRIO Program, Southern University and A&M College** (2006-2018): Research Mentor for high school students on projects focusing on bacterial contamination, antibiotic resistance, and indicator organisms in recreational waters.

Grants

- **William and Flora Hewlett Foundation, Southern Regional Education Board Open Education Capacity Building Grant Program:** $10,000 award.
- **The All of Us Evenings with Genetics Research Program Seed Grant:** $3,000 award.

University Service

- **HBCU Tethered Tour:** Committee Member.

- **Southern University and A&M College:**
    - Assistant Professor of Practice in Biology
    - Lead, SBIO 102B General Biology Redesign Team.
    - Member, Faculty Institute for Teaching and Learning Excellence Planning Committee.
    - Member, SBIO 101B General Biology Redesign Team.
    - College Coordinator, Women of Color in STEM DTX Conference.
    - Faculty Advisor for several societies, including College of Science Societies, Beta Beta Beta,, BioJags, Jaguar Geaux Team, Faculty Sponsor: Increasing Clinicians of Diversity Program, Beta Kappa Chi, and National Institute of Science.
    - Member of the Athletic Academic Appeals Committee and the Equity Inclusion and Title XI faculty.
    - Member of the Med School Admit (MSA) program at Southern University Committee.
    - Appointment as NCAA Faculty Athletic Representative-SUBR.
    - Faculty Honors Thesis Advisor (2017, 2019, 2021, 2022).
- **Other Service:** Member of the QEP Steering Committee, Science Math Education (SMED) Dissertation Mentor, Member of the Deep Horizon HBCU Research Grant Consortium, Member of the Julia M. Martin Symposium Committee, Member of the Biological Science Website Design Committee, Tutor for the Athletic Department, Member of the First 36 Pilot Program, Member of the Tablet PC Pilot Program, Member of the SU Sustainability Week Committee, Member of the Gulf Coast Summer Institute (2014), Member of the SUBR Digital Instructional Technology and Curriculum Development Summer Institute, Member of the Faculty Academy of Educators, Member of the Athletic Appeals Committee, and Biology Department Representative to the Council of Online Practitioner.

Professional Development

- **June 2022:** NSF Proposal Writing and Mock Panel Workshop participant.
- **2023:** Baylor School of Medicine All of Us Research Scholar.
- **Training:** R Computational Biology and Python Computational Biology.
- **Tennessee State University:** AI Super User Summit Member (2025).
- **SGX3** Hackaton (2025)

Consultant Services

- NIH Grant Reviewer.
- Lake Pontchartrain Basin Restoration Program (PRP) Management Conference.
- ACT National Science Curriculum Reviewer.
- Reviewer for the *Journal of Biotech Research*.
- Reviewer for biological sciences textbooks for publishing companies including WH Freeman, McGraw-Hill, and Pearson.
- Grant Reviewer for the Louisiana Department of Education.

Collaborations

- **Faculty Institute for Teaching and Learning Excellence:** Presenter (2025).
- **Tennessee State University:** AI Super User Summit Member (2025).
- **OER Cohorts:** Textbook Success Program (2024-2026).
- **Macmillan Learning:** Educational Research funded by the Bill and Melinda Gates Foundation (2023-2024).
- **Southern University/Columbia University Health Equity Workshop:** Member.
- **Southern University/Columbia University Summer Research Experience:** Member (2023).
- **TUBA (Training Undergraduate Biologists using Urban agriculture)**.

Volunteer Opportunities

- STEM Baton Rouge
- STEM NOLA
- Boo at SU
- Southern University Laboratory Swim Coach
- Science Night Baker High School
- Middle and High School Science Fair Judge
- Louisiana Regional/State Science Fair Judge

Publications & Presentations

Published Abstracts and Scientific Reports

- Wilson, A., and T. Johnson. (2025). Building Bridges: Collaborative Strategies for Ethical AI Integration in Higher Education. 2026 AAC&U Annual Meeting, January 21-23, 2026, in Washington, DC.
- Wilson, A., and T. Johnson. (2025). "The RSI Chart and Canvas." Faculty Institute for Teaching and Learning Excellence, Southern University and A&M College.
- Clickenbeard, M., T. Johnson, et al. (2025). "The Academic Appeals and Readmission Process at a Historically Black University in the United States..." National Organization for Student Success, "Practitioner to Practitioner".
- Campbell, Y., M. Clickenbeard, T. Johnson, et al. (2023). "The Academic Appeal Process at a HBCU..." National Association of African American Studies, Arlington, Texas.
- Johnson, T.K. (2011). "A Pathophysiological Assessment of Heavy-Metal Exposed Pisum sativum," USDA Agricultural Research Service (ARS) Beltsville Agricultural Research Center Graduate Student Agricultural Research Symposium, Beltsville, MD.
- Johnson, T.K., Triche, P.C., and O'Reilly, K.L. (2004). "Immune Response of Newborn Calves to Intrabronchial Infection with Bovine Coronavirus," National Institute of

Science, Beta Kappa Chi, Brookhaven Semester Program 62nd Joint National Meeting, Norfolk, Virginia.

Honors and Awards

- Open Resource Education Champion, Southern University and A&M College (2025).

Professional Societies

- Society of Toxicology
- Endocrine Society
- American Society of Microbiology
- Society for the Advancement of Biology Education Research

Other Organizations

- Alpha Kappa Alpha Sorority, Inc., Gamma Eta Omega Chapter

References

Roman Banks
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