

Jada R. Hoyle-Gardner, Ph.D.

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PROFESSIONAL SUMMARY

Public health scientist with experience in science communication and policy development. Experience in facilitating educational programs in STEM for all educational levels. Has training as a project and lab manager through producing reports, material catalog, and small budget organization.

CORE COMPETENCIES & TECHNICAL SKILLS

Project Management

Oral & Written Science Communication

Laboratory Training & Facilitation

Education

Software: R

Technical Experience: Maternal Health, Environmental Health & Policy, STEM Education Programs

Advanced Excel: Data Transformation, Graph

Microsoft Office: Word, Excel, PowerPoint, Outlook

FELLOWSHIPS

- 2024 NASHP (National Academy for State Health Policy) ELC (Emerging Leaders of Color) 2024 Fellow
Mentor: Ana Novais, Assistant Secretary, Rhode Island Executive Office of Health and Human Services
- 2023-curr. NIH IRACDA FIRST Postdoctoral Fellow, Emory University (K12GM000680)
Mentor: Ethel Vereen, Ph.D., Professor, Department of Biology, Morehouse College
- 2021-2023 NIEHS Graduate and Postdoctoral Training in Environmental Health Sciences and Technology, Emory University (T32ES012870)
Mentors: Sheela Sinharoy, Ph.D., Professor, Department Environmental Health/Global Health

RESEARCH EXPERIENCE

Emory University, Atlanta, GA, USA

November 2021- Present

Postdoctoral Research Fellow, Rollins School of Public Health

Mentor: Sheela Sinharoy, Ph.D.

40 Hours/Week

- Determined how food preparation practices effect infant microbiome and maternal metabolome in rural Guatemalan infants and their mothers for publication
- Built empirical evidence connecting the involved biological pathways from air pollution exposure to changes in biological mechanisms in pregnant women
- Quantified metabolomics datasets from exposed breastmilk samples using R studio software to communicate results
- Organized data to communicate/present in weekly meetings

Florida A&M University, Tallahassee, FL, USA

August 2017-December 2021

Graduate Assistant, School of the Environment

Mentor: Victor Ibeanusi Ph.D., Ashvini Chauhan., Ph.D.

40 Hours/Week

- Analyzed total uranium concentration in samples using ICP-OES (induced coupled plasma optical emission spectroscopy) to monitor concentration changes over time
- Investigated the effects of biosorption conditions on uranium uptake into *Bacillus sp.* for best bioremediation application
- Prepared protein samples for LC/MSMS analysis (liquid chromatography with tandem mass spectrometry) for determining proteomic mechanism(s) responsible for remediation behavior
- Evaluated top upregulated and downregulated proteins expressed in uranium exposed *Bacillus sp.* samples using Scaffold software

NASA Ames Research Center, Virtual

January 2021-May 2021

Research Assistant, Space Biosciences Division

Mentor: Jonathan Galazka Ph.D

40 Hours/Week

- Developed an understanding on how *Bacillus subtilis* can use acetate as an energy source under carbon-less environments in space
- Extensive literature review on the basics of in-space manufacturing and using *B. subtilis* as a microbe of interest for future projects
- Built a metabolic base model matching typical *B. subtilis* growth dynamics that allowed for enzyme modifications to mimic carbon-less environments
- Created weekly reports to present data to interdisciplinary lab colleagues

Oak Ridge National Laboratory (ORNL), Oak Ridge, TN, USA

May 2018- August 2018

Research Assistant, Environmental Sciences Division

Mentor: Scoot Brooks, Ph.D.

40 Hours/Week

- Studied the movement/production of methylmercury in sediment and streams by analyzing any total mercury changes in collected soil slurry samples for government reports
- Facilitated kinetic experiments, including: monitoring mercury fate and transport in soil, analyzing mercury using Lumex, and determining the shift in mercury concentration over time
- Engaged with other scientists on campus to assist in roundtable discussions on weekly discoveries

Georgia State University, Atlanta, GA, USA

May 2016-August 2016

Research Assistant, Chemistry Department

Mentor: Binghe Wang, Ph.D.

40 Hours/Week

- Fully funded (Award #126274) REU summer research program
- Worked alongside an interdisciplinary group to investigate a controllable way to produce H₂S for pharmaceutical application
- Investigated the rate of production for stable H₂S donors during products for future experiments
- Ran quality control on products by utilizing HPLC (high-performance liquid chromatography) for resulting compound detection and analysis

Spelman College, Atlanta, GA, USA

May 2015-May 2016

NSF Stem Undergraduate Research Educator (SURE)

Mentor: Viveka Borum, Ph.D., Shannon Sung, Ph.D.

20 Hours/Week

- Examined how a student's gender affected their response and participation in a STEM based classroom to increase student progression in school
- Evaluated which classroom set up and activity (i.e. group projects, individual games, weekly tests) best helped students retain what they learned
- Worked alongside other SURE fellows to promote an interactive and interdisciplinary classroom lesson plan in Atlanta Public Schools

Spelman College, Atlanta, GA, USA

January 2014-May 2017

Undergraduate Research Assistant, Chemistry and Biochemistry Department

Mentor: Lisa Hibbard, Ph.D.

20 Hours/Week

- Studied the effects of various concentrations of CaCl₂ to control and irradiated α -Crystallin.
- Investigated the application of a possible chemical (lanosterol) shown to slow down or stop the effects of cataracts
- Coordinated fluorescence studies (steady-state fluorescence and ANS-binding fluorescence) under UV radiation to

- analyze the resulting α -Crystallin structure
- Used UV-Visible absorbance spectroscopy to quantify the extent of aggregation (turbidity) of α -crystallin before, during, and after heat-induced aggregation

TEACHING EXPERIENCE

Academic Appointments

Spring 2024	Adjunct, BIO112L General Biology Laboratory (Science Majors) Morehouse College
Spring 2024	
Spring 2025	Instructor, Biology 142L: Foundations of Modern Biology I Lab Emory University
Fall 2023,	
Fall 2024	Adjunct, Biology 141L: Foundations of Modern Biology I Lab Emory University
Fall 2024	Adjunct, Biology 114L: Populations, Community, and Biosphere, Morehouse College
Fall 2023	Co-Instructor, Biology 306L 01: General Microbiology Lab (for Science Majors), Morehouse College

Administrative Appointments/Leadership Roles

2023	Chris Fan, Undergraduate Honors Thesis Committee Member
2023	FIRST Executive Committee Member
2023	Community Clinical Liaison, OB-GYN, Grady Hospital
2021	E-Board, Postdoctoral Council on Diversity, Emory University
2018, 2019	Teacher's Assistant, EVS 4007: Introduction to Environmental Sciences (FAMU)

EDUCATION

2021	Ph.D., Environmental Sciences (biomolecular sciences), Florida A&M University Dissertation: " <i>Uranium Removal from Polluted Soil using Bacillus Species and Investigation of Mechanism through Proteomics Studies</i> "
2017	B.S., Chemistry, Spelman College Senior Thesis: " <i>Investigation of the Effects of Lanosterol on the Aggregation of B_L-Crystallin</i> "

TRAININGS, LICENSES, & CERTIFICATIONS

American Chemical Society's 2023 Postdoc to Faculty (P2F) Workshop
 American Public Health Association (APHA) Policy Action Institute (PAI)
 Frontiers in Environmental Science and Human Health (FrESH) Training Program
 Alda Center's Women in STEM Leadership Program
 Scientists Teaching Science Online Asynchronous Course
 Inclusive STEM Teaching Workshop
 Responsible Conduct of Research for Postdocs, Medical Research Fellows and Early Career Researchers
 Infectious Disease Transmission Models for Decision-Makers (Coursera)
 Columbia University's Microbiome Data Analytics Boot Camp: Planning, Generating, and Analyzing 16S rRNA Gene Sequencing Surveys
 NIH Resilience Training Program (RTP)
 Leadership Certificate Program Leadership Certificate Program (Emory University School of Medicine)

Human Subject Research Track (RCR) (CITI Program)

Essential Epidemiologic Tools for Public Health Practice Essential Epidemiologic Tools for Public Health Practice
(Coursera)

PEER-REVIEWED PUBLICATIONS

- 1) **Hoyle-Gardner, J.**, Liang, D., Tang, Z., Sivalogan, K., Diaz-Artiga, A., McCracken, J., Mollinedo, E., Tran, V., Wang, J., Ramakrishnan, U., Clasen, T., Thompson, L., and S. Sinharoy. “Household Air Pollution Exposure is Associated with Perturbations in Metabolic Pathways in Human Milk: An Untargeted Metabolomics Analysis from Guatemala.” *In progress*.
- 2) **Hoyle-Gardner, J.**, Badisa, V.LD, Shahid, S., Li, R., Ibeanusi, V., and B. Mwashote. 2023. “*Bacillus sp.* strain MRS-1: A potential candidate for uranyl biosorption from uranyl polluted sites.” *Saudi Journal of Biological Sciences.* 30 (12).
- 3) **Hoyle-Gardner, J.**, Badisa, V.LD, Ibeanusi, V., Jones, W., Gaines, T., Lowenthal, H., Tucker, L. and B. Mwashote. 2021. Lead metal biosorption and isotherms studies by metal resistant *Bacillus* strain MRS-2 bacterium. *Journal of Basic Microbiology.* 1-12.
- 4) **Hoyle-Gardner, J.**, Badisa, V.LD, Ibeanusi, V., Mwashote, B., Jones, W., and A. Brown. 2020. Application of Innovative Bioremediation Technique using Bacteria for Sustainable Environmental Restoration of Soils from Heavy Metals Pollution: A Review. *Journal of Bioremediation & Biodegradation.* 11:3.
- 5) Chen, G., Li, R., Ibeanusi, V., **Hoyle-Gardner, J.**, Crandall, C., Seaman, J., and A. Anandhi. 2019. Bacterial-Facilitated Uranium Transport in the Presence of Phytate at Savannah River Site. *Chemosphere.* 223, 351-357. doi.org/10.1016/j.chemosphere.2019.02.064.
- 6) Ibeanusi, V., Pathak, A., Chauhan, A., **Hoyle-Gardner, J.**, Cooper, T., Turker, L., Howard, H., Obinegbo, O., and J. Seaman. 2018. Genome-Centric Evaluation of *Bacillus sp.* strain – ATCC55673 and Response to Uranium Biomineralization. *Significances Bioeng. Biosci.*2(3). doiI: 10.31031/SBB.2018.02.000539.

PRESENTATIONS

- “Resume and CV Writing: A ticket to a chance at a fulfilling career”
Morehouse College Biology Club, Atlanta, GA, USA
- “Household Air Pollution Associated with Perturbations in Breastmilk Metabolome in Guatemalan Mothers Participating in the HAPIN Trial”
ISES Conference 2024, Montreal, Canada
- “Re-thinking science: understanding the impact of inclusive strategies in undergraduate science laboratories”
ESA Conference 2024, California, USA
- “Changing the World of Science”
Morehouse College and Spelman College McNair Scholars, Environmental Justice Scholars, and Morehouse College Public Health Sciences Institute Scholars Seminar, Atlanta, GA, USA
- “STEM QUEENS: Changing The World of Science”
Oral, Spelman College RISE Program Series, Atlanta, GA, USA
- “Associations Between Household Air Pollution and the Breastmilk Metabolome of Guatemalan Mothers participating in the HAPIN trial”
APHA Conference 2023, Atlanta, GA, USA
- “Strategies, Promises and Pitfalls to Embracing Culturally Relevant Science Education in an Undergraduate Teaching Laboratory.”
Oral, Black Doctoral Network Conference, 202, Atlanta, GA, USA
- “Uranium Removal From Contaminated Environments Using *Bacillus* Species.”
Poster, Colgate’s Smile with Science Symposium, 2022, Orlando, FL, USA
- “Application of Microbes for Bioremediation of Contaminated Environments.”
Virtual, Colgate’s Smile with Science Symposium, 2022.
- “Bacteria: Friendly Neighborhood Cleaner.”

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- Virtual, Dow Diamond Symposium, 2020.
 - “Reveal of Uranium Bioremediation Mechanisms by Bacillus Species through Proteomics Studies.”
Poster, Waste Management Symposium, 2020, Phoenix, AZ, USA
 - “Investigation of Pathways to Predict Bioremediation of Uranium at Nuclear Sites.”
Poster, NOBCCChE 46th Annual National Conference, 2019, St. Louis, MO, USA
 - “Analysis of Growth Dynamics and Protein Expressions of Microbial Mediated Biomineralization of Uranium Contaminated Soils at Savannah River Site, Aiken, SC.”
Poster, NOBCCChE 45th Annual National Conference 2018, Orlando, FL, USA
 - “Analysis of Growth Dynamics and Protein Expressions of Microbial-Mediated Biomineralization of Uranium Contaminated Soils at Savannah River Site, Aiken, SC”
Poster, 19th International Conference on Heavy Metals in the Environment; University of Georgia, 2018, Athens, GA, USA
 - “Investigation of the Effects of Lanosterol on the Aggregation of B_L-Crystallin.”
Spelman College Research Day 2017, Atlanta, GA, USA
 - “UV Radiation and CaCl₂ Effects on the Chaperone Behavior of α-Crystallin.”
Poster, Emory University-Laney Graduate School STEM Research and Career Symposium at Emory Conference Center; 2016, Atlanta, GA, USA
 - “Hydrogen Sulfide (H₂S)- The Third Gasotransmitter”
Poster, Georgia State University, 2016, Atlanta, GA, USA

LEADERSHIP & VOLUNTEER EXPERIENCE

Summer Undergraduate Research Experience (SURE) Program Reviewer (February 2023, 2024)
 Letters to a Pre-Scientist Penpal Mentor (2023-2024)
 FIRST Recruitment Representative (2023)
 STEMGems Summit: Women Empowering Girls Guest Speaker (March 2023)
 CuriOdyssey STEMCorps Program (2022-2023)
 Georgia State REU Symposium Judge (August 2022)
 Greater Opportunities Advancing Leadership and Science (GOALS) Guest Speaker (Summer 2021)
 HBCU Virtual College Tour Speaker (Spring 2021)
 School of the Environment, CORE Laboratory Mentor (2018-2021)
 Famu Dreamers, Inc (2019-2020)
 Undergraduate Laboratory Mentor, Spelman College (2016-2017)

HONORS & AWARDS

Edward A. Bouchet Graduate Honor Society (Emory University Chapter) Inductee (2024)
 SisterSong “Let’s Talk About Sex” Travel Scholarship Recipient (2022, 2024)
 Faculty Women of Color in the Academy Conference Travel Scholarship Recipient (2024)
 American Public Health Association (APHA) Policy Action Institute (PAI) Scholarship Recipient (2023)
 1st Place, Colgate Smile with Science Symposium Presenter (2022)
 1st Place, (Showcase & Research Contest), Alpha Kappa Mu Honor Society 2021 Convention (2021)
 2020 David Cooper Scholarship Recipient (Florida Section-Air and Waste Management Association)
 DOW 2020 Diamond Symposium Attendee (2020)
 NOBCCChE (The National Organization for the Professional Advancement of Black Chemists and Chemical Engineers)
 Colgate-Palmolive Poster Session Award Recipient (2019)
 FAMU School of Graduate Studies and Research Travel Grant (2019)
 NOBCCChE Advancing Science Conference Grant (ASCG) (2018, 2019, 2022)
 Department of Energy Office of Environmental Management MSIPP (Minority Serving Institutions Partnership Program)
 Grant Funding Recipient (2017-2022)

ACS (American Chemical Society) Certification (2017)
Spelman College's Departmental Service Award (2017)
1st Place, Spelman College's Annual Research Day (2017)
1st Place, Spelman College's Annual Research Day (2014)