

JESSIE GARCIA, PH.D.

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SUSTAINABILITY STRATEGIST SUMMARY

- Chemical Biologist/Sustainability Strategist with 10+ years of experience teaching the next generation of scientists and driving sustainable business solutions in the chemical and life sciences industries
- Managed large-scale engagement events with external stakeholders, including UN Climate Leadership Summit, various NGOs, and Chemistry Nobel Laureates, to grow industry partnerships and advocate for sustainability investments that lower GHG emissions
- Shaped sustainable business models in the hard-to-abate agricultural sector, closing partnerships with NA Biofuels producers, totaling \$10M in profit for BASF's Sustainability team
- Global leader with delegation experience in EMEA expanding ESG topics across regulatory frameworks

PROFESSIONAL EXPERIENCE

BASF

June 2021 – February 2025

Sustainability Strategist, Agricultural Solutions | RTP, NC | January 2024 – February 2025

- Coordinated key events at the Center for Sustainable Agriculture to bring to life relevant topics like carbon farming, bioethanol processing, climate change, and digital services that collect scope 3 data
- Spearheaded the integration of sustainability KPIs into marketing workflows, supporting the overall 2-to-10-year business strategy for NA farmers, ag retailers, and bioethanol producers
- Led the communications and demand generation strategy of carbon-smart products, growing brand visibility through various social channels and at global conferences/tradeshows
- Built extensive NA grower networks for external communication and marketing of sustainability programs
- Substantiated and monetized value of sustainability claims for high-priority products by tracking R&D data

Applied Sustainability Lead, EMEA Personal Care | Monheim am Rhein, DE | April 2023 – December 2023

- Led large-scale sustainability training across EMEA, delivering OECD-focused biodegradation workshops to 400+ internal and external stakeholders, ensuring consistency in biodegradation reporting
- Managed high-impact sustainability and digitalization outreach, organizing a 600+ attendee event for EMEA Personal Care customers to showcase sustainable ingredients and digital formulation services
- Championed knowledge-sharing across global, cross-functional teams, driving consistency in data reporting, test execution, and stakeholder understanding of new products and data-driven tools

Application Scientist/Enzymologist, Bioenergy | San Diego, CA | August 2022 – April 2023

- Led a functional, high-throughput screening campaign to identify thermostable enzyme targets with an application in the Bioenergy sector, closing a product gap in BASF's enzyme portfolio
- Identified ~100 putative differentiated enzyme products with my developed screen for the business
- Performed biochemical and enzymatic assays of enzyme products, developed NGS SOPs, and cross-collaborated with teams in automation, molecular biology, enzymology, and bioinformatics

Research Intern, Analytics NA | Wyandotte, MI | June 2021 – August 2021

- Developed analytical SOPs to extract, quantify, and analyze microplastics from sediment using py-GC-MS stereomicroscopy, and SEM, resulting in a publication with the Microplastics and Nanoplastics Journal

Chemical Biology Ph.D. Researcher | NC State | Raleigh, NC

October 2017 – June 2022

- Generated a chemoenzymatic platform for analog production of a cancer line pharmaceutical and determined the structure activity relationship of novel prenyl group modifiers for drug development
- Rationally designed the scope of 2 prenyltransferase enzymes for isoprenoid pathway diversification
- Developed and optimized HPLC-based assays for enzyme kinetics and used as platform for engineering high-throughput biosensors with directed evolution applications
- Demonstrated expertise in analytical techniques regularly using HPLC (UV/Vis), LC-MS, GC-MS, NMR and IR for enzyme activity characterization and product quantification

EDUCATION

Ph.D., Chemistry & Biotechnology Minor

June 2022

North Carolina State University (NC State) | Raleigh, NC | Dr. Gavin Williams
Improving the Scope of Transferases via Rational Design for Natural Product Diversification
NIH Molecular Biotechnology Fellow

B.Sc., Chemistry & Education Minor

May 2017

Binghamton University (BU) | Binghamton, NY | Dr. Wayne Jones
Fluorescent Conjugated Polymers as Anion Chemosensors
TRIO Ronald E. McNair Scholar

LEADERSHIP & SERVICE TO COMMUNITY

Women in BASF (WIB), Events & Program Coordinator

December 2024 – February 2025

- Responsible for aligning events and goals with the WIB vision, mission, and value proposition statements

Chair, Latin American Employee Resource Group (LAEG)

August 2022 – April 2023

- Initiated and led the largest ERG at the BASF San Diego site with the goal to attract, develop, promote, and retain Latino employees with an appointed executive board
- Organized a kick-off event to honor Dolores Huerta and Cesar Chavez for ~50 LAEG participants

President, Chemistry Graduate Student Association

May 2020 – May 2021

- Elected President of ~150 NC State chemistry graduate students to lead meetings, graduate school recruitment, events, socials, and DEI efforts with an executive board and appointed committee
- Coordinated and hosted seminar with 2019 Nobel Laureate Dr. Stanley Whittingham for >300 participants

Partnering for the Advancement of Science Education

December 2018 – December 2020

- Volunteer in program to mentor students participating in an annual science and engineering fair

The Leading Strand: Invisible Worlds

May 2018 – June 2018

- 6-mo collaboration with NC State College of Design to create a science exhibit “Zymotica”; later presented at the Smithsonian in Washington, D.C. (April 2019)

SELECTED CERTIFICATIONS & AWARDS

NIH Molecular Biotechnology T32

June 2020

- 2-year NIH training fellowship including courses in ethical conduct of research, professional development, and capstone biotechnology project, plus a biotechnology graduate minor

Graduate Teaching and Communications Certificate

May 2020

- NC State Graduate School program including over 100 approved hours of peer-reviewed teaching assignments, professional development workshops and a professional portfolio

Dale B. Terry Memorial Award

May 2017

- BU graduation award given to 1 selected senior in chemistry program with the greatest improvement

TRIO Ronald E. McNair Scholar

May 2016

- Federally funded USDOE scholarship to prepare traditionally underrepresented undergraduate students for doctoral studies through research and other scholarly activities

SCIENTIFIC PUBLICATIONS

1. **Garcia, J. M.**, Hall, R. S., Williams, G. J. Exploration of the prenyltransferases PriB and FtmPT1 for diversification of Brevianamide F and novel Tryprostatin analogs. *ChemBioChem* **2025 In preparation**.
2. Hankett, J. M., et al. **Garcia, J. M.** Matrix Matters: novel insights for the extraction, preparation, and quantitation of microplastics in a freshwater mesocosm study. *Microplastics and Nanoplastics* **2023**, 3, 13.
3. Mitchler, M. M.; **Garcia, J. M.**; Montero, N. E.; Williams, G. J. Transcription factor-based biosensors: A molecular-guided approach for natural product engineering. *Current Opinion Biotechnology* **2021**, 69, 172.
4. **Garcia, J.** The Fight Against Bacteria: Rapid Genetic Testing for Pathogen Detection and STD Prevention. *National Center for Case Study Teaching in Science at the University at Buffalo, SUNY*. **2020**.
5. **Garcia, J.** Dr. Corbett: A Former NC-ACS Project SEED Student Now Leading COVID19 Vaccine Development. *NC-ACS The TarHelium*. April 30, **2020**, pp 7–8.