

Maya L. Shamsid-Deen

mlallen@unm.edu

Twitter: @Glossopetalon

EDUCATION

Doctor of Philosophy in Biology Program, August 2019 – May 2025 (expected)

University of New Mexico, Albuquerque, NM

Major Advisor: Dr. Kenneth Whitney

Master of Science in Biology, August 2017 – July 2019

Ecology, Evolution, & Conservation Biology Emphasis

Northern Arizona University, Flagstaff, AZ

Major Advisor: Dr. Tina Ayers

Bachelor of Science in Biology, August 2013 - May 2017

The University of Alabama, Tuscaloosa, AL

Research Advisor: Dr. Juan Lopez-Bautista

RESEARCH PROJECTS & EXPERIENCE

Is Phenotypic Plasticity Associated with Colonization Success? Comparisons of Native, Non-Native, and Relict Populations of *Arabidopsis thaliana* (Brassicaceae)

University of New Mexico, Albuquerque, NM, Department of Biology August 2020 – present

Designed test if plasticity plays a role in successful colonization and demonstrate that patterns of plasticity are differentiated across species ranges to expand our knowledge of plasticity's role in colonization and range expansion.

Synopsis of skills acquired:

- Designed and implemented greenhouse plant experiments

Friend or Foe? Elucidating Host-microbe Symbiosis Impacts on Host Genetic Diversity through a Long-Term Study

University of New Mexico, Albuquerque, NM, Department of Biology January 2020 – present

Elucidating if fungal endophytes buffer climate stochasticity and as a result maintain higher levels of genetic diversity relative to populations without fungal endophytes.

An Investigation of the Phylogenetic Relationships within the Genus *Glossopetalon* (Crossosomataceae)

Northern Arizona University, Flagstaff, AZ, Department of Biological Sciences, August 2017 – July 2019

Resolved the previously unknown intergeneric relationships of *Glossopetalon* using multiple phylogenetic methods and confirmed the phylogenetic history of the Crossosomataceae. Several taxa were re-circumscribed as varieties and a new taxon was discovered and described.

Synopsis of skills acquired:

- Coordinated collection trips using GPS data, topological maps, and substrate knowledge
- Prepared RADdata for downstream analyses using STACKS version 2.4
- Analyzed and interpreted data using SplitsTree, RAxML, Bayesian, SVDquartets, and STRUCTURE software

The Morphological and Molecular Identification of Marine Macroalgae in the Understudied Coast of Alabama.

The University of Alabama, Department of Biological Sciences Tuscaloosa, AL, May 2016 – May 2017

Designed to provide an updated checklist (previous was from 1901) for coastal Alabama using molecular and morphological methods as harmful algal blooms and invasive species are a growing concern.

Synopsis of skills acquired:

- Developed interpretive Bayesian analysis of phylogenetic trees
- Performed scientific collection trips of marine and freshwater algae and preserved biological samples for taxonomic identification
- Trained new undergraduate lab members in various procedures

The Biodiversity of *Ulva* Species (Ulvophyceae, Chlorophyta) from Atlantic USA and Chile Based on Molecular Data.

The University of Alabama, Department of Biological Sciences Tuscaloosa, AL, May 2015 – May 2016

This research was to assess the biodiversity in the Western Atlantic and Chile of the genus *Ulva*, a commonly introduced genus that is notorious for causing ecologically damaging green tides in eutrophic conditions that are detrimental to fisheries, marine ecosystems, public health, and the economy.

Synopsis of skills acquired:

- Developed interpretive Neighbor joining and maximum likelihood analysis of phylogenetic trees
- Developed grantsmanship, writing scientific proposals for various funding agencies
- Advanced scientific writing and communication for regional and national presentations

Identification of *Ulva* Species (Ulvophyceae, Chlorophyta) from Wilmington, North Carolina, Using Molecular Data.

The University of Alabama, Department of Biological Sciences Tuscaloosa, AL, *January 2014 – May 2015*

Synopsis of skills acquired:

- Conducted DNA extractions and amplifications through polymerase chain reaction (PCR)
- Completed DNA gel extractions and PCR clean ups
- Quantified DNA through QuBit DNA quantifier and Nanodrop procedures

PUBLICATIONS

Shamsid-Deen, M.L., Williams, T.M., Jasny, M., Finch, J. In Press. Black Botany: Towards Equitable Representation in Contemporary Botany and Botanical History. *Plant Science Bulletin*.

Shamsid-Deen, M.L., Porter, J.M. In Revision. Black Placemaking Under Environmental Stressors: Dryland Farming in the Arid Black Pacific, 1890-1930. *Environment and Society*.

Allen, M.L., Lagomarsino, L.P. 2022. Tanisha M. Williams - Recipient of the 2021 Peter Raven Award. *Systematic Botany*. 47(1):4-5. <https://doi.org/10.1600/036364422X16442668423338>

Allen, M.L., Ayers, T. 2021. A Revised Classification of *Glossopetalon* (Crossosomataceae) Based on Restriction Site-Associated DNA Sequencing. *Systematic Botany* 6(3): 562-572. <https://doi.org/10.1600/036364421X16312067913417>.

Williams, T.M., Bleau, J., **Allen, M.L.**, Silvera Seamans, G, Cannon, B., Fontaine, N., Halane, M., Koopman, R., Makunga, N.P., Itumeleng, M., Soto, T., Montgomery, B.L. 2021. Growing a Community: The Inaugural #BlackBotanistsWeek Recap and Looking Forward. *Taxon*. 70:219-222. <https://doi.org/10.1002/tax.12442>

PRESENTATIONS

***denotes invited lectures**

Allen (Shamsid-Deen), M.L., Whitney, K. Is Phenotypic Plasticity Associated with Colonization Success? Comparisons of European Colonizers, North American Colonizers, and Relict Populations of *Arabidopsis thaliana*. Poster. Botany 2022 Conference, Anchorage Alaska. July 2022.

Allen (Shamsid-Deen), M.L. Planting Seeds for the Future: Cultivating an Anti-Racist Environment Starts Now. Oral "Black Botanical Legacy: Past, Present, Future" Symposium. Botany 2022 Conference, Anchorage Alaska. July 2022.

Allen (Shamsid-Deen), M.L. A Germination of Freedom: How Blackdom, New Mexico Grew Its Roots through Dry-Farming Crops of the African Diaspora. Oral. Botany 2022 Conference, Anchorage Alaska. July 2022.

* **Allen, M.L.** Sowing Seeds of Freedom. Oral. Albuquerque Museum. May 2022.

* **Allen, M.L.** A Germination of Freedom: How Dryland Farming Nourished the Emergence of Blackdom, New Mexico. Oral. UNM Africana Studies Race and the Law 315 Course Seminar. March 2022.

* **Allen, M.L.**, Ayers, T. A Journey Across the Southwest: Unveiling the Relationships of a Spiny Group of Desert Shrubs called *Glossopetalon*. Oral. Native Plants Society of New Mexico Albuquerque Chapter. March 2022.

- * **Allen, M.L.** A Germination of Freedom: How Dryland Farming Nourished the Emergence of Blackdom, New Mexico. Oral. Northern Arizona University School of Forestry. September 2021.
- * **Allen, M.L.** Freedom Through Dryland Farming – The Story of New Mexico’s First Black Settlement, Blackdom. Oral. Dry Farming Collaborative Winter Meeting. February 2021.
- * **Allen, M.L., Ayers, T.** Resolving the Phylogeny of a Genus of Obscure Shrubs: A Revised Classification of *Glossopetalon* (Crossosomataceae). Oral. 46th Annual Southern California Botanists Symposium Living on the Edge – Plants in Extreme Environments. October 2020.
- * **Allen, M.L.** Planting Seeds of Freedom in the Pecos Valley of New Mexico: How Blackdom Grew Its Roots through Dry-Farming. Oral. Holden Forest and Gardens Scientist Lecture Series. October 2020.
- Allen, M.L., Ayers, T.** Resolving the Phylogeny of *Glossopetalon* (Crossosomataceae). Oral. Botany 2019: George R. Cooley Award Competition, Tucson, AZ, July 2019.
- Allen, M.L., Ayers, T.** Resolving the Phylogeny of *Glossopetalon*. Oral. Native Plants Society Meeting, Flagstaff, AZ, June 2019.
- Allen, M.L., Melton III, J.T., Garcia-Soto, G., Lopez-Bautista, J.M.** The Seaweeds of Alabama. Poster. 4th Annual Northern Arizona STEM Poster Session. Flagstaff, AZ, September 2017.
- Allen, M.L., Melton III, J.T., Garcia-Soto, G., Lopez-Bautista, J.M.** A Morphological and Molecular Assessment of Seaweeds in the Understudied Coast of Alabama. Oral. Undergraduate Research and Creative Activity Conference, Tuscaloosa, AL, March 2017.
- Allen, M.L., Melton III, J.T., Garcia-Soto, G., Lopez-Bautista, J.M.** The Seaweeds of Alabama. Oral. 38th Annual Southeastern Phycological Colloquy, Valdosta GA, November 2016.
- Allen, M.L., Melton III, J.T., Lopez-Bautista, J.M.** The Morphological and Molecular Identification of Marine Macroalgae in the Understudied Coast of Alabama. Poster. Phycological Society of America Annual Meeting. Cleveland, OH, July 2016.
- Allen, M.L., Melton III, J.T., Macaya, E., Wynne, M.J., Lopez-Bautista, J.M.** The Biodiversity of *Ulva* Species (Ulvophyceae, Chlorophyta) from Atlantic USA and Chile Based on Molecular Data. Poster. Undergraduate Research and Creative Activity Conference. Tuscaloosa, AL, March 2016.
- Allen, M.L., Melton III, J.T., Macaya, E., Wynne, M.J., Lopez-Bautista, J.M.** The Biodiversity of *Ulva* Species (Ulvophyceae, Chlorophyta) from Atlantic USA and Chile Based on Molecular Data. Poster. Southeastern Phycological Colloquy (SEPC). Harbor Branch, Fort Pierce, FL, October 2015.
- Allen, M.L., Melton III, J.T., Lopez-Bautista, J.M.** Identification of *Ulva* Species (Ulvophyceae, Chlorophyta) from Wilmington, North Carolina, Using Molecular Data. Undergraduate Research and Creative Activity Conference. Poster. Tuscaloosa, AL, April 2015.

RESEARCH GRANT AWARDS & FELLOWSHIPS

- National Academies of Science, Engineering, and Medicine Ford Predoctoral Fellowship, Fall 2022.**
- Graduate Resource Allocation Committee Research Grant, Fall 2020.** Is Phenotypic Plasticity Associated with Colonization Success? Comparisons of Native, Non-Native, and Relict Populations of *Arabidopsis thaliana* (Brassicaceae). \$400
- Landward Foundation Research Grant, Fall 2017.** An Investigation of the Phylogenetic Relationships and Morphological Concordance Within the Genus *Glossopetalon* (Crossosomataceae). \$8,313
- College of Arts and Sciences Travel Award Grant, Fall 2016.** Travel funding for the Southeastern Phycological Colloquy. \$150

National Science Foundation Research Experience for Undergraduates Grant, Summer 2016. National Project (GrAToL) Assembling the Tree of Life for Green Algae. \$4,500

Undergraduate Research and Creative Activity Grant, Spring 2016. Travel funding for the Phycological Society of American Annual Meeting. \$1,000

Undergraduate Research and Creative Activity Grant, Fall 2015. Funding for coastal Alabama seaweed collection trip. \$400

National Science Foundation Research Experience for Undergraduates Grant, Summer 2015. National Project (GrAToL) Assembling the Tree of Life for Green Algae. \$4,500

PROFESSIONAL & MENTORING EXPERIENCE

Graduate Teaching Assistant, Department of Biology, University of New Mexico

Botany, 3 semesters: *Spring 2020, Fall 2020, Spring 2022*

- Constructed a hybrid learning system on online and in person laboratories as a result of the COVID Pandemic
- Implemented a social engagement and resource bank for student connectedness
- Conducted classroom instruction on Botany at the undergraduate level
- Redesigned all class materials for an online format as a result of the COVID Pandemic
- Provided assessments of students work and one-on-one student feedback during laboratory

Ecology and Evolution, 3 semesters: *Fall 2019, Spring 2021, Fall 2021*

- Ensured students were familiarized with weekly laboratory concepts through classroom lectures
- Conducted classroom instruction on laboratory and toolskill activities
- Proctored and graded Ecology and Evolution exams
- Provided assessments of students work and a one-week grade turn around

Biology Graduate Student Association Mentor, University of New Mexico, *August 2020 –May 2021*

- Mentored a new master's student

Research Coaching Fellow, Department of Biology, University of New Mexico, *January 2020 –May 2021*

- Crafted a research seminar presentation on "How Does Research Work?"
- Completed training in mentoring and coaching techniques
- Improved on integrating undergraduate research into a classroom setting
- Mentored 2 undergraduates to assist on my research project and develop first time research experience

Project for New Mexico Graduate Students of Color, *August 2019 – May 2021*

- Mentored an undergraduate student in Biology and first-time research
- Mentored a sophomore undergraduate student in Biology
- Mentored a sophomore undergraduate student in preparing for Law School

Graduate Teaching Assistant, Department of Biological Sciences, Northern Arizona University

Writing in Biology (305W) for Microbiology students, *August 2017-May 2019*

- Lead Teaching Assistant Fall 2018 Semester
 - Designed and conducted pre-semester and weekly Fall18 TA trainings
 - Reformatted Fall18 course materials and lectures
 - Created weekly in class activities
- Conducted classroom instruction on writing scientific papers at the undergraduate level
- Prepared weekly lectures and classroom activities
- Provided assessments of students work, grade postings, and timely feedback

Herbarium Assistant, Department of Biological Sciences, University of Alabama, *May 2017- July 2017*

- Participated in the National Science Foundation's Advancing Digitization of Biodiversity Collections project
- Digitized plant and algal specimens
- Ensured correct label data transcription
- Uploaded vouchers to UNA digital herbarium on Macroalgae.org

Health Advocate, Project Health Peer Health Education Internship

The University of Alabama Department of Health Promotion and Wellness, *January 2014 – April 2017*

- Health Topic Coordinator, *Spring 2015-Spring 2016 (4 Terms)*
- Executive Board Member, *Spring 2015 – Spring 2016*
 - Employed leadership, delegation, and communication with a team
 - Cultivated educational material development and presentation skills
 - Planned and implemented health advocacy events

DIVERSITY, EQUITY, AND INCLUSION (DEI) EFFORTS

BlackBotanistsWeek Co-Founder, June 2020 – Present

- Co-organized the Holden Forest and Gardens – Black Botanists Week Organizing Committee [Scientific Lecture Series](#) Partnership, 2020-2021
 - Moderated 7 scientific lectures
 - Coordinated public relations partnerships and advertisement
- Organized “[Black Botanists at Work Panel Discussion](#)”, 2021
 - Booked panelists, created online registration form, and moderated panel discussion
- Organized and collaborated with the UNM African American Student Services to create “Botanizing While Black” virtual interview discussion, 2020

Panelist Project for New Mexico Students of Color Recruitment Roundtable, February 2022

National Association for the Advancement of Colored People (NAACP) Member, 2019 – Present

Botanical Society of America DEI Committee Student Representative, July 2020 – December 2021

American Society of Plant Taxonomists Diversity Committee Liaison, October 2020 – July 2021

UNM Biology Government Student Association DEI Committee Co-Chair, August 2020 – May 2021

Panelist ECURE Summer Institute Panel, Summer 2020

Commission on the Status of Women, Northern Arizona University, October 2018 – May 2019

- Data Collection Committee November 2018-May 2019

NON-PROFIT EXPERIENCE

Parliamentarian, State Executive Board Member,

Zeta Phi Beta Sorority, Inc. State of New Mexico, *March 2021 – Present*

- Disseminated pertinent information on our Constitution Bylaws revision process

Parliamentarian, Chapter Executive Board Member,

Zeta Phi Beta Sorority, Inc. Omega Alpha Zeta Graduate Chapter, Albuquerque, NM, *July 2020 – May 2021*

- Conducted a parliamentary procedure workshop for State of New Mexico & Hawaii
- Chair of the Bylaws and Nominations Committee
- Completed the Zeta Risk Management training 3-12-2021

Public Relations Co-Coordinator, Zeta Phi Beta Sorority, Inc. State of Arizona, January 2019 – July 2019

- Created and managed social media accounts including Facebook, Instagram, and Twitter
- Implemented an approval process for social media flyers to adhere to the national rebranding guidelines

Undergraduate Advisor

Zeta Phi Beta Sorority, Inc. Chi Alpha Zeta Graduate Chapter, *January 2019 – July 2019*

- Oversaw and implemented the chartering process for the Omicron Phi undergraduate chapter at Northern Arizona University
- Completed Undergraduate Advisor Certification 1-6-2018 & Membership Intake Process Certification 11-3-2021

HONORS, SCHOLARSHIPS, & AWARDS

American Association of University Women Albuquerque Scholarship, \$1,000 annually. *Spring 2022*

UNM Department of Biology’s Grove Scholarship, \$1,100. *Spring 2022*

UNM Department of Biology’s Grove Scholarship, \$1,100. *Spring 2021*

Zeta Phi Beta Sorority, Inc. National Education Foundation General Graduate Scholarship, \$1,000. *Fall 2020*

Zeta 100 Initiative – Science, *Spring 2020*

New Mexico Higher Education Scholarship, \$3,700. *Fall 2019*

American Society of Plant Taxonomists Travel Lottery Scholarship, *Summer 2019*

University of Alabama Class with the Dean, *Fall 2014*

University of Alabama Honor’s Day Academic Achievement Award, *Spring 2014*

University of Alabama Emerging Scholars Research Program & Scholarship, *August 2013 – May 2014*

University of Alabama Foundation in Excellence Scholarship, *Fall 2013*

SCIENCE OUTREACH & SERVICE

UNM Biology Undergraduate Society Invited Speaker, Spring 2022

UNM Graduate & Professional Student Association Council Member, Biology. 2021 – 2022

UNM Biology Graduate Student Association Greenhouse Committee Representative. 2021 – 2022

National Association of Plant Breeders, Establishing Your Brand Panelist. Spring 2022

UNM African American Service Interviewee, Demystifying Graduate School Instagram Live. *Fall 2021*
Scientific Peer Reviewer, American Fern Journal (1), Graduate Research Allocation Committee (2)
American Society of Plant Taxonomists Nominations Committee. *2020 – 2021*
UNM BGSA Graduate Student Selection Committee Representative. *January – February 2021*
City of Albuquerque Open Space Division Volunteer, Party for the Planet Shrub Planting. *April 2021*
New Mexico Humanities Council Invited Panelist, [Starting Conversations: Blackdom, NM.](#) *February 2021*
[Getting to the Heart of Science Communication](#) Interviewee, Book Interview *April 2020*
Science on Tap Co-Organizer, A Community Lecture Series, *December 2017 – July 2019*
The Green Room, Flagstaff, AZ
Science Fair Judge, Saint Thomas Aquinas Middle School, Rio Rancho, New Mexico *Spring 2020*
Lake Lurleen Clean Up Volunteer, Tuscaloosa, Alabama *February 2014*
UA Center for Sustainable Service and Volunteerism, *August 2013*

PROFESSIONAL SOCIETY MEMBERSHIP

National Alumni Association, University of Alabama, Black Alumni Chapter *November 2021 – Present*
New Mexico Native Plants Society, Albuquerque Chapter, *November 2021 – Present*
Society for the Study of Evolution, *April 2020 – Present*
American Society of Plant Taxonomists, *March 2018 – Present*
Botanical Society of America, *September 2018 – Present*