

BRIANA HAUFF SALAS, PH.D.

ASSOCIATE PROFESSOR OF ENVIRONMENTAL SCIENCE
OUR LADY OF THE LAKE UNIVERSITY SAN ANTONIO

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EDUCATION AND TRAINING

- 2004-2008 **Binghamton University**
B.S. - Environmental Studies, Concentration in Ecosystems
- 2008-2010 **Pace University**
M.S. - Environmental Science
- 2012-2015 **Michigan State University**
Ph.D. - Integrative Biology; Ecology, Evolutionary Biology and Behavior
- 2016-2017 **University of Texas Health San Antonio**
Postdoctoral Research Fellow – Department of Microbiology, Immunology, and Molecular Genetics

PUBLICATIONS

- Harman, T.E., Barshis, D.J., **Hauff-Salas, B.**, Hamsher, S.E., Strychar, K.B. (2022) Symbiotic state influences melanin-synthesis immune response in the facultative coral *Astrangia poculata*. *Diseases of Aquatic Organisms* 151:63-74; DOI: <https://doi.org/10.3354/dao03695>
- Harman, T.E., **Hauff-Salas, B.**, Haslun, J.A., Cervino, J.M., Strychar, K.B. (2022) Decreased photosynthetic efficiency in response to site-translocation and elevated temperature is mitigated with LPS exposure in *Porites astreoides* symbionts. *Water* 14(3), 366; <https://doi.org/10.3390/w14030366>
- Strychar, K.B., **Hauff-Salas, B.**, Haslun, J.A., DeBoer, J., Cryer, K., Keith, S., Wooten, S. (2021) Stress resistance and adaptation of the aquatic invasive species *Tubastraea coccinea* to climate change and ocean acidification. *Water* 13(24), 3645; <https://doi.org/10.3390/w13243645>
- Haslun, J.A., **Hauff-Salas, B.**, Strychar, K.B., Cervino, J.M., Ostrom, N.E. (2021) Variation in immune-related gene expression provides evidence of local adaptation in *Porites astreoides* (Lamarck, 1816) between inshore and offshore meta-populations inhabiting the Lower Florida Reef Tract, USA. *Water* <https://doi.org/10.3390/w13152107>
- Shute, T., Amiel, E., Alam, N., Yates, J.L., Mohrs, K., Dudley, E., **Salas, B.**, Mesa, C., Serrata, A., Angel, D., Vincent, B.K., Weyers, A., Lanthier, P.A., Vomhof-Dekrey, E., Fromme, R., Laughlin, M., Durham, O., Miao, J., Shipp, D., Linhardt, R.J., Nash, K., Leadbetter, E.A. (2021) Glycolipid-Containing Nanoparticle Vaccine Engages Invariant NKT Cells to Enhance Humoral Protection against Systemic Bacterial Infection but Abrogates T-Independent Vaccine Responses. *The Journal of Immunology* DOI: <https://doi.org/10.4049/jimmunol.2001283>
- Haslun, J.A., **Hauff-Salas, B.**, Strychar, K.B., Ostrom, N.E., Cervino, J.M. (2018) Biotic Stress Contributes to Seawater Temperature Induced Stress in a Site-Specific Manner for *Porites astreoides*. *Marine Biology* 165: 160. <https://doi.org/10.1007/s00227-018-3414-z>
- Hauff-Salas, B.**, Haslun, J.A., Strychar, K.B., Ostrom, P., Cervino, J.M. (2017) Site-specific variation in gene expression from *Symbiodinium* spp. associated with offshore and

- inshore *Porites astreoides* in the Lower Florida Keys is lost with bleaching and disease stress. *PLOS One*, doi.org/10.1371/journal.pone.0173350
- Hagglof, T., Sedimbi, S.K., Yates, J.L., Parsa, R., **Hauff-Salas, B.**, Harris, R.A., Leadbetter, E.A., Karlsson, M.C.I. (2016) Neutrophils license iNKT cells to regulate self-reactive murine B cell responses. *Nature Immunology*, doi:10.1038/ni.3583
- Haslun, J.A., **Hauff, B.**, Strychar, K., Cervino, J.M. (2016) Decoupled seasonal stress as an indication of chronic stress in *Montastraea cavernosa* and *Porites astreoides* inhabiting the Florida reef tract. *International Journal of Marine Science* doi: 10.5376/ijms.2016.06.0021
- Hauff, B.**, Haslun, J.A., Strychar, K.B., Ostrom, P., Cervino, J.M. (2016) Symbiont switching potential of zooxanthellae (*Symbiodinium* sp.) from *Montastraea cavernosa* and *Porites astreoides* in response to local non-lethal stress. *International Journal of Biology* doi: 10.5539/ijb.v8n1p9
- Hauff, B.**, Haslun, J.A., Cervino, J.M., Krucher, N., Wier, A.M., Mannix, A.L., Hughen, K., Strychar, K.B. (2014) Genetically divergent *Symbiodinium* sp. display distinct molecular responses to pathogenic *Vibrio* and thermal stress. *Diseases of Aquatic Organisms*. doi:10.3354/dao02802
- Kneeland, J.M., Hughen, K., Cervino, J.M., **Hauff, B.**, Eglinton, T. (2013) Lipid biomarkers in *Symbiodinium* sp. dinoflagellates: New indices of coral thermal stress. *Coral Reefs* DOI 10.1007/s00338-013-1076-3
- Cervino, J.M, **Hauff, B.**, Haslun, J.A., Cavazos, M., Lawther, P., Wier, A.M., Hughen, K., Strychar, K.B. (2012) Ulcerated Yellow Spot Syndrome: Implications of aquaculture related pathogens inducing tissue lesions on the soft coral *Sarcophyton ehrenbergi*. *Diseases of Aquatic Organisms* **102**, 137-148.

PROFESSIONAL PREPARATION

- 2021-Present Biology Program Head – Department of Math and Science, **Our Lady of the Lake University San Antonio**
- 2021-Present Environmental Science and Sustainability Program Head – Department of Math and Science, **Our Lady of the Lake University San Antonio**
- 2018-Present Adjunct Professor – Department of Biology, **Grand Valley State University**
- 2017-Present Assistant Professor of Environmental Science– Department of Math and Science, **Our Lady of the Lake University San Antonio**
Courses taught: Environmental Science Environmental Toxicology, Introduction to Biology (majors and non-majors), Careers in Environmental Science and Sustainability Seminar, General Ecology, Aquatic Biology, Marine Biology, Vascular Plants, Evolution, Independent Research.
- 2007–Present Environmental Consultant - **Restoration and Conservation Advisement Group, LLC**
- 2017-2018 NIH SABER/IRACDA Post-Doctoral and Research Scholar, **UT Health San Antonio**, K12 GM111726
Description: The San Antonio Biomedical Education and Research (SABER) program is a postdoctoral teaching and research program sponsored by an Institutional Research and Academic Career Development Award (IRACDA) through the National Institutes of Health (NIH). The overarching goal of the training program is to prepare a diverse and accomplished pool of research-teacher-scholars sensitive to the needs of underrepresented groups and able to serve as role models for STEM students at the undergraduate level

- 2016-2017 Postdoctoral Fellow – Department of Microbiology, Immunology and Molecular Genetics, **UT Health San Antonio, School of Medicine** *Description:* Harnessing iNKT cell help to develop nanoparticle-based vaccines for *Streptococcus pneumoniae* infection and tumor-specific antigens.
- 2013-2015 Graduate Research Assistant – Department of Integrative Biology, **Michigan State University** *Description:* The effects of lipopolysaccharide on toll-like receptor 4 expression and inflammation in PC-3 human prostate cancer cells.
- 2013-2015 Graduate Teaching Assistant and Lab Coordinator – Department of Integrative Biology, **Michigan State University** *Courses taught:* *Cells and Development (Cancer Biology), Histology*
- 2012 Research Technician – **Annis Water Resources Institute, Grand Valley State University** *Description:* Investigating the role of coral innate immunity to climate change related stress responses.
- 2010-2012 Graduate Teaching Assistant - Department of Biology, **Texas A&M University – Corpus Christi** *Courses taught:* *Introduction to Biology I-Genetics and Cell Biology, Invertebrate Biology, Immunology, Biology of Corals, Environmental Biology*
- 2011 Graduate Research Assistant - Department of Marine Biology, **Texas A&M University – Corpus Christi** *Description:* Survival differential of native and invasive coral species in the Gulf of Mexico
- 2011 Faculty Adjunct Professor - Department of Biology, **Texas A&M University – Corpus Christi** *Courses taught:* *Professional Skills in Biology*
- 2008-2010 Private Tutor *Subjects taught:* *Math (Pre-algebra through Calculus), Science (Middle school through high school levels), English, Spanish, SAT prep*
- 2008-2009 Guest Researcher – Department of Marine Chemistry and Geochemistry, **Woods Hole Oceanographic Institute** *Description:* Research cruise Saudi Arabia, coral disease identification
- 2008-2009 Guest Student – Department of Marine Chemistry and Geochemistry, **Woods Hole Oceanographic Institute** *Description:* Coral lipid biochemistry
- 2007 Undergraduate Teaching Assistant Lecturer - Department of Biology, **Binghamton University** *Course taught:* *Environmental Science I*
- 2007 Research Intern - **Tropical Forestry Initiative**, Tres Piedras Costa Rica *Description:* Reforestation of agricultural land
- 2006 – 2008 Undergraduate Research Assistant - Department of Biology, **Binghamton University** *Description:* Links between socio-economic status and community perception.
- 2007 – 2008 Undergraduate Research Assistant - Department of Psychology, **Binghamton University** *Description:* Investigating links between depression and bulimia nervosa in undergraduate students

GRANTS AND AWARDS

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| 2023 | USDA NextGen Program – TExAS FAST: Texas Experiential Learning and Scholarship program for Food and Agricultural Science Training (Program Director, \$5 million) |
| 2022 | USDA HSI Education Program Collaboration Grant – #EcoJEDI: Building a City-Wide Collaboration to Facilitate Career Readiness in FAS through Science Literacy & Counter-Storytelling (co-Program Director, \$1 million) |
| 2021 | Hearst Grant for Professional Development, Our Lady of the Lake University |
| 2020 | Flashman Foundation Mini-Grant for Research, Our Lady of the Lake University (\$600) |
| 2018 | Our Lady of the Lake University Community Garden and Pollinator Support Initiative, USDA NRC (\$7,000) |
| 2018 | La Cosecha Seed Grant for Community Engagement, Our Lady of the Lake University (\$2,000) |
| 2018-Present | Coastal Preservation Network Research Grant (\$5,000/year for 2 years) |
| 2017 | Flashman Foundation Mini-Grant for Research, Our Lady of the Lake University (\$400) |
| 2015 | Michigan State University Dissertation Completion Fellowship (\$6,000) |
| 2015 | Michigan State University, Department of Ecology, Evolutionary Biology and Behavior Summer Fellowship (\$1,800) |
| 2014 | Michigan State University Dissertation Continuation Fellowship (\$6,000) |
| 2014 | NOAA Nancy Foster Scholarship Program – Honorable Mention |
| 2010-Present | Coastal Preservation Network Graduate Research Grant (\$10,000/year for 4 years) |
| 2013 | Michigan State University Dissertation Continuation Fellowship (\$6,000) |
| 2011 | Graduate Studies Scholarship, Texas A&M University - Corpus Christi, Corpus Christi TX (\$6,000) |
| 2008-2010 | Presidential Scholarship, Pace University, Pleasantville NY (\$20,000/year for 2 years) |
| 2004-Present | Phi Eta Sigma National Honor Society, Binghamton University, Binghamton NY |
| 2004-2008 | Charles Johnson Memorial Scholarship Recipient, New York City District Council of Carpenters Union, New York New York (\$3,500/year for 4 years) |

PUBLIC PRESENTATIONS

- Hum, S., Hutchinson, J., Kapoor, V., **Salas, B.H.**, Perry, L., Crosswhite, J., Young, G. (2023) #EcoJEDI: Counter-Storytelling to Implement a Culturally Responsive, Writing Enriched Curriculum for Underserved Populations. Conference on College Composition and Communication (Oral Presentation)
- Hutchinson, J., Kapoor, V., **Salas, B.H.**, Perry, L., Hum, S., Crosswhite, J., Young, G. (2023) EcoJEDI Scholar Program for Food and Agriculture Sciences Communication and Summer Research – Texas Academy of Sciences (Oral Presentation)
- Harman, T.E., Barshis, D., **Hauff Salas, B.**, Hamsher, S., Strychar, K.B. (2021) Analysis of immunity and symbiosis of the Northern Star Coral, *Astrangia poculata*, from future climate impacts – International Coral Reef Symposium (Poster presentation)
- Cervino, J.M., Ducroiset, A., **Hauff Salas, B.**, Goreau, T., Hughen, K. (2021) Round Up glyphosate and thermal stress exposure are sub-lethal to marine primary

- producers: “A case for immunosuppression” – International Coral Reef Symposium (Oral presentation)
- Ducroiset, A., **Hauff Salas, B.**, Rowe, N., Cirillo, S., Goreau, T., Hughen, K., Cervino, J.M. (2021) Varied responses of symbiotic and planktonic dinoflagellates to elevated temperature and Round Up herbicide, leading to cell degeneration – International Coral Reef Symposium (Poster presentation)
- Hernandez, S., **Hauff Salas, B.** (2021) Water quality of Elmendorf Lake before and after rainfall. – Our Lady of the Lake University Honors Program Capstone Presentations (Oral Presentation)
- Woodbury, C., Mendez, V., **Hauff Salas, B.** (2021) Elevated temperature and Round Up herbicide decreases mitotic division and inhibits apoptosis in marine primary producers – Sigma Zeta National Conference (Oral Presentation)
- Woodbury, C., Mendez, V., **Hauff Salas, B.** (2021) Elevated temperature and Round Up herbicide decreases mitotic division and inhibits apoptosis in marine primary producers – McNair Student Forum Our Lady of the Lake University (Poster Presentation)
- Harman, T.E., Barshis, D., **Hauff Salas, B.**, Hamsher, S., Strychar, K.B. (2020) Ecological simulation of baseline immunity indicates potential disease susceptibility in *Astrangia poculata* (Ellis and Solander, 1786). Society for Integrative and Comparative Biology Conference (Virtual Oral Presentation)
- Harman, T.E., Barshis, D., **Hauff Salas, B.**, Hamsher, S., Strychar, K.B. (2020) Seasonal thermal resilience of *Astrangia poculata* based on future thermal extremes – Global Coral Reef Week (Virtual Oral Presentation)
- Harman, T.E., Strychar, K.B., Barshis, D., Hamsher, S., **Hauff Salas, B.** (2019) Integrity and Immunology of the northern star coral from future climate change impacts. – Benthic Ecology Meeting (Poster Presentation)
- Ducroiset, A., **Hauff Salas, B.**, Rowe, N., Cirillo, S., Goreau, T., Hughen, K., Cervino, J.M. (2019) Round Up and increased ocean temperatures cause immunosuppression in dinoflagellates – Student Conference on Conservation Science New York (Poster Presentation)
- Hauff Salas, B.** (2018) Environmental Education at Our Lady of the Lake University: Current and Future Projections – Invited Speaker as the Conservation Awareness and Resource Education Conference, San Antonio Texas (Oral Presentation)
- Hauff Salas, B.** (2016) Harnessing iNKT cell help to develop a PLGA-based nanoparticle vaccine against *Streptococcus pneumoniae* - UT Health Science Center San Antonio – Postdoctoral Research Forum (Poster)
- Hauff Salas, B.** (2015) Tales From the Lab Bench: Corals, Algae, Bacteria and Death. Pace University – Keynote Alumni Speaker (Oral Presentation)
- Hauff, B.** (2014) Coral Diseases: What do we know and what can we do? Michigan State University – College of Veterinary Medicine. Invited speaker series (Oral Presentation)
- Hauff, B.**, Haslun, J.A., Strychar, K.B., De Boer, J., Cryer, K., Keith, S., Wooten, S. (2013) Stress resistance and adaptation of the aquatic invasive species *Tubastrea coccinea* to climate change. Michigan Academy of Science Arts & Letters 2013 conference, Holland, MI USA (Oral presentation)
- Hauff, B.**, Haslun, J.A., Cervino, J.M., Hughen, K., Strychar, K.B. (2012) The effects of cold-water stress on density, diversity and gene expression in Caribbean symbiotic zooxanthellae (*Symbiodinium* sp.). European Congress of Conservation Biology. Glasgow, Scotland UK (Oral Presentation)

- Hauff, B.** (2012) The molecular stress response of symbiotic zooxanthellae to environmental stress. Texas A&M University – Corpus Christi Graduate Student Symposium. Corpus Christi, TX USA (Oral Presentation)
- Hauff, B.** (2011) The molecular stress response of symbiotic zooxanthellae to environmental stress. Texas A&M University Marine Biology Interdisciplinary Program Symposium. College Station, TX USA (Poster)
- Hauff, B.** (2010) Adaptability potential of corals in response to global climate change. Texas A&M University Marine Biology Interdisciplinary Program Symposium. Galveston, TX USA (Poster)
- Cervino, J.M., Gorbunov, M., Hughen, K., Strychar, K., Lawther, P., **Hauff, B.**, Kneeland, J., Furby, K., Richards-Dona, A., Wier, A., Hayes, R.L., Goreau, T.J.. (2010) The thermal and pathogenic effects of *Vibrio* species on tropical reef corals and their *Symbiodinium* clade phylotypes *in situ* and *in vivo*. *Vibrios and the Environment 2010*. Biloxi, Mississippi USA. (Poster)
- Furby, K., K. Hughen, J. Kneeland, J.M. Cervino, **B. Hauff**, (2010) Lipid biomarker signatures of diseased and thermally stressed corals in the Red Sea. Ocean Sciences Meeting 2010. Portland, Oregon (Poster)
- Hauff, B.**, J.M. Cervino, G. DeLeon, J.A. Haslun, N. Krucher, P. Lawther, K. Strychar, J. Kneeland, K. Hughen. (2009) Cell-Cycle dysfunction associated with *Vibrio* Infection and inhibition of Heat Shock Proteins and Apoptosis in coral symbiont CLADE Subtypes A-B-C-D. *Vibrio 2009*. Rio de Janeiro, Brazil (Poster)

PROFESSIONAL SOCIETY MEMBERSHIPS

2022-Present International Coral Reef Society

PROFESSIONAL DEVELOPMENT

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| 2022 | REMOTE: The Connected Faculty Summit |
| 2021 | NSF HSI HUB Workshop – Ethics in Research Experiences and Science Courses |
| 2021 | NSF HIS HUB Workshop – Program Evaluation for Grants |
| 2018 | Strategies for Effective Teaching and Research in Undergraduate STEM Academic Programs Workshop – Trinity University |
| 2018 | Master Naturalist Training Course – Texas A&M Agrilife Extension |
| 2016 | University Teaching Excellence Course – UT Health San Antonio |
| 2016 | Writing Winning NIH Grant Proposals Workshop – UTSA |

CERTIFICATIONS

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| 2018 | Certified Master Naturalist – Texas A&M Agrilife Extension |
| 2015 | SPINNING® Instructor |
| 2015 | PiYo® LIVE Instructor |

LEADERSHIP ROLES AND COMMITTEES

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| 2023-Present | Faculty Affairs Committee, Member Our Lady of the Lake University San Antonio |
| 2022 | Academic Policy Committee, Member Our Lady of the Lake University San Antonio |
| 2021-Present | Environmental Science and Sustainability Program Head, Our Lady of the Lake University San Antonio |
| 2021-Present | Biology Program Head, Our Lady of the Lake University San Antonio |

- 2020-2021 Undergraduate Curriculum Council, Chair **Our Lady of the Lake University San Antonio**
- 2019-Present College of Arts and Sciences Faculty Representative for San Antonio Livestock Exposition Scholarship (SALE), **Our Lady of the Lake University San Antonio**
- 2019-2020 Undergraduate Curriculum Council, Co-Chair **Our Lady of the Lake University San Antonio**
- 2019-Present Academic Advisor to the OLLU Sustainability Club, **Our Lady of the Lake University San Antonio**
- 2019-Present Board Member, **Westside Creeks Community Alliance**
- 2018-Present OLLU Strategic Planning Committee Member – Incorporating Undergraduate Research and Innovative Scholarship Experiences, **Our Lady of the Lake University San Antonio**
- 2017-Present Coordinator of the OLLU Community Garden, **Our Lady of the Lake University San Antonio**
- 2017-Present Honors Program Faculty Member, **Our Lady of the Lake University San Antonio**
- 2017-Present Sigma Zeta Science and Mathematics Honors Society Faculty Member, **Our Lady of the Lake University San Antonio**
- 2018-2017 Undergraduate Curriculum Council Member, **Our Lady of the Lake University San Antonio**
- 2010-2012 Marine Science Graduate Student Organization Member, **Texas A&M University – Corpus Christi**
- 2008-2010 Graduate Member, **Pace University Dyson College Community of Science Omega House**

EDITORIAL REVIEW

- 2022-Present Scientific Reports, *Ad hoc* Reviewer
- 2016-Present Diseases of Aquatic Organisms, *Ad hoc* Reviewer
- 2017-Present Virulence, *Ad hoc* Reviewer

MENTORING

- 2018-Present Harpur Edge Distance Mentor, **Binghamton University**
- 2018-Present Undergraduate academic mentor for ~ 25 biology majors, **Our Lady of the Lake University**
- 2022 Mentor: Undergraduate student – Oscar Rivera, **Our Lady of the Lake University**
- 2022 Mentor: Undergraduate student – Matthew Hernandez, **Our Lady of the Lake University**
- 2021 Mentor: Undergraduate student – Savannah Hernandez, **Our Lady of the Lake University**
- 2020-2021 Mentor: Undergraduate student – Christopher Woodbury, **Our Lady of the Lake University**

- 2019-2021 Mentor: Graduate student – Tyler Harman, **Grand Valley State University**
- 2019-2020 Mentor: Undergraduate student – Victoria Mendez, **Our Lady of the Lake University**
- 2018 Mentor: Undergraduate student – Marissa Gutierrez, **Our Lady of the Lake University**
- 2016-2018 Mentor: Graduate students – Andra Bates (Ph.D.), Chloe Mesa (M.S.), Adriana Serrata (M.S.), Andrew Lai (M.S.), **UT Health San Antonio, School of Medicine**
- 2014-2015 Mentor: Undergraduate student - Ari Grode, **Michigan State University**
- 2011 NSF SURF Program Research Mentor: Undergraduate students – Katie Cryer, Jessica DeBoer, **Texas A&M University Corpus Christi**

SERVICE

- 2017-Present Alamo Area Texas Master Naturalist
- 2018-Present Volunteer, **Cibolo Nature Center**
- 2018 Science Judge, **John Jay High School Science Fair**
- 2018 Science Judge, **Alamo Junior Academy of Science Competition**
- 2017 Science Judge, **Alamo Junior Academy of Science Competition**
- 2016-2017 Volunteer, **Schwartz Farms**
- 2014-2015 Section Coordinator, **Michigan Science Olympiad-Water Quality C**
- 2014 Scribe, **Great Lakes Grand Challenges Meeting**
- 2010-2012 Science Judge, **Sea Grant - National Ocean Science Bowl Competition**
- 2010-2011 Judge, **Sigma Xi and Texas A&M University - Corpus Christi, Tenth Annual Undergraduate Research Symposium**