University Senate Chair Award Nominee Information

Dr. Terri J. Maness
Associate Professor and Environmental Science Program Coordinator
School of Biological Sciences, College of Applied and Natural Sciences

1. List of Courses Taught and Overall Teacher Evaluation (Total students taught in last 5yrs: 1,199; average evaluation score: 3.7)

Quarter	Course (*denotes service-learning course)	Enrollment	Evaluation Score
Spring 2024	BISC 320: Animal Physiology (3hrs)	21	
	ENSC 360C: Louisiana Waterthrush Conservation (3hrs)*	12	
Winter 2023-24	BISC 320: Animal Physiology (3hrs)	91	
	BISC 468: Biostatistics (3hrs)	2	
	BISC 568/MSNT 510/MSNT 657: Graduate Biostatistics (3hrs)	9	
Fall 2023	BISC 320: Animal Physiology (3hrs)	39	3.5
	BISC 493: Animal Behavior (3hrs)	20	3.9
	BISC 493H: Honors Animal Behavior (3hrs)	4	4.0
Spring 2023	BISC 259: Environmental Microbiology (4hrs)	8	4.0
	ENSC 259: Environmental Microbiology (4hrs)	6	4.0
	BISC 320: Animal Physiology (3hrs)	44	3.6
Winter 2022-23	BISC 380: Biology Colloquium (1hr)	22	3.9
	BISC 380H: Honors Biology Colloquium (1hr)	4	4.0
	BISC 580: Graduate Biology Colloquium (0hrs)	7	NA
	BISC 468: Biostatistics (3hrs)	2	NA
	BISC 568/MSNT 510/MSNT 657: Graduate Biostatistics (3hrs)	4	NA
Fall 2022	BISC 320: Animal Physiology (3hrs)	42	3.5
	BISC 493: Animal Behavior (3hrs)	20	4.0
	BISC 493H: Honors Animal Behavior (3hrs)	3	4.0
	BISC 593: Graduate Animal Behavior (3hrs)	6	NA
Summer 2022	BISC 320: Animal Physiology (3hrs)	76	NA
Spring 2022	BISC 320: Animal Physiology (3hrs)	54	3.5
	BISC 255D: Environmental Microbiology (4hrs)	10	4.0
Winter 2021-22	BISC 320: Animal Physiology (3hrs)	52	3.4
	BISC 380: Biology Colloquium (1hr)	21	3.6
	BISC 380H: Honors Biology Colloquium (1hr)	5	4.0
	BISC 580: Graduate Biology Colloquium (0hrs)	8	NA
	BISC 468: Biostatistics (3hrs)	1	NA
	BISC 568/MSNT 510/MSNT 657: Graduate Biostatistics (3hrs)	11	3.5
Fall 2021	BISC 320: Animal Physiology (3hrs)	50	3.6
Summer 2021	BISC 255D: Environmental Microbiology (4hrs)	5	NA
Spring 2021	BISC 320: Animal Physiology (3hrs)	107	3.1
	BISC 509: Biological Sciences Seminar (1hr)	1	NA
Winter 2020-21	BISC 568/MSNT 510/MSNT 657: Graduate Biostatistics (3hrs)	9	4.0
Fall 2020	BISC 320: Animal Physiology (3hrs)	101	3.1
	BISC 493: Animal Behavior (3hrs)	20	4.0
	BISC 593: Graduate Animal Behavior (3hrs)	2	NA
Spring 2020	BISC 320: Animal Physiology (3hrs)	56	3.1
Winter 2019-20	BISC 320: Animal Physiology (3hrs)	51	3.5
	BISC 355A/FOR 420A/CVEN 450A: Bottomland Hardwood Research (1hr)*	19	3.5
	BISC 468: Biostatistics (3hrs)	3	4.0
	BISC 568/MSNT 510/MSNT 657: Graduate Biostatistics (3hrs)	10	NA
Fall 2019	BISC 320: Animal Physiology (3hrs)	52	3.5
	BISC 493: Animal Behavior (3hrs)	19	4.0
	BISC 593: Graduate Animal Behavior (3hrs)	3	NA
Summer 2019	BISC 255D: Environmental Microbiology (4hrs)	8	NA
Spring 2019	BISC 320: Animal Physiology (3hrs)	79	3.6

2. Statement of Beliefs Concerning the Importance of Teaching, Research, and Community/University Service to the Overall Mission of the University

Teaching, research, and community service are the pillars of knowledge dissemination, creation, and societal impact. These three pillars not isolated entities, rather they are intertwined forces that promote an environment of intellectual growth, innovation, and the betterment of society. I am committed to furthering Louisiana Tech's mission and endeavor to foster a vital and influential academic community through my work in these areas.

The heart of Louisiana Tech's mission is teaching. In the past five years I taught 18hrs per academic year on average. This included two service-learning courses where students engaged with professionals in the field to generate real-world data that will be used to conserve species and habitats. I emphasize experimental design and analysis in all my courses. I do not just present facts; I also delve into how we gathered that data. During these discussions, I point out lingering questions and ask students to suggest ways to tackle them. By examining both what we know and what we do not, and brainstorming methods to fill those knowledge gaps, I engage students as active researchers. I believe this nurtures critical thinking and intellectual curiosity. In environmental microbiology, students collect and analyze soil samples for pesticide degrading microbes and their results were used to generate a freely accessible online database that future students and researchers around the world can use. Students in my biostatics courses analyze datasets from my own research projects. I also emphasize oral and written communication in my courses. All my exams contain short answer and essay questions because I believe that students should have ample opportunity to synthesize information and convey that knowledge in written format. Students in my courses are required to give oral presentations or lead discussion of reading assignments. By instilling a passion for lifelong learning, effective teaching equips individuals with the requisite skills for success and cultivates a society enriched by educated minds capable of confronting complex challenges with wisdom and fortitude.

Research is where innovation, discovery, and progress converge. My research has been continually funded by federal grants for the past eight years and will continue for the next four years. My research group currently consists of one graduate student and nine undergraduate researchers, five of whom receive support through grant funding. In the past five years, I have mentored three graduate student and 53 undergraduate researchers. Collectively, they have contributed to two publications, 27 presentations at regional, national, and international scientific meetings, won three presentation awards, and were awarded six grants to support their research and travel to meetings. Most of my student researchers are successful in attaining competitive internships and in gaining placement in graduate programs, medical, dental, and veterinary schools, and directly into careers. I continually look for ways to make my courses and research program accessible to all students. This winter, I became a Certified Inclusive STEM Teaching Project Learning Community Facilitator to deepen my understanding of inclusive practices. My aim with this certification is to share insights and strategies with fellow educators committed to fostering a sense of belonging in their classrooms and research programs.

Service extends the university's intellectual and human resources beyond the confines of academia, reaching out to the broader community to effect positive change and address pressing societal needs. My commitment to service is deep, and examples provided here only capture a portion of my efforts. In my role as Environmental Science Program Coordinator, I have kept our curriculum current, established new courses, created a curriculum map of learning outcomes, and updated our student assessment tools for Institutional Effectiveness Audits. I am on a team working to align Tech's General Education Requirements with guidelines established by the Board of Reagents. I am part of a team that developed a proposal for a new undergraduate certificate program in Environmental Sustainability. The Louis Stokes-Louisiana Alliance for Minority Participation (LS-LAMP) program was established at Tech in 2021. So far, I have mentored four LS-LAMP scholars that produced seven research posters presented at four different meetings. I organize the School of Biological Sciences' Seminar Series by inviting and scheduling our weekly speakers. For my profession, I serve on, and hold leadership positions in, several working groups and organizations. I serve as an editor for three scientific journals and developed and chaired symposia at two different international meetings. I have organized and hosted several workshops and community of practice meetings. These activities have enabled me to offer service-learning opportunities to our students and I was recognized with a US Fish and Wildlife Regional Director's Honor Award for my efforts. This year, I was nominated for Elective Member status in the American Ornithological Society, an honor bestowed for significant contributions to field and/or service to the Society.

As stewards of knowledge and agents of change, universities bear the responsibility of advancing a culture of excellence and integrity that empowers humanity to transcend the confines of ignorance, strife, and inequity. I believe that I contribute to this solemn mission through my dedicated efforts in teaching, research, and service.

3. Selected List of Recent Publications, Grants, Presentations, and Awards *(student co-authors are underlined and italicized)*

Selected peer-reviewed Publications:

- Grace, JK, MA Ottinger, and **TJ Maness**. *In press*. Applications of Conservation Physiology to Wildlife Fitness and Population Health. Frontiers in Ecology and Evolution
- Ottinger, MA, JK Grace, and **TJ Maness**. *In press*. Global Challenges in Aging: Insights from Comparative Biology and One Health. Frontiers in Toxicology
- McCloy, M, RK Andringa, **TJ Maness**, J. Smith, and JK Grace. 2024. Promoting urban ecological resilience through the lens of avian biodiversity. Frontiers in Ecology and Evolution 12: 1302002. https://doi.org/10.3389/fevo.2024.1302002
- **Maness, TJ**, JK Grace, *MR Hirchak*, EM Tompkins, and DJ Anderson. 2023. Circulating corticosterone predicts near-term, while H/L ratio predicts long-term, survival in a long-lived seabird. Frontiers in Ecology and Evolution 11: 2023. https://doi.org/10.3389/fevo.2023.1172904
- Grace, JK, E Duran, MA Ottinger, MS Woodrey, and **TJ Maness**. 2022. Microplastics in the Gulf of Mexico: A bird's eye view. Sustainability 2022, 14, 7849. https://doi.org/10.3390/su14137849
- Elmore, JA, Hager, SB, Cosentino, BJ, O'Connell, TJ, Riding, CS, Anderson, ML, Bakermans, MH, Boves, TJ, Brandes, D, Butler, EM, Butler, MW, Cagle, NL, Calderón-Parra, R, Capparella, AP, Chen, A, Cipollini, K, Conkey, AA, Contreras, TA, Cooper, RI, Corbin, CE, Curry, RL, Dosch, JJ, Dyson, KL, Fraser, EE, Furbush, RA, Hagemeyer, NDG, Hopfensperger, KN, Klem, D, Jr, Lago, EA, Lahey, AS, Machtans, CS, Madosky, JM, **Maness, TJ**, McKay, KJ, Menke, SB, Ocampo-Peñuela, N, Ortega-Álvarez, R, Pitt, AL, Puga-Caballero, A, Quinn, JE, Roth, AM, Schmitz, RT, Schnurr, JL, Simmons, ME, Smith, AD, Varian-Ramos, CW, Walters, EL, Walters, LA, Weir, JT, Winnett-Murray, K, Zuria, I, Vigliotti, J and Loss, SR. 2021. Correlates of bird collisions with buildings across three North American countries. Conservation Biology, 35: 654-665. https://doi.org/10.1111/cobi.13569

Book Chapters:

- Ottinger, MA, **TJ Maness**, JKS Grace, RR Wilson, and PGR Jodice. 2020. Avian Health Assessments. In: Gleason, J.S., Tuttle, P., R.R. Wilson (eds.) Gulf of Mexico Avian Monitoring Network Strategic Avian Monitoring Plan. Mississippi Agricultural and Forestry Experiment Station Research Bulletin 1228, Mississippi State University, Mississippi State, MS. USA.
- Ottinger, MA, JK. Grace, **TJ Maness**, and K Dean. 2019. Avian Sentinels of One Health for the Gulf of Mexico. The Gulf of Mexico Workshop on International Research. New Orleans (LA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 2019-045: 152-160

Symposia:

- Pollack, J, **TJ Maness**, JK Grace, N Simoes, and A Newbold. 2023. Ecosystem health assessments: indicators, approaches, and examples linking science to action. Special Symposium Session for the Gulf of Mexico Conference in Tampa, FL.
- Ottinger, MA, JK Grace, and **TJ Maness.** 2021. Avian Populations under Pressure: Endocrine Indicators of Health. Organized Symposium Session for International Symposium on Avian Endocrinology, Edinburgh, Scotland.

Database:

- Kudrle, W, R Gold, R Griffen, B Iken, **TJ Maness**, G Skuse, J Speshock, and R Iyer. 2024. Soil Sensing Map Database. Tarleton State University. https://eln.esrm-portal.org/

Extramural Grants: (funding total in last 5yrs = $4,452,986.00)

- **Maness, TJ (Principal).** Louisiana Sea Grant, Microplastic ingestion by waterfowl in Louisiana (February 1, 2024 – January 31, 2026) $199,682.00.
- Michael, Nicole (Principal, National Audubon), **TJ Maness**, **(Co-PI, subcontract)**, et al. National Oceanic and Atmospheric Administration, RESTORE Program, Evaluating efficacy of stewardship actions for vulnerable Gulf of Mexico coastal birds through co-production between scientists and resource managers (October 1, 2023 – November 30, 2028) $1,964,542.00
- **Maness, TJ (Co-PI, subcontract)** and Jacquelyn Grace (Co-PI, TAMU). Gulf of Mexico Alliance Wildlife and Fisheries Team Tier II Project. Evaluation of Microplastics and Ecotoxins in Waterfowl (06/01/2023 – 11/01/2024) $89,000.00.

- Michael, Nicole (Principal, National Audubon), **TJ Maness**, **(Co-PI, subcontract)**, et al. National Oceanic and Atmospheric Administration, RESTORE Program. Designing effective stewardship and post-restoration management plans through co-production to protect vulnerable Gulf of Mexico coastal birds (September 1, 2021 – August 31, 2022) $99,758.00.
- Rupa Iyer (Principal, University of Houston), **TJ Maness**, **(Co-PI, subcontract)**, et al. National Science Foundation, Improving Undergraduate STEM Education: From Discovery to Market: Integrating Interdisciplinary Skills through a Collaborative Research based Lab Curriculum (September 1, 2017 – August 31, 2023) $2,100,004.00.

Selected Graduate Student products/presentations:

- *Mason, LaTorya*. 2024. Effect of sex on the accumulation of hepatic mercury in Mallards wintering in Louisiana. MS Thesis in Biology
- *Mitcham, Jacob*. 2023. Identification of Organophosphate Degrading Microorganisms in Northern Louisiana. MS Thesis in MSNT
- *Mitcham, J*, *M Robertson*, *K Theriot*, R Giorno, and **TJ Maness**. (March 2023) "Identification of organophosphate degrading microorganisms in northern Louisiana." Oral Presentation at the Louisiana Academy of Sciences Meeting. Alexandria, LA.
- *Mitcham, J*†, *K Theriot*, R Giorno, and **TJ Maness**. (October 2023) "Identification of organophosphate degrading microorganisms in northern Louisiana." Oral Presentation at the American Society for Microbiology South Central Branch Meeting. Shreveport. †Recipient of the RJ Strawinski Memorial Research Award
- *Ojo, Victor*. 2020. Preliminary microbial screening of Peach Orchard Soil Samples Show Presence of Potential OP-hydrolyzing and OP-tolerant Microorganisms. MS practicum in MSNT

Selected Undergraduate Student products/presentations:

- **Maness, TJ**, JK Grace, *MR Hirchak*, EM Tompkins, and DJ Anderson (February 2024) "Heterophil: Lymphocyte ratios, Glucocorticoids, and Stress in Birds" Gulf of Mexico Conference, Tampa, FL.
- *Stroderd, H, G Lowder, K Redman, S Bollinger, T Carnes, E Curry, A Dollar, E Doyle, A Frazier*, T Jackson, K Morace, N Vaccaro, E Watkins*, and **TJ Maness** (October 2023) "Ingestion of Microplastics by Louisiana Waterfowl." Poster Presentation at the Southeastern Association of Fish and Wildlife Agencies meeting, Corpus Christi, TX.
- *Doyle, E* †, *S Bollinger, G Lowder*, and **TJ Maness**. (April 2023) "Airborne Microplastics in Carson-Taylor Hall, Louisiana Tech University, Ruston, LA." Poster Presentation at the Applied and Natural Sciences Research Symposium, Ruston, LA. †**First Place Undergraduate Poster Award**
- *Fontenot, C,* A Bockus, and **TJ Maness** (March-April 2022) "Pass the salt! Environmental predictors of Brown Shrimp abundance in Louisiana." Poster presentation at Benthic Ecology Meeting, Portsmouth, NH.
- *Fontenot, C,* A Bockus, and **TJ Maness** (August 2021) "Pass the salt! Environmental predictors of Brown Shrimp abundance in Louisiana" Louisiana Professional Biologists Meeting, Oral presentation, Ruston, LA.
- **Maness, TJ**, *M Hirchak*, JK Grace, and DJ Anderson (July 2022) Heterophil:Lymphocyte ratios, Glucocorticoids, and Stress in Birds. Oral presentation at the International Symposium on Avian Endocrinology, Edinburgh, Scotland.
- *Fontenot, C*,* A Bockus, and **TJ Maness.** (May 2021) "Pass the salt! Environmental predictors of Brown Shrimp abundance in Louisiana" Louisiana Chapter of the American Fisheries Society, Virtual poster presentation. Online. ***2nd Place Student Poster Award**
- *Wilburn, PA* and **TJ Maness**. 2020. Liver lead concentration is related to presence of lead shot in waterfowl gizzards. Integrative and Comparative Biology 60: E444-E444. DOI: https://doi.org/10.1093/icb/icaa007.
- *Wilburn P*, and **TJ Maness** (Jan 2020) "Liver lead concentration is related to presence of lead shot in waterfowl gizzards" Society for Integrative & Comparative Biology Annual Meeting. Poster presentation. Austin TX.

Awards:

- James C Jeffrey Endowed Professor of Pre-Medicine, College of Applied and Natural Sciences, Louisiana Tech University, 2023-present
- 2024 Research Award, College of Applied and Natural Sciences
- 2023 Scholarly Activity Award, College of Applied and Natural Sciences
- 2019-2020 USFWS Regional Director's Honor Award for Conservation Partners

4. Selected List of Relevant Community and/or University Service Activities

Service to University and College:

- General Education Committee (2022-present)
- Undergraduate Environmental Sustainability Certificate committee (2022-present)
- Research Mentor for Louis Stokes Louisiana Alliance for Minority Participation (2021-present)
- Faculty Mentor for Delta Alpha Delta Chapter of Beta Beta Beta Biology Honor Society (2021-present)
- Faculty Mentor for Pre-Dental Society (2021-present)
- Udall Scholarship Faculty Representative (2019-present)
- School of Biological Sciences Social Media Committee Chair (2018-present)
- Zumwalt Scholarship Committee Chair (2017-present)
- School of Biological Sciences' Seminar Series Coordinator (2015-present)
- Environmental Science Program Coordinator (2015-present)
- Experiential Education Committee (2015-present)

Service to Profession:

- Vice-Chair of the Gulf of Mexico Avian Monitoring Network (2023-present)
- Guest Editor for Animals special issue "Current Research in Waterfowl" (2023-present)
- Subject Editor (Ecophysiology) for Frontiers in Ecology and Evolution (2022-present)
- Member of the Gulf of Mexico Alliance Wildlife and Fisheries Team (2022-present)
- Member of the Gulf of Mexico Alliance Marine Debris Cross-Team (2022-present)
- Member of the Eastern Meadowlark Recovery Working Group for the American Bird Conservancy (2022-present)
- Member of the Road to Recovery Working Group of Audubon Delta (2022-present)
- Member of the Forest Birds & Ecological Outcomes Working Group of Audubon Delta and the Lower Mississippi Valley Joint Ventures (2021-present)
- Member of the Forest Birds Working Group of the Lower Mississippi Valley Joint Ventures (2021-present)
- Member of the Louisiana Waterthrush Working Group for the Lower Mississippi Valley Joint Ventures (2021-present)
- Associate Editor for the Journal of Field Ornithology (2021-present)
- Co-chair of the Seabird Working Group for the Gulf of Mexico Avian Monitoring Network (2021-present)
- Chair of the Avian Health Working Group for the Gulf of Mexico Avian Monitoring Network (2020-present)
- Reviewer for Student Research Grants for the Animal Behavior Society (2021)
- Organized and hosted a virtual Community of Practice Meeting of the Gulf of Mexico Avian Monitoring Network (October 2021)
- Organized and led Grassland Sparrows Workshops for the Louisiana Ornithological Society (2020 & 2021)
- Student Poster Judge for the Society for Integrative and Comparative Biology Meeting (January 2020)
- Reviewer for National Science Foundation Antarctic Research Grants (2019)
- Invited participant for NSF Office of Integrative Activities 2019 NSF PI/SPO Survey (2019)

Service to the Community:

- Invited Speaker "Microplastics: An Emerging Threat to Human and Wildlife Health" for Rendezvous the statewide meeting of Louisiana Master Naturalists Organization (2024)
- West Gulf Coastal Plain Conservation Delivery Network workshop (2024)
- Louisiana Master Naturalists Northeast Chapter Birds Workshop (2024, 2022, 2019)
- Invited Speaker "Birds of Wafer Creek Ranch" for Open Pine Conservation Partnership Program (2023)
- Organized a field trip to Wafer Creek Ranch in Ruston, LA for Louisiana Department of Wildlife and Fisheries and Arkansas Game and Fish Commission personnel (2023)
- Coordinator for Sigma Xi Research Honor Society Science Café Series (2018-2020)
- "Bird Camp for Kids" at Red River National Wildlife Refuge (2019)
- K-12 teacher Louisiana Environmental Education Commission short course "Using Mobile Devices to Track Biodiversity in the School Yard and Habitat Restoration Areas" (2019)