Nadya R. Mamoozadeh

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EDUCATION

2013 – 2018, **PhD, Marine Science**, Dept. of Fisheries Science, Virginia Institute of Marine Science, College of William & Mary. Sub-concentration in Marine Policy. Advisors: John E. Graves, Jan R. McDowell

2008 – 2010, **MSc, Marine Science**, Dept. of Biology & Marine Biology, University of North Carolina Wilmington. Advisor: D. Wilson Freshwater

2004 – 2008, **BSc, Biology**, Dept. of Biology, Slippery Rock University. Minors in Chemistry and Marine Science.

PROFESSIONAL APPOINTMENTS

01/2023 – Present, **Research Specialist**, Dept. of Integrative Biology, Michigan State University

2018 – 2022, **Postdoctoral Research Associate**, Dept. of Integrative Biology, Michigan State University

2013 – 2018, **Research/Teaching Assistant**, Dept. of Fisheries Science, Virginia Institute of Marine Science

2008 – 2010, **Research/Teaching Assistant**, Dept. of Biology & Marine Biology, University of North Carolina Wilmington

GRANTS AND AWARDS (*Total Awarded: $1,586,942*)

2024, **National Science Foundation**, Innovation Corps. iCatch–Revolutionizing fisheries management through species identification technology. $50,000. (Co-PI)

2024, **Michigan Translational Research and Commercialization Innovation Hub for AgBio**, Starter Award. Revolutionizing fisheries management through species identification technology. $38,000. (Co-PI)

2023 – 2026, **United States Fish and Wildlife Service**. Assessing potential genomic impacts of splake on lake trout and brook trout in Lake Superior. $649,942. (Co-PI)

2021 – 2024, **National Science Foundation**, Convergence Accelerator Track E. Empowering stakeholders from ship to store—Solving fishery management challenges with use-inspired genomic and artificial intelligence tools. $749,000. (Co-PI)

2019, **National Science Foundation**, National Ecological Observatory Network/Ecological Society of America Early Career Scholar. $1,500.

2016 – 2017, **Virginia Institute of Marine Science**, Norfolk Southern Fellowship. $2,000.

2015 – 2017, **National Oceanic and Atmospheric Administration**, Virginia Sea Grant Graduate Fellowship. Improving local management and regional abundance of a highly migratory species. $80,000. (PI)

2015 – 2017, **International Women's Fishing Association**, Student Research Award. $5,000.

2015, **Virginia Institute of Marine Science**, Graduate Student Association Research Award. $1,000.

2014, **Virginia Institute of Marine Science**, Matthew Fontaine Maury Fellowship. $7,500.

2014, **Virginia Institute of Marine Science**, Student Research Grant. $3,000.

PUBLISHED AND SUBMITTED MANUSCRIPTS

Meek, M., **Mamoozadeh, N.**, Glaubitz, J., Hare, M., & Kraft, C. Multi-omic insights show both high climate threat and adaptive potential in a widespread coldwater fish. *In review at Science, available upon request.*

Mamoozadeh, N., Whiteley, A., Letcher, B., Kazyak, D., Tarsa, C., & Meek, M. 2023. A new genomic resource to enable standardized surveys of SNPs across the native range of brook trout (*Salvelinus fontinalis*). *Molecular Ecology Resources.* https://doi.org/10.1111/1755-0998.13853

Mamoozadeh, N., Graves, J., Bealey, R., Schratwieser, J., Holdsworth, J. Ortega-Garcia, S., & McDowell, J. 2023. Genomic data resolve long-standing uncertainty by distinguishing white marlin (*Kajikia albida*) and striped marlin (*K. audax*) as separate species. *ICES Journal of Marine Science,* 80(6): 1802–1813. https://doi.org/10.1093/icesjms/fsad114

Mamoozadeh, N., Goldsworthy, C., Miller, L., Peterson, N., & Meek, M. 2023. Sources of coaster brook trout (*Salvelinus fontinalis*) within Lake Superior revealed by genomic analysis of populations along the Minnesota North Shore. *Journal of Great Lakes Research,* 49: 901–917. https://doi.org/10.1016/j.jglr.2023.06.005

Mamoozadeh, N., Graves, J., & McDowell, J. 2020. Genome-wide SNPs resolve spatiotemporal patterns of connectivity in a broadly distributed and highly migratory large pelagic species, striped marlin (*Kajikia audax*). *Evolutionary Applications*, 13: 677–698. https://doi.org/10.1111/eva.12892

Ålund, M., Emery, N., Jarrett, B., MacLeod, K., McCreery, H., **Mamoozadeh, N.**, … Gering, E. 2020. Academic ecosystems must evolve to support a sustainable postdoc workforce. *Nature Ecology & Evolution*, 4: 777–781. https://doi.org/10.1038/s41559-020-1178-6

Nathan, L., **Mamoozadeh, N.**, Tumas, H., Gunselman, S., Klass, K., Metcalfe, A., Edge, C., Waits, L., Spruell, P., Lowery, E., Connor, E., Bearlin, A., Fortin, M.-J., & Landguth, E. 2019. A spatially-explicit, individual-based demogenetic simulation framework for evaluating hybridization dynamics. *Ecological Modelling*, 401: 40–51. https://doi.org/10.1016/j.ecolmodel.2019.03.002

McDowell, J., **Mamoozadeh, N.**, Brightman, H., & Graves, J. 2018. Use of rapidly evolving molecular markers to distinguish species and clarify range uncertainties in the spearfishes (Istiophoridae, *Tetrapturus*). *Bulletin of Marine Science*, 94: 1355–1378. https://doi.org/10.5343/bms.2017.1130

Mamoozadeh, N., McDowell, J., Rooker, J., & Graves, J. 2017. Genetic evaluation of population structure in white marlin (*Kajikia albida*): The importance of statistical power. *ICES Journal of Marine Science*, 75: 892–902. https://doi.org/10.1093/icesjms/fsx047

Mamoozadeh, N., & Freshwater, D. W. 2012. *Polysiphonia sensu lato* (Ceramiales, Florideophyceae) species of Caribbean Panama including *Polysiphonia lobophoralis* sp. nov. and *Polysiphonia nuda* sp. nov. *Botanica Marina*, 55: 317–347. https://doi.org/10.1515/bot-2012-0147

Mamoozadeh, N., & Freshwater, D. W. 2011. Taxonomic notes on Caribbean *Neosiphonia* and *Polysiphonia* (Ceramiales, Florideophyceae): Five species from Florida, USA and Mexico. *Botanica Marina*, 54: 269–292. https://doi.org/10.1515/bot.2011.036

MANUSCRIPTS IN PREPARATION (*Undergraduate student)

Mamoozadeh, N., Wade, M. J., Reid, B. C., Bardwell, E.*, Collins, E. E., Hugentobler, S. A., Jackson, S., Kline, B. C., Rothkopf, H., Zhang, A.*, & Meek, M. A practical guide to measuring and monitoring effective population size (N_E) for conservation and management. *Invited manuscript prepared for submission to special issue of Evolutionary Applications in March 2024, available upon request.*

Zhang, A.*, **Mamoozadeh, N.**, Adams, C., Quinlan, H., Huckins, C., & Meek, M. Relationships among brook trout (*Salvelinus fontinalis*) in the Pilgrim River revealed by comparing genomic and acoustic telemetry data. *Manuscript prepared for submission to Transactions of the American Fisheries Society in May 2024, available upon request.*

PATENTS HELD

iCatch smart species identification technology, submitted July 2023

MANAGEMENT AGENCY REPORTS AND CONFERENCE PROCEEDINGS

Kazyak, D., White, S., **Mamoozadeh, N.**, & Meek, M. 2023. Conservation genetics and wild trout: Evolving opportunities to support management. *Wild Trout XIII – Reducing the Gap Between Science and Public Opinion*. Wild Trout Symposium. West Yellowstone, MT. September 28-30, 2022.

Meek, M. & **Mamoozadeh, N.** 2022. Population genetic analysis of Lake Superior basin brook trout. Final report to the United States Fish & Wildlife Service. US Fish & Wildlife Service. March 31, 2022.

Meek, M. & **Mamoozadeh, N.** 2021. Genomic analysis of brook trout across the Minnesota extent of the Lake Superior basin. Final report to the Minnesota Department of Natural Resources. June 30, 2021.

Mamoozadeh, N., McDowell, J., & Graves, J. 2018. Genetic population structure of striped marlin (*Kajikia audax*) in the Indian Ocean, with relationship to Pacific Ocean populations. Indian Ocean Tuna Commission 16th Working Party on Billfish. Cape Town, South Africa. September 4-8, 2018.

Mamoozadeh, N., McDowell, J., & Graves, J. 2017. Preliminary results from an assessment of genetic population structure for striped marlin (*Tetrapturus audax*) in the Pacific and Indian oceans. Indian Ocean Tuna Commission 15th Working Party on Billfish. San Sebastián, Spain. September 10-14, 2017.

Mamoozadeh, N., McDowell, J., & Graves, J. 2015. Development of a novel high-throughput assay to evaluate genetic population structure in striped marlin (*Kajikia audax*). Indian Ocean Tuna Commission 13th Working Party on Billfish. Olhão, Portugal. September 1-5, 2015.

TEACHING APPOINTMENTS

2017, **Instructor**, School of Marine Science, College of William & Mary; Course: Biology and Management of Highly Migratory Marine Fishes

2017, **Teaching Assistant**, School of Marine Science, Virginia Institute of Marine Science; Course: Marine Fisheries Science

2011 – 2013, **Full-time Faculty,** College of Arts & Sciences, Johnston Community College; Courses: Principles of Biology, General Biology I, General Biology II, Zoology

2009 – 2010, **Teaching Assistant,** College of Arts & Sciences, University of North Carolina Wilmington; Course: Introductory Biology

MENTORING EXPERIENCE

Graduate Committee Member

2024 – Present, Emily Bardwell, MSc student, Genetic diversity and impacts of hatchery stocking in lake trout

2023 – Present, Isaac Paredes, PhD student, Conservation genomics of threatened *Mobula* rays

2023, Sara Hugentobler, PhD student, Life history and genetic diversity in chinook salmon

Undergraduate Student Mentor

2020 – 2023, Allie Zhang, Research project: Movement and molecular ecology in brook trout, Recipient of Hensley Award at Michigan State University

2010 – 2021, Arianna Troia, Population genomics of native trout and salmon

2019 – 2020, Gregorio Martinez, Domestic stocking across the native range of brook trout

2019, Cole Hazeltine, Training in molecular laboratory techniques

2018 – 2019, Torél Beard, Research project: Genetic and clonal diversity in common milkweed, Recipient of Outstanding Academic Achievement & Promise in Zoology Award at Michigan State University

2017, Samantha Askin, NSF REU student, Population genomics of large pelagic fishes

2017, Andrew Corso, Training in molecular laboratory techniques

2015, Jingwei Song, NSF REU student, Population genomics of large pelagic fishes

Other Mentorship

2020 – Present, Mentor for three mentees in Society for Women in Marine Science

2014, Mentor for one high school student in Summer Residential Governor School program

PRESENTATIONS AT MANAGEMENT AGENCY MEETINGS

Meek, M. & **Mamoozadeh, N.** 2023. New genomic resources and information for brook trout across the Lake Superior basin. Great Lakes Fishery Commission Upper Lakes Committee Meetings. Sault Sainte Marine, Ontario. *Oral presentation.*

Mamoozadeh, N., Goldsworthy, C., Peterson, N., Miller, L., & Meek, M. 2023. Genetic relationships of brook trout along the Minnesota North Shore. Great Lakes Fishery Commission Lake Superior Technical Committee Meeting. Marquette, MI. *Oral presentation.*

Meek, M., **Mamoozadeh, N.**, & Kline, B. 2023. Assessing genomic status and potential threats to lake trout and brook trout recovery in Lake Superior. Great Lakes Fishery Commission Lake Superior Technical Committee Meeting. Marquette, MI. *Oral presentation.*

Mamoozadeh, N., & Meek, M. 2021. Population genetic analysis of Lake Superior basin brook trout. Great Lakes Fishery Commission Lake Superior Technical Committee Meeting. Virtual meeting. *Oral Presentation.*

Mamoozadeh, N., McDowell, J., & Graves, J. 2017. Preliminary results from an assessment of genetic population structure for striped marlin (*Tetrapturus audax*) in the Pacific and Indian oceans. Indian Ocean Tuna Commission 15th Working Party on Billfish. San Sebastian, Spain. *Oral Presentation.*

Mamoozadeh, N., McDowell, J., & Graves, J. 2015. Development of a novel high-throughput assay to evaluate genetic population structure in striped marlin (*Kajikia audax*). Indian Ocean Tuna Commission 13th Working Party on Billfish. Olhão, Portugal. *Oral Presentation.*

PRESENTATIONS AT PROFESSIONAL SOCIETY MEETINGS

Mamoozadeh, N., Barker, A., Cronin, M., Frazier, B., Mahapatra, N., O'Leary, S., … & Meek, M. 2024. Development of iCatch species identification technology for threatened shark and ray species. World Fisheries Congress. Seattle, WA. *Oral presentation.*

Mamoozadeh, N., Mahapatra, N., O'Leary, S., & Meek, M. 2023. iCatch: Integrating genomics and AI to make species identification possible from point-of-capture to marketplace. Seafood and Fisheries Emerging Technologies Conference. Bali, Indonesia. *Oral Presentation.*

Mamoozadeh, N., Quinlan, H., Cooper, A., Infante, D., & Meek, M. 2023. Environmental drivers of genomic diversity in native populations of brook trout. American Fisheries Society National Meeting. Grand Rapids, MI. *Oral presentation.*

Mamoozadeh, N., Quinlan, H., Cooper, A., Infante, D., & Meek, M. 2021. Comparing biodiversity indicators derived from genetic and non-genetic information to support population resiliency in freshwater fishes. American Fisheries Society National Meeting. Baltimore, MD. *Oral presentation.*

Mamoozadeh, N., Whiteley, A., Letcher, B., Kazyak, D., Tarsa, C., & Meek, M. 2019. Conservation genomics at local to continental scales: toward standardized surveys of genome-wide diversity to inform native brook trout conservation. American Fisheries Society National Meeting. Virtual meeting. *Oral presentation.*

Mamoozadeh, N., & Meek, M. 2019. Integrating genomics into brook charr (*Salvelinus fontinalis*) management in the Lake Superior basin. International Association for Great Lakes Research. Brockport, NY. *Oral presentation*.

Mamoozadeh, N., & Meek, M. 2018. Influence of genetics, stocking, and environment on population structure, diversity, and migratory phenotype in Lake Superior basin brook charr (*Salvelinus fontinalis*). 9th International Charr Symposium. Duluth, MN. *Poster presentation*.

Mamoozadeh, N., McDowell, J., & Graves, J. 2017. An assessment of genetic population structure for striped marlin (*Kajikia audax*) in the Pacific and Indian oceans using genome-wide SNPs. Joint Meeting of Ichthyologists and Herpetologists. Austin, TX. *Oral Presentation*.

Mamoozadeh, N., McDowell, J., & Graves, J. 2017. An assessment of genetic population structure for striped marlin (*Kajikia audax*) in the Pacific and Indian oceans using genome-wide SNPs. International Tuna Conference. Lake Arrowhead, CA. *Oral Presentation*.

Mamoozadeh, N., McDowell, J., & Graves, J. 2016. Using genetic tools to resolve population structure in highly migratory fishes: an example from white marlin (*Kajikia albida*). The 6th International Billfish Symposium. Dania Beach, FL. *Oral Presentation.*

Mamoozadeh, N., McDowell, J., & Graves, J. 2015. A species on the move: current understanding of white marlin genetic population structure. International Tuna Conference. Lake Arrowhead, CA. *Oral Presentation*.

Mamoozadeh, N., & Awadallah, N. 2012. Hands-on basic molecular biology. North Carolina Science Teachers Association Professional Development Institute. Greensboro, NC. *Oral Presentation*.

Mamoozadeh, N., & Freshwater, D. W. 2009. An integrated molecular and morphological analysis of the genus *Polysiphonia sensu lato* (Ceramiales, Florideophyceae) in Panama. 31st Annual Southeastern Phycological Colloquy. Valdosta, GA. *Oral Presentation.*

PROFESSIONAL SERVICE

2024 – Present, Panel member, Atlantic Highly Migratory Species Advisory Panel, NOAA National Marine Fisheries Service

2023 – Present, Committee member, DEI Committee, Ecology & Evolutionary Biology Program, Michigan State University

2020, Symposium coordinator, "*Using genomics to explore adaptation and improve management*", American Fisheries Society national meeting

2018 – 2021, Postdoc representative, Dept. of Integrative Biology, Michigan State University

2015 – 2017, President, Graduate Student Association, Virginia Institute of Marine Science

2014, Rapporteur for Billfish Species Group, International Commission for the Conservation of Atlantic Tunas Advisory Committee

Manuscript Reviews: Canadian Journal of Fisheries and Aquatic Sciences, Evolutionary Applications, Fisheries Research, Journal of Fish Biology, Journal of Great Lakes Research, Transactions of the American Fisheries Society

PROFESSIONAL TRAINING

DEI Training

2023, Going Beyond Land Acknowledgements training, Redbud Resource Group

2022, Inclusive Teaching Workshop Series, Michigan State University

2022, Implicit Bias Certificate Series, Michigan State University

2022, Inclusion and Equity in Learning Environments, Center for the Integration of Research, Teaching, and Learning (CIRTL) workshop

2018, Addressing Implicit Bias in STEM, CIRTL workshop

Other Training

2024, National Science Foundation Innovation Corps National Training Program

2023, National Science Foundation Innovation Corps Regional Training Program

2021 – 2022, National Science Foundation Convergence Accelerator innovation curriculum

2020, Advancing Learning Through Evidence-Based STEM Teaching, CIRTL short course

2018, Practicum in Developing Assessments, CIRTL short course

2016, Landscape Genetics Graduate Student Course

2016, University of California Los Angeles/La Kretz Center workshop in conservation genomics

2016, ConGen-2: Applications of next generation sequencing to understand connectivity, adaptation, and environmental influences on genomic variation

PROFESSIONAL AFFILIATIONS

American Fisheries Society
International Association for Great Lakes Research
Society for Women in Marine Science