# Blaise L. Mariner, M.Sc., Ph.D.

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## EDUCATION & EXPERIENCE

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| 2023 – *pres* | Arizona State University, Tempe, AZ<br>Postdoctoral Researcher<br>Advisor: Noah Snyder-Mackler, *Center for Evolution & Medicine* |
| 2018 – 2023 | University of New Mexico, Albuquerque, NM<br>Advisor: Mark A. McCormick, *Dept. of Biochemistry and Molecular Biology*<br>Ph.D., Engineering (graduated with distinction) |
| 2018 – 2020 | University of New Mexico, Albuquerque, NM<br>M.Sc., Biomedical Engineering, conc. in cellular and molecular systems |
| 2013 – 2017 | University of Denver, Denver, CO<br>B.A., Biological Sciences & Mathematics |

## WHO I AM

I am a versatile biostatistician and bioinformatician with specialized training in how genomic data interfaces associates with health and age-related decline. I have expertise in DNA methylation, RNA-seq, and genome-scale analyses across many species—from yeast to dogs to humans. My skills in R, Python, and Bash scripting have allowed to develop scalable pipelines for (e.g.) SLURM computational clusters. I have a proven track record of data-driven publications, and discoveries in molecular biology, engineering, and genomics.
**Selected key deliverables: Postdoc:** I led the epigenomic analyses of ~200,000 CpG regions across ~1,000 dogs, and identified transposable elements as key mediators of accelerated aging in large breeds and in golden retrievers, a breed that is particularly susceptible to cancer. I also built and customized scalable automation procedures from scratch using python dictionaries and logical programming for the OT-2 liquid handler. **PhD**: I quantified the molecular lifespan-extending effects of tRNA synthetase inhibitors in yeast, *C. elegans*, and mice (*in vitro*) using multi-omics and many wet lab procedures.

## SELECTED PUBLICATIONS AND PATENTS

1. **Mariner, B. L.,** McCoy, B., Greenier, A., Brassington, L., Slikas, E., Adjangba, C., Snyder-Mackler, N., and the Dog Aging Project Consortium. Epigenomic Signatures of Lifespan Variation in Dogs: Findings from the Dog Aging Project. *Science. In review.*
2. **Mariner, B. L.**, McCoy, B., Greenier, A., Brassington, L., Slikas, E., Adjangba, C., Snyder-Mackler, N., and the Dog Aging Project Consortium. Transposable elements increase epigenetic accessibility in aging companion dogs. *bioRxiv.*
3. **Mariner, B. L.,** McCormick, M.A. (2024), tRNA synthetase inhibitors can activate proteasomal protein degradation. Provisional Patent, University of New Mexico.
4. **Mariner, B. L.**, Rodriguez, A.S., Heath, O.C., McCormick, M.A. (2024), Induction of proteasomal activity in mammalian cells by lifespan-extending tRNA synthetase inhibitors. *GeroScience*.
5. **Mariner, B. L.**, Felker, D.P., Cantergiani, R.J., Peterson, J., McCormick, M.A. (2023), Multiomics of *GCN4*-dependent replicative lifespan extension models reveals Gcn4 as a regulator of protein turnover in yeast. *International Journal of Molecular Science*.

## SKILLS

**Coding languages** (roughly in order of experience): R, Python, Bash.
**Computational experience**: As a post doc, I have been working primarily in R and Python on SLURM-based clusters with data collected from the Dog Aging Project. I spent my PhD working with a suite of high-throughput sequencing data, e.g. RNA-seq, proteomics, and more. In doing so, I have worked with a range of bash scripting and bioinformatic tools. I collaborate with GitHub (github.com/blaisemariner17).
**Statistical background**: I have developed a strong statistical background necessary for competently analyzing complex genomic datasets. This includes performing many classical statistical tests (odds ratios, t-tests, regression), computationally efficient linear/mixed-effects models, binomial mixed models, dimension reduction techniques (clustering, principle component analysis) and more.
**Other interests**: I'm an avid mountain biker, skier, and a former competitive basketball player.