Cornell CALS
College of Agriculture and Life Sciences
Computational Biology

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To the students and faculty of Deep Springs College, *September 20, 2025*

I am writing to apply for the position of Herbert Reich Chair of Natural Science at Deep Springs College. I am a postdoctoral researcher at the Department of Computational Biology at Cornell University with Andrew Hein. From 2020-2024, I worked under Matthew Samore and Damon Toth as a postdoctoral fellow and research associate affiliated with both University of Utah Health and CDC NCEZID. From 2019-2020 I was a postdoctoral fellow in Systems Neuroscience with Moriel Zelikowsky at the University of Utah. I completed my PhD in Biology in 2019 at the University of Utah under Franz Goller. Prior to graduate school, I was a field biologist at a not-for-profit conservation organization and received a BS in Ecology from the University of Georgia.

I study the ecology and evolution of sociality, which forms the basis for all collective behaviors in living things. While collective behavior can confer strong fitness advantages, the evolutionary processes that cause collective behavior to evolve in one lineage while remaining absent in another are largely unknown. Blending careful observational studies with cutting edge computational methods and experiments, I try to allow extant variation in sociality to illuminate fundamental rules of collective behavior and, in that way, of life generally. I have several major publications in process which will appeal to an interdisciplinary audience, and I maintain strong collaborations across fields.

In addition to research, I am deeply committed to outreach, teaching, and mentoring. As instructor of record for a research-intensive course in systems biology for freshmen, I have shown that my research program is particularly well-suited for undergraduate participation, providing opportunities for students with interests ranging from field ecology to computational and mathematical modeling. I have experience with active and engaged learning methods, as illustrated when I developed and presented 40 hours of lecture content and 40 hours of engaged learning content for an extramurally-funded workshop on modeling for public health practitioners. I have mentored undergrad and graduate students who have gone on to successful careers in science, and I have so far had great success opening doors for young people who come from backgrounds or have experiences which would have historically precluded them from participating in science, and it is important to me to continue that effort.

I have outlined my academic qualifications above, but I would also like to write a bit about my connection with the other two pillars of Deep Springs: Labor and Self-Governance. Out of high school, I spent a semester at Berry College, historically a campus founded on the principle of student labor. Although that focus had diminished substantially by my arrival, incoming freshman worked on campus, and my work – an assistant for a program rehabilitating a rare mountain longleaf pine stand – had a major impact on the trajectory of my life, far more that I can say for any of my coursework that semester. Physical labor reminds us that we are part of something greater than ourselves, and that the ways in which we engage with our social system have consequences. It grounds us in physicality and it also clears the mind - it is no accident that the greatest scientific breakthroughs of the last century cite happened not while at the desk, but while engaged in some physical task. A physicist colleague of mine, trained in another part of the world, has taught me that it is common practice in some areas to include physical labor and activity, sometimes intentionally repetitive, in the daily schedule to allow the subconscious to take over for a while. I have seen this in my own life – while painting a door, hanging sheetrock, crafting a hardwood frame, digging the garden, or overhauling axle bearings, I find refreshing clarity of mind and purpose that is a welcome change from desk work. It is simply brilliant to include physical labor as a

fundamental aspect of education, and I would be proud to be a part of it.

It is difficult to remember that we are all self-governed by nature. Much of society frowns at those who buck a traditional hierarchical model of organization for one that values contributions from all members more equally. The opportunity to learn values of responsibility through real decision-making with real repercussions during an undergraduate education is a true rarity in academic programs nationally. I have witnessed firsthand the way that large universities can overlook valid student concerns, and I have also seen how toxic and damaging power dynamics can play out in student governance when self-governance is a facade, a trend that helps to undermine the validity of student participation. I would be happy to play a role in an organization that engages in true self-governance, and I take seriously that students can lead their own college in the direction that best suits themselves.

Having had extensive interdisciplinary training, my well-rounded understanding of life directs my research and my teaching, leading to conceptual focus that may transcend traditional boundaries of the field. Transcendence of boundaries between not only academic disciplines, but also between life and work and work and education are likely what draws many to Deep Springs. I am hopeful that Deep Springs could be a home for me to pursue a simple and committed life of value. Thank you for considering my application.

Sincerely,

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