

# TAN Mao Tian

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**September 13, 2025**  
**Deep Springs College**

BIG PINE, CALIFORNIA

Dear Members of the Search Committee,

I am writing to apply for the Herbert Reich Chair of Natural Science at Deep Springs College, beginning in August 2026. My academic background in physics, research expertise in quantum information applications to condensed matter physics and quantum field theory, and dedication to student-centered teaching and mentorship make me a strong candidate for this unique role.

As a Singaporean citizen, I am eligible for the H1B1 visa, which offers a streamlined and efficient path to U.S. work authorization. Unlike the standard H1B visa, which involves a competitive lottery system, the H1B1 visa has a dedicated quota that is rarely met and can be obtained more quickly and at a lower cost. This visa is part of the Free Trade Agreement between the United States and Singapore and provides a nearly guaranteed process for eligible candidates with a U.S. job offer.

While my research into quantum information applications in condensed matter physics and quantum field theory has been deeply rewarding, I am equally passionate about teaching and mentoring. My teaching philosophy emphasizes cultivating students' reasoning and curiosity, encouraging them to think critically and independently rather than simply applying formulas. As a teaching assistant at the University of Chicago, I engaged students by posing questions to spark active thinking, and I continue to prioritize inclusivity and adaptability to diverse learning styles. I am eager to bring this approach to Deep Springs, where small, discussion-based classes and close faculty–student collaboration are central to the educational experience.

My research focuses on non-equilibrium phenomena such as quantum chaos and Floquet physics, applying tools from quantum information theory to problems in condensed matter physics. Many of the problems I study—whether analytically or numerically—are accessible to undergraduates with a background in quantum mechanics. I look forward to engaging students directly in research projects that may lead to publishable results, while also supporting them as they explore their academic and professional paths.

I am particularly drawn to Deep Springs' distinctive mission and its three pillars of academics, labor, and self-governance. The integration of rigorous intellectual inquiry with collective responsibility and community life resonates deeply with my own educational values. I am excited by the prospect of working closely with students not only in the classroom and laboratory, but also in shared community

activities, contributing to the College's culture of cooperation and resilience.

Enclosed are my curriculum vitae, research statement and teaching philosophy. I would be happy to provide any additional materials or information upon request. Thank you for your consideration, and I look forward to the possibility of contributing to Deep Springs College's distinctive educational mission.

Sincerely,

**TAN** Mao Tian

