

POSTDOCTORAL RESEARCHER POSITION WITHIN THE QUANTUM BIOLOGY TECH (QuBiT) LAB AT UCLA

OVERVIEW

We are a newly established group at UCLA led by Prof. Clarice D. Aiello. **Our mission is to establish the extent to which quantum mechanics accounts for biologically relevant phenomena, and can be manipulated to technological and therapeutic advantage.**

Experiments suggest that nontrivial quantum mechanical effects involving spin might underlie biologically relevant phenomena as varied as magnetic field detection for animal navigation, metabolic regulation in cells and optimal electron transport in chiral biomolecules. We investigate such phenomena using high-tech tools borrowed from the fields of quantum sensing/computing, device physics, and atomic and molecular (AMO) physics. Current and near-future research directions include:

- Optimal quantum control of spins in biological systems via optically-detected magnetic resonance performed under a single-molecule microscope, and subsequent correlation with microscopic cellular processes;
- Detection and control of spin coherence and polarization in electrons traversing nanoscale chiral potentials (from complex engineered materials to DNA and proteins) using a scanning tunneling microscope with spin-resonance capabilities.

At this time, **we seek postdoctoral candidates with training in AMO, spin or solid-state physics** (including but not restricted to: ultracold atoms, trapped ions, superconducting qubits, NV centers). Nanofabrication skills and experience in developing experimental control software are a plus.

Postdoctoral scholars are expected to conduct research in small teams, and mentor trainees. In particular, accepted candidates will have an invaluable opportunity to help shape our young lab. Formal teaching opportunities and pursuing the nationally recognized [CIRTL certification](#) at UCLA are possibilities. Clarice is invested in working with accepted candidates to develop a plan towards their own career goals.

DIVERSITY AND INCLUSION

We encourage applications from members of underrepresented groups with respect to gender, race and ethnicity, religion, sexual orientation, disability status, age, socioeconomic background, care-taking status, and other axes of diversity.

COMPENSATION

Pay is non-negotiable and at a [NIH+7 level](#), well above-average for a postdoctoral appointment in the United States (scholarships will be topped up to this amount). Postdoctoral contracts are 1-year long, with the possibility of extension upon mutual agreement.

All team members are encouraged and expected to apply for fellowships.

TIMELINE

While flexible, preferred start dates are between September 2021 and March 2022.

The positions will remain open until filled.

APPLICATION

Applicants should send an email to Clarice (cla@ucla.edu):

1. *briefly* detailing their research experience, interests and career plans;
2. with an up-to-date CV as attachment.

ADDITIONAL INFO

We encourage you to follow us on Twitter ([@ClariceDAiello](#), [@QuBiT_UCLA](#)) and LinkedIn ([ClariceDAiello](#), [Quantum Biology Tech \(QuBiT\) Lab @UCLA](#))!
