

# Biochem+Me

## Be a CU Boulder Biochemist

### MY STORY

I grew up in the greater Los Angeles area in a historically underrepresented community, where the expectations were centered on being diligent and working hard – a necessity to make ends meet. During my undergraduate studies, I commuted to Long Beach State University from my family home, which often led me to being on the road around 6am and leaving for home later into the evenings. The combination of long days and familial expectations were mentally and physically challenging for my studies, but I made it! However, when I went to graduate school, I wanted to do things differently; I wanted to focus on creating a healthy lifestyle while being diligent in my studies and scientific endeavors. CU Boulder Biochemistry gave me that opportunity and access to world-class facilities, to people who are curious - collaborative – supportive, to advisors who made time for their students, to a great community, and to a healthy outdoor environment. For more info: [decalvino.com](http://decalvino.com)

### RESEARCH

I have always had an interest in understanding the molecular details and I am excited about drug design and biomolecular tool development. Through my research journey, I have developed an appreciation for the basic sciences – wanting to better understand the molecular details of how a system works - where I can modulate different properties of a particular biomolecular system to learn and explore.

My current research path focuses on investigating how a DNA binding protein, HMGB1, navigates the structure of a nucleosome. As an architectural DNA binding protein, HMGB1 can modulate the local chromatin environment to help facilitate the binding of other transcription factors to their cognate DNA binding sites. Previous biochemical assays have shown that HMGB1 interacts with DNA and parts of the nucleosome; however, it is unclear from this set of literature how HMGB1 utilizes these different modes of interactions to help it search for DNA binding sites in the context of chromatin. Hence, to investigate this phenomenon, my research uses single-molecule microscopy to study the binding kinetics of HMGB1 on nucleosomes. Having a better understanding of how HMGB1 navigates the architecture of a nucleosome will allow us to better understand the mechanisms by which HMGB1 helps transcription factors bind to their cognate DNA sequences.

### MY JOURNEY

Boulder has become my home. I am grateful for the opportunities that have allowed me to put all my energy into my academics and research pursuits, I am grateful for the complete support of my advisors and fellow lab members, and I am incredibly grateful that I have been given opportunities to explore my scientific endeavors by allowing my curiosity to lead the way. Being a full-time graduate student without needing to work multiple jobs to get me through my degree has been vital to my growth and success. Additionally, giving back to the community has been important to me, as I have co-created the CU Biochemistry Peer-to-Peer mentoring program to support the first-year graduate students, spearheaded the in-person recruitment process to support our administration, and trained a myriad of up-and-coming scientists to be confident and efficient in what they do. My experience giving back to the CU Boulder Biochemistry community has been incredibly fulfilling.

Coming from a low socioeconomic background, where many of my peers did not have the opportunities to pursue their academic goals and aspirations due to financial and cultural constraints, I am motivated to give back and support those like me. I am bringing forward ideas, creating opportunities in education for those around me, and encouraging the growth and development of those of I work with. The CU Boulder Biochemistry program has allowed me to grow, and in turn, allowed me to give back to the very community that fostered my success.



**CALVIN  
VOONG**

ROSEMEAD, CA  
UNITED STATES

### Goodrich-Kugel Research Group

**PhD Candidate 2024:  
Biochemistry, Biophysics,  
and Molecular Biology**

**2019: Graduate Teaching Award  
2021: Department Service Award  
2023: Graduate Recruiting Team**

**BS, Molecular Biochemistry  
California State University,  
Long Beach**

*“Success, and joy, is fostering education and opportunity for the underserved in scientific fields by building programs that offer paths into biotech or pharmaceutical development careers. I want this to be part of my life’s journey throughout my career.”*



**Biochemistry**

UNIVERSITY OF COLORADO **BOULDER**

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