


JORGE GUERRA

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EDUCATION

Harvard University <i>Graduate Student in Biophysics PhD Program</i>	08 2024 – Present <i>Cambridge, USA</i>
Harvard College <i>A.B. in Chemical and Physical Biology and Minor in Statistics - GPA - 3.85</i>	08 2020 – 05 2024 <i>Cambridge, USA</i>
Sharyland High School <i>Rank 4/400 - GPA - 4.0</i>	08 2016 – 06 2020 <i>McAllen, USA</i>

EXPERIENCE

Lab Rotations <u>First-year Biophysics PhD student</u>	08 2024 - Present
<ul style="list-style-type: none">• Built a prototype of a 3D “crystal packer” for designing protein crystals <i>in silico</i> (Hekstra lab)• Used cryo-EM to resolve the structures of transcriptional regulators on chromatin (Farnung lab).• Generated a nanobody library using error-prone PCR to affinity mature a nanobody agonist against a GPCR (Kruse lab).	

Gaudet Lab Researcher <u>PRISE and HCRP Fellow</u>	06 2021 - May 2024
<ul style="list-style-type: none">• Purified two <i>Eggerthella lenta</i> NRAMP-like membrane proteins• Prepared lipidic cubic phase protein crystallization trials and obtained diffraction data from protein crystals through X-ray crystallography• Conducted liposome transport assays to examine ion transport and metal binding selectivity• Introduced metal binding site mutations via QuikChange PCR to investigate their effects on ion transport and metal binding selectivity• Presented work in group meetings and at Harvard’s structural biology retreat	

Discovery Biologics and Rosetta Intern <u>Merck & Co. Inc.-Boston</u>	06 2023 - 08 2023
<ul style="list-style-type: none">• Used PyRosetta, ProteinMPNN, and RFdiffusion to redesign and stabilize the core of the extracellular domain of a TGF-β type-I receptor to prevent disulfide scrambling• Wrote python scripts to analyze and rank sequences that were selected as candidates for expression and purification• Wrote a research proposal and presented findings to the department, Rosetta labs at RosettaCON, and Harvard’s MCB labs	

Welch Summer Scholar at UT Austin <u>Lee Lab Member</u>	06 2019 - 07 2019
<ul style="list-style-type: none">• Synthesized a DNA lesion by modifying the alcohol groups of N-Phenyldiethanolamine• Performed DNA melting temperature assays to investigate the effects of nitrogen mustard guanine lesions on the stability of DNA• Presented my research to an audience of students, faculty, and parents	

AWARDS AND FELLOWSHIPS

- Marci and Martin Karplus Family Foundation Biophysics Prize Fellowship
- Lawrence J. Henderson Prize
- Rosetta REU Internship
- Harvard Herschel Smith Undergraduate Research Fellowship (Awarded, Not Accepted)
- Harvard Program for Research in Science and Engineering (PRISE) Fellowship
- Harvard College Research Program (HCRP) Fellowship