




## SPENCER GUO

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<b>EDUCATION</b>	<b>The University of Chicago</b> , Chicago, IL Ph.D in Chemistry 9/2020 – present  ADVISORS: Prof. Aaron Dinner and Prof. Benoît Roux ACADEMIC INTERESTS: Theoretical and computational chemistry/biophysics, protein dynamics, mechanism of voltage-sensitive phosphatase	
	<b>Stanford University</b> , Stanford, CA B.S. in Biological Chemistry, minor in Computer Science 9/2016 – 6/2020 GPA: 3.949  RELEVANT COURSEWORK: Organic Chemistry, Physical Chemistry, Biochemistry, ODEs, PDEs, Computer Systems, Artificial Intelligence, Probability, Quantum Mechanics, Classical Mechanics, Statistical Mechanics	
	<b>Markland Lab</b> Stanford University Simulated of IR spectra of bulk water using DFTB (density functional tight binding) Benchmarked DFTB calculations against results from DFT Investigated a neural network method to calculate molecular dipoles Undergraduate Research Assistant 9/2018 – 6/2020	
<b>EXPERIENCE</b>	<b>Schrödinger</b> New York, NY Developed tool to identify critical residue/ligand interactions for drug development Extended multiple sequence viewer (MSV) to analyze similarity at binding sites Added ability to quickly visualize protein domains in MSV Python Development Intern 6/2019 – 9/2019	
	<b>Genentech</b> South San Francisco, CA Synthesized novel peptide library for cellular assays (~20 compounds) Analyzed protein crystal structures to direct rational macrocycle design Analyzed instrumental purity and spectral data (LC-MS, HPLC, NMR) Protein Engineering Intern 6/2018 – 9/2018	
	<b>Chen Lab</b> Stanford University Developed novel near-IR activated caged morpholinos (cMOs) Designed and executed synthesis of cyanine dye-based probe Presented work at Developmental Biology seminar Undergraduate Research Assistant 2/2017 – 6/2018	
	<b>Department of Chemistry</b> University of Chicago Led weekly recitation sections, held office hours, and graded assignments for 3-quarter general chemistry sequence Teaching Assistant 9/2020 – 6/2021	
<b>OTHER ACTIVITIES</b>	<b>Vice Provost for Teaching and Learning</b> Tutored general chemistry, organic chemistry, and biochemistry classes Chemistry Tutor 9/2018 – 6/2020	
	<b>Stanford Collaborative Orchestra</b> Stanford University Organized over 25 rehearsals and 3 concerts with more than 100 attendees Increased membership by 20% through coordinated recruitment efforts Promoted collaborative musical environment Co-Producer 6/2017 – 6/2018	

<b>AWARDS</b>	<b>NSF Graduate Research Fellowship</b>	2020 – 2024
	<b>Eckhardt Fellowship</b>	2020 – 2025
	Physical Sciences Division, The University of Chicago <b>Stanford Department of Developmental Biology Grant</b>	2017
	Provided through the Vice Provost of Undergraduate Education (\$7000). For development of a cyanine dye-based caged morpholino	
<b>POSTERS</b>	<b>Unsupervised Learning on scRNA-seq Data</b>	12/2019
	Final project for CS 221 (Artificial Intelligence). Analyzed single-cell RNA-sequencing data from zebrafish development to identify and reconstruct developmental states, trajectories, and cell types. Employed unsupervised learning methods including non-negative matrix factorization and latent Dirichlet allocation. Report available <a href="#">here</a> .	
	<b>Development of photoactivable morpholinos with greater dynamic and spectral range</b>	8/2017
	Sankha Pattanayak, Spencer C Guo, Sayumi Yamazoe, James K Chen. Presented at 2nd Northern California Fish Research Symposium.	
<b>SKILLS</b>	PROGRAMMING: Python (NumPy/SciPy), Unix/Bash, C/C++, MATLAB, Java, L <sup>A</sup> T <sub>E</sub> X <sup>X</sup> SOFTWARE: GROMACS, PyMOL, VMD, CP2K, DFTB+, Git LANGUAGE: Spanish (proficient), French (proficient), Chinese (conversational)	
<b>INTERESTS</b>	Cooking, classical music, piano, violin	
	Last updated May 18, 2021.	