

## SPENCER GUO

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<b>EDUCATION</b>	<b>University of Chicago</b> , Chicago, IL Ph.D, Chemistry, Theory and Computation	9/2020 –
	<b>Stanford University</b> , Stanford, CA B.S., Biological Chemistry, minor in Computer Science RELEVANT COURSEWORK: Organic Chemistry, Physical Chemistry, Biochemistry, Vector Calculus, ODEs, PDEs, Computer Systems, Artificial Intelligence, Probabil- ity, Quantum Mechanics, Classical Mechanics	9/2016 – 6/2020 GPA: 3.949
<b>EXPERIENCE</b>	<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 (density functional theory)	Undergraduate Research 9/2018 – present
	<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 tricyclic caged morpholinos (cMOs) Designed and executed synthesis of cyanine dye-based probe Presented undergraduate research at Developmental Biology seminar	Undergraduate Research 2/2017 – 6/2018
<b>OTHER ACTIVITIES</b>	<b>Vice Provost for Teaching and Learning</b> Tutored for general chemistry, organic chemistry, and biochemistry classes	Chemistry Tutor 9/2018 – present
	<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>Stanford Health Advocacy and Research in the ED</b> Screened >100 urgent care patients for risky alcohol behaviors Managed legal, housing, immigration needs for >50 at-risk patients	Volunteer 1/2017 – 6/2018
<b>PROJECTS</b>	<b>Unsupervised Learning on scRNA-seq Data</b> Analyzed single-cell RNA-sequencing data from zebrafish development to identify and reconstruct developmental states, trajectories, and cell types using artificial intelligence techniques including non-negative matrix factorization and latent Dirichlet allocation	9/2019

<b>POSTERS</b>	<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>AWARDS</b>	<b>NSF Graduate Research Fellowship</b> 2020 – 2023 <b>University of Chicago Eckhardt Fellowship</b> 2020 – 2025 <b>Stanford VPUE, Department of Developmental Biology</b> , \$7000 for research on zebrafish development using a cyanine dye-based caged morpholino 2017
<b>SKILLS</b>	PROGRAMMING: Python, NumPy, Unix/Bash, C/C++, MATLAB, Java LANGUAGE: Spanish (proficient), French (proficient), Chinese (conversational)
<b>ACADEMIC INTERESTS</b>	Theory and simulation of chemical and biological systems using techniques from quantum and statistical mechanics
<b>INTERESTS</b>	Cooking, classical music, piano, violin (member of Stanford Collaborative Orchestra and Stanford Symphony Orchestra)

Last updated April 21, 2020.