# Amy Wang

443 Via Ortega Rm 064B Stanford CA 94305
**Email:** amywang1@stanford.edu GitHub: amywang8 **Cell:** (917) 291-9297

## EDUCATION

**Stanford University (Stanford, CA)** *September 2018-Present*
PhD Candidate in Chemical Engineering

**Massachusetts Institute of Technology (Cambridge, MA)** *June 2018*
Bachelor of Science in Chemical Engineering, Minor in Polymers and Soft Matter

## HONORS AND AWARDS

2018 Stanford Graduate Fellowship in Science & Engineering
2018 NSF Graduate Research Fellowship
2018 ChemH Chemistry/Biology Interface Travel Award
2017 Tau Beta Pi Honors Society
2016 MIT Chemical Engineering Departmental BP Academic Achievement Award

## PUBLICATIONS

1. S Bose, LR Volpatti, D Thiono, V Yesilyurt, C McGladrigan, Y Tang, A Facklam, **A Wang**, S Jhunjhunwala, O Veiseh, J Hollister-Lock, C Bhattacharya, GC Weir, DL Greiner, R Langer, DG Anderson, *Nat. Biomed. Eng*. **2020** [Link]
2. TA Chew, BJ Orlando, J Zhang, NR Latorraca, **A Wang**, SA Hollingsworth, DH Chen, RO Dror, M Liao and L Feng Structure and mechanism of the cation–chloride cotransporter NKCC1. Nature **2019** 572:488–492. [Link]
3. A Huang, JM Paloni, **A Wang**, AC Obermeyer, HV Sureka, H Yao, BD Olsen. Predicting Protein–Polymer Block Copolymer Self-Assembly from Protein Properties. *Biomacromolecules* **2019**, 20, 10, 3713-3723 [Link]
4. S Chopra, N Bertrand, J Lim, **A Wang**, O Farokhzad, and R Karnik "Design of Insulin-Loaded Nanoparticles Enabled by Multistep Control of Nanoprecipitation and Zinc Chelation." ACS Applied Materials & Interfaces **2017** *9* (13), 11440-11450 [Link]

## RESEARCH EXPERIENCE

**Stanford Department of Chemical Engineering & Department of Structural Biology** *April 2019-Present*
Graduate Student Researcher | Advisors: Profs. Alexander Dunn and William Weis
- Characterize force-sensitive cell junction binding interactions with optical trap assay
- Developed Monte Carlo simulations to physically interpret experimental observations
- Built single-channel epi-fluorescence microscope
- Wrote scripts towards automating optical trap assay workflow and characterizing instrument response

**Stanford Department of Computer Science** *January 2019-April 2019*
Graduate Rotation Student | Advisor: Prof. Ron Dror
- Simulated membrane ion transporter with molecular dynamics to determine ion binding and release mechanism
- Determined mechanism of transport inhibition from protein-drug interactions

**MIT Department of Chemical Engineering** *February 2016-May 2018*
Undergraduate Researcher | Advisor: Prof. Bradley Olsen
- Synthesized and bioconjugated protein-polymer structures for block copolymer self-assembly SAXS studies
- Quantified and compared enzyme kinetics of native vs bioconjugated proteins

**Koch Institute of Integrative Cancer Research (Cambridge, MA)**
Undergraduate Researcher | Advisors: Profs. Robert Langer and Rohit Karnik
*September 2014-January 2016*
- Synthesized and characterized insulin nanoparticles to investigate effect of buffer conditions on size and stability
- Mentored an undergraduate researcher in biological laboratory techniques

Advisors: Prof. Robert Langer and Prof. Daniel G. Anderson *June 2015-November 2015*

- Optimized functionality of microfluidic chip devices for drug delivery
- Quantified protein concentration (i.e., insulin, EPO, VEGF) released from mouse in-vivo studies
- Conducted in-vitro glucose-stimulated insulin response studies

## TEACHING EXPERIENCE

**STANFORD UNIVERSITY DEPARTMENT OF CHEMICAL ENGINEERING**

Teaching Assistant | **Chemical Kinetics and Reaction Engineering (ChemEng320)** *March-June 2020*

- Held office hours and graded assignments
- Assisted students with COVID-19 models for final projects

**MIT DEPARTMENT OF CHEMICAL ENGINEERING, Undergraduate Tutor** *February 2017-June 2018*

- Provided problem solving guidance for core chemical engineering subjects

## LEADERSHIP AND OUTREACH

**EAST PALO ALTO TENNIS AND TUTORING** *September 2019-Present*

• Tutored students weekly on high school freshman coursework

**BAY AREA GRADUATE PATHWAYS TO STEM**

**Peer Advisor** *October 2018-Present*

• Advised undergraduates through the graduate admissions process and led a personal statement writing workshop

**STANFORD FUTURE ADVANCERS OF SCIENCE AND TECHNOLOGY**

**Student Mentor** *September 2018-June 2019*

• Mentor high school students in brainstorming science projects and carrying out experiments
• Advised underrepresented students on the college application process

**MIT AMERICAN INSTITUTE OF CHEMICAL ENGINEERS (AIChE)**

**Vice President, External Relations, Executive Committee** *May 2016-June 2018*

- Oversee networking events and seminar series and host joint events with recruiting companies
- Mentor and serve as liaison for new AIChE chapter – University College London (UCL)

**Corporate Relations Chair** *May 2015-May 2016*

- Coordinated eight events and seminar series and hosted joint events with recruiting companies
- Initiated first Spring mini-career fair for ten research-based chemical and biotechnology startups

**OFFICE OF UNDERGRADUATE ADVISING AND ACADEMIC PROGRAMMING**

**Head Associate Advisor MacGregor House, Steering Committee** *September 2015-June 2017*

- Led twenty associate advisors within the dorm to provide in-house academic support
- Organized faculty engagement opportunities and connected freshmen with research opportunities
- Hosted twelve tutoring, health and wellness, and resume-building workshops

**Associate Advisor** *September 2015-June 2018*

- Facilitate student-advisor relationships for first year students
- Advise group of advisees in class selection, research opportunities, outreach initiatives, and tutoring programs

## PROGRAMMING LANGUAGES AND SIMULATION

Python, Unix, Matlab, COMSOL Multiphysics, VMD, ASPEN HYSYS, PRO/II, familiar with BASH
Relevant Coursework: Machine Learning CS229 (Spr 2020), Convolutional Neural Networks for Visual Recognition CS231n (Spr 2020)