

Kefan Song

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EDUCATION

University of Washington

Ph.D. Candidate, Department of Bioengineering:
Advisor: Dr. Suzie H. Pun

Seattle, Washington
Anticipated June 2025

Rice University

Bachelor of Science in Bioengineering:

- **Honors:** Graduated *magna cum laude*
President's Honor Roll, 2016-2019
Louis J. Walsh Scholarship in Engineering, 2018-2020

Houston, Texas
May 2020

PROFESSIONAL EXPERIENCE

Pun Laboratory

Graduate Research Assistant | Advisor: Dr. Suzie H. Pun

Seattle, Washington
October 2020 - present

- Developing polymer-based peptide antigen carriers targeting dendritic cells for cancer immunotherapy
- Evaluating the efficacy of polymer-peptide conjugates that induce immunogenic cell death

AHA Summer Cardiovascular Research Internship Program (SCRIP)

IBB Summer Intern | Advisor: Dr. Junghae Suh

Houston, Texas
May 2019 - August 2019

- Developed a lectin competition binding assay to demonstrate that virus binding accounts for the switchable behavior of the protease-activatable adeno-associated virus (AAV) vectors
- Characterized mosaic variants of protease-activatable AAV vectors *in vitro*

Synthetic Virology Laboratory

Undergraduate Researcher | Advisor: Dr. Junghae Suh

Houston, Texas
January 2018 - December 2019

- Cloned and generated variants of protease-activatable AAV vectors and characterized constructs *in vitro* and *in vivo*, testing their transduction activatability, capsid stability, transgene expression, blood circulation and neutralizing antibody functionality
- Designed protein linkage strategy for more control over virus capsid composition

Cellular Systems Dynamics Lab

Undergraduate Researcher | Advisor: Dr. Oleg Igoshin

Houston, Texas
February 2017 - April 2017

- Used MATLAB to quantitatively measure pre-sporulation bacterial cells from microscopy data

PEER REVIEWED PUBLICATIONS

1. Lv, S., Sylvestre, M., **Song, K.**, and Pun, S. H. (2021). Development of D-melittin polymeric nanoparticles for anti-cancer treatment. *Biomaterials*, 277, 121076. Advance online publication.
2. Brun, M. J., **Song, K.**, Kang, B., Lueck, C., Chen, W., Thatcher, K., Gao, E., Koch, W. J., Lincoln, J., Rajan, S., and Suh, J. (2020). Constructing and evaluating caspase-activatable adeno-associated virus vector for gene delivery to the injured heart. *Journal of controlled release*, 328: 834-845.

POSTER PRESENTATIONS

1. K. Song (presenter), M.J. Brun, J. Suh. "Production and Characterization of Dual-Protease Activated Virus", Poster Presentation, Rice University 2018: Houston, TX
2. K. Song (presenter), M.J. Brun, J. Suh. "Caspase-Activatable Adeno-Associated Virus for Targeted Gene Delivery *in vivo*", Rice Undergraduate Research Symposium (RURS) 2019: Houston, TX

3. K. Song (presenter), M.J. Brun, J. Suh. “Caspase-Activatable Adeno-Associated Virus for Targeted Gene Delivery”, IBB Poster Symposium 2019: Houston, TX

ACTIVITIES

McMurtry College

Academic Fellow

Houston, Texas

April 2018 – April 2019

- Held office hours and provided academic assistance on a regular basis
- Organized group study sessions and shared study skills with peers

Tau Beta Pi at Rice

Secretary

Houston, Texas

May 2019 – May 2020

- Conducted the induction ceremony and facilitated officer changeover

SKILLS

Computer Applications: MATLAB, Python, Pymol, LaTeX, LabVIEW, AutoCAD, Benchling

Languages: Mandarin, English, basic Spanish, basic Japanese

Laboratory: cell culture, cloning, qPCR, protein engineering, silver stain, flow cytometry, animal techniques (tumor inoculation, immunization, tissue processing)