

# Sydney L. Funk

Sfunk3@uw.edu

## EDUCATION

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**University of Washington** – Seattle, WA

Sep. 2022 – expected Jan. 2017

Doctor of Philosophy candidate, Bioengineering

Advisor: Dr. Suzie H. Pun, Dr. Neil King

**Kansas State University** – Manhattan, Kansas

May 2020

Bachelor of Science in Biological Systems Engineering

GPA: 3.96 / 4.00 *Summa cum Laude*

## RESEARCH EXPERIENCE

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**University of Washington Department of Bioengineering - Seattle, WA**

Sep. 2022 - present

*Graduate Research Associate*

- Designing and testing engineered proteins for stabilization of DNA aptamers with the goal of improving in vivo applications of aptamer-based drug targeting.
- Computational design of membrane fusion proteins for drug delivery applications.
- Using computational protein design methods to stabilize and optimize expression of key Group A *Streptococcus* antigens to allow for optimized protein subunit vaccines against Group A Strep.

**Kansas State University Bioprocess/Bioseparations Laboratory** – Manhattan, Kansas

Jan. 2018 – May 2020

*Undergraduate Research Associate*

- Worked to develop systematic approach for evaluating complex interactions between recombinant proteins, cellular impurities, and purification media for optimization of protein purifications.
- Examined the impact of phytic acid on the purification of recombinant proteins from rice.
- Developed a purification method to optimize selective precipitation of recombinant protein with phytic acid-induced precipitation.

**Presentations:** Cantrell, Sydney. “*Phytic Acid: Friend or Foe in Bioprocessing of Recombinant Proteins?*” ASABE 2020 Annual International Meeting – Processing Systems – Biochemical Conversions and Bioprocess Modeling, ASABE, July 13, 2020.

## PROFESSIONAL HISTORY

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**Engineering Project Manager**

June 2020 – June 2022

*Pfizer Global Supply – McPherson, Kansas*

- Site SME responsible for design and implementation of manufacturing equipment and processes for manufacturing of SARS-CoV-2 vaccine ready to use formulation.
- Designed test methods, validation protocols, and functional specification of complex pharmaceutical manufacturing equipment.
- Responsible for engineering project development, capital budget, and schedule for engineering capital projects valuing \$150k to \$5M.
- Planned and managed construction activities performed in aseptic manufacturing environments.

**Process Development Intern**

May 2019 – Aug. 2019

*Ventria Bioscience – Junction City, Kansas*

- Performed analytical development of ProteinSimple™ and liquid chromatography protein quantification methods.
- Defined the limitations and optimized procedures for analytical protein qualification methods.

**Technical Service Intern**

May 2018 – Aug. 2018

*Pfizer Global Supply – McPherson, Kansas*

- Wrote product stability reports define the effects of high voltage automated vial leak detection on accelerated product degradation.

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## **AWARDS / ACHIEVEMENTS**

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Engineering in Leadership and Innovation (ELI) Certificate	May 2018 – May 2020
Steel Ring Engineering Honors Society	May 2019 – May 2020
Raj and Diana Nathan Undergraduate Research Experience Award	May 2019

## **COMMUNITY INVOLVEMENT**

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BMES Annual Meeting UW Planning Committee – Graduate Student Chair	Sep. 2022 – present
Society of Women in Engineering Undergraduate Mentor	Sep. 2022 – present
Pfizer Global Supply Innovation Council	Jan. 2021 – June 2022