

# Shannon DePratter

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## EDUCATION

University of South Carolina

M.S. Biomedical Engineering

B.S. Biomedical Engineering | South Carolina Honors College

Minor: Neuroscience / Distinction: Graduation with Leadership Distinction – Research Concentration

Select Awards & Scholarships (103K): Goldwater Scholar, Provost Scholar, Palmetto Fellows, 2023 EY USC Case Competition (1<sup>st</sup>)

Select Grants & Fellowships (25K): NSF EAGER REU, NASA SC MIST Space Grant, McNair Junior Fellow, SCHC Research Grant (2)

Columbia, SC

Aug 2024 – May 2025

Aug 2021 – May 2024

4.0/4.0 GPA

## PROFESSIONAL EXPERIENCE

Nephron Pharmaceuticals | *Product Development Engineering Intern* | Columbia, SC

Jan 2024 – Present

- Improve the efficacy and quality of the Budesonide manufacturing process with data records and team interviews.
- Collaborate with cross-functional teams to identify and implement innovative solutions in all pharmaceutical production.

Moss Lab: Traumatic Brain Injury & Alzheimer's Disease | *Researcher* – USC | Columbia, SC

Oct 2021 – Present

- Perform detail-oriented independent experiments to analyze and investigate cytokine effects on amyloid-b aggregation.
- Utilize and teach graduate students (MS and PhD) biophysical techniques to characterize proteins and aggregates, including size exclusion chromatography, ultraviolet spectrometry, and fluorescence spectroscopy.
- Collect and analyze pro-inflammatory supernatant through splitting, feeding, differentiating, seeding, and treating cells.

Hess Lab: Nanobiotechnology | *Researcher* – Columbia University | New York, NY

Jun 2023 – Aug 2023

- Identified microtubule repair rates and mechanisms via motility assays and fluorescence microscopy.
- Developed and implemented a highly effective Monte Carlo algorithm, simulating stochastic chemical kinetics for *in vitro* gliding microtubules propelled by immobilized kinesin motor proteins.
- Analyzed single molecule kinetics for biotinylated DNA using interferometry and epifluorescence microscopy.

Starbucks | *Barista* | Columbia, SC

Jan 2023 – Dec 2023

- Demonstrated strong skills in customer service, communication, and efficiency while completing 30+ transactions per hour.
- Quickly addressed customer needs, resolved inquiries, and de-escalated challenging situations.

Student Success Center | *Peer Tutor* | Columbia, SC

Aug 2022 – Dec 2022

- Provided ample knowledge for understanding in a multitude of subjects, including 13 science and math courses.
- Advanced students' communication, collaboration, and problem-solving abilities using CRLA certification skills.

South Carolina Polymer Group | *Data Analyst Intern* | Cowpens, SC

Jun 2022 – Aug 2022

- Managed and organized data into company's database using GDP and conducted quality assurance on batch records.
- Performed administrative and clerical tasks, utilizing multitasking and strong communication skills.

## LEADERSHIP EXPERIENCE

National Fellowships and Scholar Program | Columbia, SC

May 2023 – Present

*Fellowships Ambassador* – Advise 5 students per semester for success in submitting and receiving national fellowships.

*Communications Committee* – Develop 7 content posts and 2 engagement campaigns for social media and the semesterly podcast.

*Student Engagement Committee* – Effectively planned and led 2 student engagement events (~150 students total).

Theta Tau Professional Engineering Fraternity | Columbia, SC

Dec 2022 – Present

*President* – Lead, manage, & communicate with an 80+ member organization, including events, activities, new members & initiation.

*PNM Mentor* – Recruited & mentored 23 members by fostering an inclusive, collaborative, and inspiring environment.

*DEI Chair* – Created this position to plan diverse and inclusive events in collaboration with professionals and other organizations.

Biomedical Engineering Society | Columbia, SC

Aug 2021 – Present

*Vice President* – Assisted with presentations and professional development opportunities for biweekly meetings of 40+ members.

Tau Beta Pi | Columbia, SC

Aug 2021 – Present

*Corresponding Secretary* – Increased membership by 20% through outreach/events & communicated with other chapters to network.

*Tutor* – Enabled subject comprehension and study strategies for a variety of science and math courses for fellow members.

## SKILLS & CERTIFICATIONS

**Select Laboratory Skills:** Cell Culture for THP-1 Monocytes & HBMVECs | Size Exclusion Chromatography | Fluorescence | UV-Vis Spectrophotometry | Monomer Assay | Motility Assay | Epifluorescence Microscopy | Single Molecule Fluorescence | Interferometry

**Laboratory Certificates:** Hazardous Waste | Chemical and Laboratory Safety | Biosafety Level 2 | Bloodborne Pathogens | CITI Responsible Conduct of Research for Engineers

**Computer Skills:** *Advanced* - MS Office Suite | Google Drive | GraphPad | Python | Creo CAD | LabView | Wix

*Familiar* - ImageJ | R | Picasso | MATLAB | HTML | Java | Tinker CAD | ArcGIS | Vernier