



# Research at the Jewell Research Lab

**Nishedhya Venkataraman**  
College Park Scholars – Science & Global Change Program  
BioEngineering  
nvenkata@umd.edu  
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## Introduction:

For my Scholars Practicum project, I worked in the Jewell Bioengineering Lab as an Undergraduate researcher. My project was focused on crosslinked Polyelectrolyte Multilayers for drug cargo.

I worked with my graduate student mentor Michelle Bookstaver and had the privilege to be further guided by Dr. Christopher Jewell.

## Key life lessons!

- Research requires a lot of patience- Michelle and I hit project stand stills at times
  - How did we get through this? By meticulously trouble shooting!
- Reading papers on past experiments help!
  - I found that reading other publications relevant to my project helped me formulate experiments for my own project
- Practicing presentations helped develop the cohesion of my presentation
- I had to meticulously plan experiments and schedule them with my heavy class schedule, so this helped develop time management skills in college

## Technical skills learned:

- Synthesis and characterization of PEMs
- Crosslinking mechanisms
- Navigating Fluorescence Microscopy
- MicroBCA techniques and applications

## Future Work:

- Finishing this project post Quarantine!

## Career Takeaways!

- I really enjoyed conducting research and would like to continue expanding my research skills
- This project inspires me to possibly pursue a PhD in Bioengineering research, or attend an MD/PhD school
- Cancer therapy is a field of research that I am particularly interested in, along with Immunology as well



**Image of my lab and I taken during Jewell Lab Photo shoot!**

## Activities:

- Weekly lab meetings with my entire lab and individual meetings with my lab mentor and research professor.
- Worked 8-10 hours weekly. Some of my work consisted of:
  - Formulating new experiments for my project
  - Conducting replicates of my experiments to gain consistency in data
  - Analyzing data by using ImageJ, and MS Excel technologies
  - Conducted literature searches to help me learn more about the fundamentals of my project
  - Presenting my research findings to my lab members during lab meetings.

## Site Information:

Jewell Lab of Bioengineering Research  
Campus Drive – Fischell Department of Engineering  
Supervisor: Dr. Christopher Jewell

The site mission: Applying Biomaterials and Immunology to develop therapies for Cancer and Auto-Immune diseases.

Goals of the site: Investigating Biomaterials as a method to develop more effective therapeutics

## Acknowledgments:

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