

ASHLYN MURPHY

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I am a Wayne State University Senior with a multidisciplinary background in wet and dry lab techniques. I am pursuing Ph.D. opportunities to combine my experience in computational protein biochemistry and experimental analysis to forge a career at the interface of chemical biology, medicinal chemistry, and computational biochemistry. My particular focus is investigating proteins' roles in disease pathways and developing small molecule probes as precursors to therapeutics.

EDUCATION

- | | | |
|-----------|---|---------------|
| BS | Wayne State University, Biochemistry and Chemical Biology | Exp. May 2022 |
| AA | Macomb Community College, General Studies | May 2018 |
| | • Dual enrolled as part of the Early College Program | |

RESEARCH EXPERIENCE

Computational Biochemistry Lab, Wayne State University, Detroit MI 2021 – Present
Advisor: Dr. Alice Walker

- Leader of red fluorescent protein (RFP) FusionRed studies that employ computational techniques to probe the tunability of FP systems by exploring the effects of protein structure on chromophore function and dynamics to verify and predict effects on protein efficiency, and propose further mutations to optimize FusionRed
- Skilled in techniques such as classical molecular dynamics, combined quantum mechanics/molecular mechanics, and excited-state Born-Oppenheimer dynamics
- Presenting poster project at the National ACS Conference in March 2022
- Draft in preparation for a first-author publication

Wayne State University Biomedical Engineering Lab, Detroit MI 2018
Intern, Harini Sundararaghavan, Ph.D.

- Assisted two graduate students with their studies involving nanoscale biomaterial fabrication and probing the molecular mechanisms of cell behavior under electrical stimulation to investigate and develop systems of directed nerve regeneration
- Gained exposure to cell culture and tissue harvesting, electrochemistry, dialysis, electrospinning, AFM, and SEM

PROFESSIONAL TRAINING

Pharmacy Technician

Kroger, Clinton Twp, MI, Sep 2020 – Present
Hours worked per week: 20 hrs.

- Work closely with staff pharmacists and other pharmacy technicians to provide exceptional patient care by leveraging math, time-management, problem solving, and effective communication skills to ensure that all prescription calculations are correct and on time, and that patients have all of their medication questions answered
- **Pharmacy Technician License**, Michigan Department of Licensing and Regulatory Affairs, Sept 2021, License Number 5303036781

Independent Contractor

Vector Marketing, Warren, MI, Jun 2018 – May 2021

Hours worked per week: 25 hrs.

- Sales Representative
 - Generated \$58,000 in sales and acquired over 2,000 customer referrals by utilizing active listening and good communication, problem solving and critical thinking skills to close sales
 - Selected for the Michigan Events Team
- Assistant Manager, Sep 2018 – Mar 2021
 - Guided a high performing sales team to generate over \$745,000 in sales in one year through the strategic recruiting of applicants, hosting of meetings, and mentoring of young professionals while growing my personal business
 - Top 5 Assistant Manager in the State of Michigan in 2019-20
- Branch Manager, Apr – Aug 2019
 - Built a business through the recruiting, interviewing, hiring, training, and developing of sales representatives in the Macomb area while expanding my personal business over a 4 month internship program

PROFESSIONAL AFFILIATIONS AND CAMPUS ACTIVITIES

American Chemical Society, 2021-Present

- National Member since 2021
 - COMP Technical Division Member
- WSU-Student Affiliate Board Member
 - Elected to Event Coordinator position for 2021-22
 - Organize and execute the logistics of on-campus event preparation, including location scouting, event design, venue decor, and program implementation
 - Collaborate with the PR team to develop and implement systems of effective event advertising to maximize attendance
 - Outline and define standard operating procedures (SOPs) for all demonstrations and liaise with WSU Office for Environment Health and Safety (OEHS) and OSHA to ensure demonstration safety

Wayne State University Chemistry Diversity, Equity, and Inclusion Committee

Undergraduate Member, 2021-Present

- Engage in workshops and seminars to encourage a just and more effective environment for chemistry education and training while working to foster a diverse STEM community

The American Society for Biochemistry and Molecular Biology, 2020-Present

Macomb Community College Cultural Competency Certificate, 2018

- Participated in international and multicultural events, activities, and workshops geared at expanding sensitivity, appreciation, and abilities in cross-cultural interactions to develop awareness and local knowledge in a diverse community

COMMUNITY SERVICE

Henry Ford Hospital

ICU Clinical Volunteer, Detroit, MI, Apr – Aug 2021

- Collaborated with intensivists and critical care professionals in a COVID-19 ward of the ICU at Henry Ford Hospital Detroit
- Maintained personal protective equipment for healthcare workers, retrieved medical supplies to aid in patient care, and transported clinical samples to the laboratory

HONORS AND AWARDS

Wayne State University Green Scholarship 2018
\$2,000 Academic Merit Scholarship

Michigan Competitive Scholarship 2018
\$1,000 Academic Merit Scholarship

Dean's List 2015 – 16
Macomb Community College Dean's List for Academic Excellence

Chemistry Honors List 2015
Macomb Community College Dean's List for Academic Excellence in Chemistry

RELEVANT COURSEWORK

- | | |
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| • General Biology/Lab | • Tools in Molecular Biology |
| • General Chemistry/Lab | • Advances in Bioanalytical Chemistry |
| • Organic Chemistry/Lab | • Principles of Toxicology |
| • General Chemistry 2 and Analytical Chemistry/Lab | • Advanced Organic Chemistry and Drug Design |
| • Metabolism/Biochemistry | • Physics for Scientists (Calculus based)/Lab |
| • Metals in Biology | |
| • Biological Chemistry Lab | |

COMPUTER SKILLS

Programming: Python and Linux

Applications: Ubuntu, Chimera/PyMol, Jupyter Notebook, MS Word, PowerPoint & Excel