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ALYSON ACKERMAN

PROFILE

Chemist with a primary background in pharmaceutical analysis and research. Over four years experience in a small pharmaceutical manufacturing laboratory performing quality control, development, and routine maintenance/calibrations. Currently pursuing a doctoral degree in chemistry at the University of Kentucky.

EDUCATION

UNIVERSITY OF KENTUCKY August 2022 - current
Doctoral Degree in Chemistry

UNIVERSITY OF KENTUCKY May 2018
Bachelor of Science in Chemistry (Biochemistry option)

cum laude

HONORS/AWARDS

Patterson Scholar, University of Kentucky, 2014 - 2018

Lewis Honors College Graduate, University of Kentucky, 2018

Departmental Honors in Chemistry, University of Kentucky, 2018

Nancy J. Stafford Award, University of Kentucky, Chemistry Department, 2018

SKILLS

- Utilizing and troubleshooting HPLC, GCMS, IR, NMR, TGA, Karl Fischer Titrator, DSC, Particle Sizer, and UV-vis instruments as well as basic laboratory equipment and the corresponding software.
- Creating cohesive, visually pleasing reports.
- Developing Excel spreadsheets to increase efficiency and reduce time spent on data entry and processing, as well as creating automated report formatting.
- Working both independently and collaboratively in a laboratory.
- Maintaining detailed, organized records, notes, and spreadsheets of laboratory work.
- Communicating with peers and superiors on progress and conflicts pertaining to research and other projects.

LEADERSHIP EXPERIENCE

PRESIDENT • Alpha Chi Sigma, AG Chapter, Professional Chemistry Fraternity January 2017 - December 2017

- Executive officer responsible for ensuring our success and effectiveness in promoting chemistry as a passion and profession.
- Led two biweekly meetings: one with the executive board and another with all chapter members. Reviewed chapter progress, plans, and budget.
- Coordinated and supervised biweekly tutoring (6 hours per week) and community outreach programs.
- Founding member and president during transition from colony to chapter.
- Communicated with chapter advisors and national office to coordinate events and national's visits to campus.

WORKSHOP LEADER • Expanding Your Horizons April 2017, April 2018

- Led a one hour workshop for middle school girls (multiple times throughout the day), intended to increase interest in STEM and provide a glimpse into science career options.
- Met with other workshop leaders several times over the spring semester and discussed various fields of STEM and how to best present information in a palatable, engaging manor.
- Created a supply list within our given budget and obtained permission to use biology lab to allow participants to transfer various bacteria shapes to a microscope slide, use stain, and observe under microscope to identify their given shape.
- Developed a lesson plan to explore the scientific method and allow students to develop a hypothesis on which common surfaces hosted the largest amount of bacteria.

PEER MENTOR, SENIOR PEER MENTOR • Honors Residence Hall, University of Kentucky

August 2015 - May 2017

- Developed mentor relationship with residents and provided advice, resources, and engaged students struggling to make connections on campus.
- Created events that encouraged socialization, connected residents to resources.
- Held general chemistry tutoring sessions in residence hall prior to every exam and review session prior to finals.
- As senior peer mentor, led weekly meetings to discuss upcoming events, helped develop younger peer mentors's event ideas, and reviewed budget for semester.

LABORATORY EXPERIENCE

QUALITY CONTROL CHEMIST • Murty Pharmaceuticals

May 2018 - July 2022

- Employed HPLC, GCMS, IR, and other laboratory equipment to perform assorted analytical tests on raw material, inactive ingredients, and finished drug products.
- Troubleshoot various laboratory equipment including, but not limited to, HPLCs, Malvern Particle Size Analyzer, ICP-MS, DSC and TGA.
- Calibrated several instruments in-house and communicated with outside vendors to arrange external calibrations and maintenance.
- Created and revised SOPs, analytical protocols, and method development and validation reports.
- Developed and validated new analytical methods involving HPLCs, the Laser Diffraction Particle Sizer, and UV-Vis instruments.
- Participated in research and development activities, aiding in formulation of new drug product. Performed solubility studies and tested dissolution rates based on different drug formulas.
- Trained new chemists and reviewed laboratory notebooks, giving feedback and auditing work to ensure compliance to quality standards.

PHARMACY RESEARCH ASSISTANT • Univ. of Kentucky • Dr. Robert Lodder

August 2017 - May 2018

- Performed various analytical tests on sugar substitute drug BSN175, including NMR, IR, and UV-vis.
- Conducted forced heat degradation testing on sugar substitute drug and compared degraded results to non-degraded drug product to determine ideal method for testing stability.
- Utilized the new BEST (statistical method developed by Dr. Lodder) to quantify stability results.
- See article "[Characterization of BSN175: A Drug to Treat Prader-Willi Syndrome](#)" for details.
- Presented findings at University of Kentucky Chemistry Department's Regional Undergraduate Poster Competition.

LABORATORY EXPERIENCE, cont.

FORENSIC BIOLOGY INTERN • Kentucky State Police, Central Laboratory

May 2017 - August 2017

- Observed forensic laboratory techniques, acting as assistant when appropriate. Did not handle any in-process evidence to maintain chain of custody and prevent contamination.
- Processed case files and uploaded into police database.
- Inventoried and organized incoming and archived test kits to ready for processing as part of the End the Backlog initiative.

CANCER RESEARCH ASSISTANT • Univ. of Kentucky • Dr. Rina Plattner

August 2013 - May 2014

- Developed various combinations of two existing kinase-inhibitors used in chemotherapy. Tested the efficacy of varying concentrations of the combinations to determine the most synergistic combination.
- Practiced western blots (and imaging), maintenance of cell lines, performed cell assays using Titer-Glo, and learned documentation practices for viability of research.
- Participated in weekly lab meetings to update on individual progress in various aspects of the overall research goal. Presented findings when applicable.