

Gavin L. Brown

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EDUCATION

Arkansas State University, Jonesboro 2024
Bachelors in Biological Sciences 2024
Bachelors in Chemistry

EXPERIENCE

Laboratory Researcher – Arkansas State University, Jonesboro Arkansas 2022-Present
Principal Investigator: Dr. Mohammad Abrar Alam

- Synthesizing novel medicinal compounds and confirming synthesis using organic chemistry techniques.
- Develop synthetically over 150 novel small nuclei compounds including benzothiophene, thiazole, pyrazole and imidazole containing molecules.
- Employed NMR and mass spectroscopy methods to evaluate purity and structural confirmation.

Laboratory Researcher – Arkansas Biological Institute, Jonesboro Arkansas 2024-Present
Principal Investigator: Dr. Mohammad Abrar Alam

- Conducted in vivo testing of novel medicinal compounds in murine mice models.
- Administered synthesized compounds to assess toxicological and therapeutic effects, including dose-response relationships, adverse reactions, and efficacy metrics.
- Analyzed and documented findings to inform compound refinement and potential pharmaceutical applications.

RESEARCH

- 2024-Present: Novel Synthesis and Effects of Secondary Amine Substituted Thiazoles
- 2024-Present: Synthesis of Coumarin Substituted Pyrazole Nuclei for Fluorescence Microscopy
- 2023-2024: Synthesis and Evaluation of Chlorine-Substituted Pyrazole Molecules for Antibacterial Applications
- 2022- 2023: Domino Reaction Protocol to Synthesize Benzothiophene-Derived Chemical Entities as Potential Therapeutic Agents

PRESENTATIONS

- 2023: 10th Arkansas Undergraduate Summer Research Symposium. University of Arkansas Medical School, Little Rock Arkansas
- 2024: National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington D.C
- 2024: Arkansas IDeA Network of Biomedical Research Excellence, University of Arkansas, Fayetteville Arkansas

TECHNICAL SKILLS

- **Analytical Chemistry:** Knowledgeable in various compound analysis techniques including Nuclear Magnetic Resonance (NMR), mass spectrometry (MS), Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES)
- **Organic Synthesis:** Proficient in synthesizing organic compounds for therapeutic applications, with hands-on experience in purification and structural characterization.
- **Molecular Biology Techniques:** Skilled in Western blotting, protein extraction using SDS grind methods, and DNA fragment analysis through gel electrophoresis and microvolume spectrophotometry.
- **In Vivo Testing:** Experience in conducting in vivo toxicological and efficacy assessments of novel compounds in murine models, including injection techniques, monitoring, and data analysis.

AWARDS & SCHOLARSHIPS

- Guido Hassin Scholarship for Science Majors 2023-Present
- Dr. Earnest Lee Saunders Memorial Chemistry Scholarship 2023-Present
- Arkansas Academic Challenge Scholarship 2021-2024
- NISBRE Travel Grant Washington DC 2024

RELEVANT COURSEWORK

Organic Chemistry I & II, Physical Chemistry, Quantitative Analysis, Biochemistry, Inorganic Chemistry, Laboratory in Bio-Techniques I, Statistics

NON-PROFIT EXPERIENCE

- Raising over \$15,000 for Saint Jude Children's Hospital, Memphis, TN.
- Over 500 hours of personal volunteer time for local non-profit organizations and communities in Jonesboro, AR and Mountain Home AR.
- President of a campus fraternity designed to better local communities and the university campus.