

Charlotte G. Muse, Pharm.D.

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Education

Doctoral Degree, Pharmacology Department of Drug Discovery and Development, Auburn University, Auburn AL Advisor: Peter R. Panizzi, Ph.D.	2018-Present
Doctor of Pharmacy, Magna Cum Laude Harrison College of Pharmacy (previously Harrison School of Pharmacy), Auburn University, Auburn AL	2013-2017
Bachelor of Science, Biomedical Sciences, Summa Cum Laude College of Sciences and Mathematics, Auburn University, Auburn AL	2010-2014

Licensure and Certifications

BLS for Healthcare Providers (CPR & AED)	2021
Alabama Board of Pharmacy, Pharmacist License No. 19908	2017
Pharmacy-Based Immunization Delivery Certification	2014

Research Experience

Graduate Research Assistant , Department of Drug Discovery & Development, Auburn University Research assistant under Dr. Peter Panizzi. Assist in ongoing research projects within the lab, including utilization of bioluminescent bacteria (<i>S. pyogenes</i> , <i>S. aureus</i>) with imaging modalities (IVIS, MSOT) with the goal of visualizing host-pathogen interactions.	2018-present
Visiting Scholar , Department of Drug Discovery & Development, Auburn University Volunteered as a visiting scholar prior to Ph.D. work to develop laboratory techniques including gel electrophoresis, bacterial culturing, spectrophotometry. Trained in mice handling, anesthesia, injections, and dissection.	Apr-Aug 2018

Professional Experience

Graduate Teaching Assistant , Harrison College of Pharmacy, Auburn University Facilitate student active learning activities, proctoring written and interactive performance-based assessments, evaluation of assignments, and providing constructive feedback.	2018-present
Staff Pharmacist , CVS Health, Pike Road, AL Pharmacy Manager: Ballard Smith, Pharm.D. District Leader: Evan Ragasa Work as a pharmacy leader with pharmacy technicians and interns serving and educating patients in the community to improve health and patient outcomes. Patient profile review, drug/disease-interaction identification, OTC medication recommendations.	2017-18

Internship Experience

Pharmacy Intern , CVS Health Intern Coordinator: LeighAnna Simmons Interned at CVS Pharmacies in Florence, Montgomery, Auburn, & Huntsville, AL. Pharmacy team member with pharmacists and technicians serving patients in community.	2014-17
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Advance Pharmacy Practice Experiences

- Medicine Rotation: UAB Adult Internal Medicine** Mar-April 2017
UAB Internal Medicine Clinic and Huntsville Hospital, Huntsville, AL
Preceptor: Taylor Steuber, Pharm.D.
- Daily rounds with UAB team of attending, residents, interns, and medical students
 - Recommended medication regimen adjustments including antibiotics, DVT prophylaxis, home medication continuity, and medication optimization
- Medicine Rotation: Cardiology** Jan-Feb 2017
Huntsville Hospital, Huntsville, AL
Preceptor: Gregg Knowles, Pharm.D.
- Pharmacokinetic consultations for vancomycin, aminoglycosides, tolvaptan, and antithrombotic therapy for patients in cardiac intensive care unit (CICU)
 - Nutrition support services consultations for parenteral and enteral feedings
- Primary Care Rotation: UAB Family Medicine** Nov-Dec 2016
UAB Family Medicine Clinic, Huntsville, AL
Preceptor: Haley Phillippe, Pharm.D.
- Evaluation, education, and management of anticoagulation therapy for DVT, PE, and A.fib
 - Taught community courses on diabetes and pharmacy to adults and middle school students
- Medicine Rotation: Oncology** Oct-Nov 2016
Huntsville Hospital, Huntsville, AL
Preceptor: Jonathan Bunn, Pharm.D.
- Evaluation and management of chemotherapy regimens
 - Pharmacokinetic consultations for vancomycin, aminoglycosides, and warfarin for oncology patients
- Drug Information Rotation** Sep-Oct 2016
Huntsville Hospital, Huntsville, AL
Preceptor: Richard Cramer, Pharm.D.
- Staffing Drug Information Center call center
 - Presentation of formulary and new drug evaluations to hospital Pharmacy and Therapeutics Committee
 - Reporting of medication errors and adverse events
- Community Pharmacy Rotation** Aug-Sep 2016
Village Drugs, Muscle Shoals, AL
Preceptor and owner: Kevin Arnold, Pharm.D.
- Medication verification while improving on MTM skills, patient recommendations and counseling
 - Refined skills in analyzing prescriptions and patient profiles
- Primary Care Rotation: UAB Internal Medicine** Jun-July 2016
UAB Family Medicine Clinic, Huntsville, AL
Preceptor: Bradley Wright, Pharm.D.
- Collaboration with internal medicine residents and attendings to optimize patient care
 - Medication reconciliation, diabetes and smoking cessation clinical evaluations and counseling
- Health System Practice** May-Jun 2016
Huntsville Hospital, Huntsville, AL
Preceptor: Linda Rist, Pharm.D.
- Shadowing pharmacists in pediatrics, cardiology, infectious diseases, and unit-based pharmacist, Pharmacy Sterile Products
 - Pharmacokinetic and nutritional consultations on vancomycin and total parenteral nutrition
 - Audit of pharmacist-based interventions: IV-to-PO conversions, renal dosing, and duration of therapy

Introductory Pharmacy Practice Experiences

Institutional Pharmacy: Brookwood Medical Center, Birmingham, AL	May-Jun 2015
Preceptor: Dr. Karen Litwiniec, Pharm.D.	
<ul style="list-style-type: none">• Shadowed clinical pharmacist and technicians in hospital setting• Topic discussions and medication reviews	
Community Pharmacy: Village Drugs, Muscle Shoals, AL	June 2014
Preceptor and owner: Kevin Arnold, Pharm.D.	
<ul style="list-style-type: none">• Filled prescriptions, medication verification, patient counseling and vaccine administration	
Pharmacy Practice Experience	Aug 2013-May 2016
Mentors: Dr. Brent Fox, Pharm.D., PhD; Dr. Jessica Starr, Pharm.D.	
<ul style="list-style-type: none">• Lead first and second year pharmacy students on weekly visits to patients in the Auburn and Opelika communities for patient counseling and medication reconciliation	

Professional Affiliations & Service

Auburn University Summer Commencement Committee, Volunteer	2022
American Society for Microbiology	2019-22
North American Society on Thrombosis & Hemostasis	2019-22
The Honor Society of Phi Kappa Phi Honor	2016-22
Rho Chi, Pharmacy Honor Society, Zeta Chapter	2015
Harrison College of Pharmacy Student Ambassador and Affiliate	2014-17
American Society of Health-System Pharmacists	2014-17
Auburn University Student Society of Health-System Pharmacists	2014-17
Treasurer, 2015-16	
Christian Pharmacist Fellowship International	2013-17
Treasurer, 2014-15	
Health and Wellness Committee, 5K Fun Run	Spring 2014
Admissions Committee, Harrison College of Pharmacy	2013-16

Honors & Awards

Graduate Student Council Travel Fellowship	July 2022
Dean's Travel Award	2022
Auburn Research Student Symposium, Harrison College of Pharmacy, Graduate Student Poster Presentation Winner	2022
Department of Defense SMART Scholarship Semifinalist	2022
Serota Fellowship	2019-22
Outstanding Graduate Teaching Assistant	2020-21
Dean's Travel Award	2020
Cecil Stanford Harrell '58 Annual Fellowship	2018-19
Dr. Don E. Tillery '50 Endowed Scholarship	2016-17
Pharmacy Dean's Scholar Scholarship	2014-15
Florence Barr Perdue Endowed Scholarship	2014-16
National Merit Scholarship Corporation (NMSC), Covidien Special Scholarship	2010-13
Auburn University College of Sciences and Mathematics Scholarship	2010-13
Spirit of Auburn Presidential Scholarship	2010-14

Professional Development

Essentials of Staphylococcal Genetics and Metabolism Workshop Centers for Staphylococcal Research, University of Nebraska Medical Center	July 2022
Psychiatric Pharmacotherapy	Spring 2016
Evidence Based Pharmacotherapy	Fall 2015
Motivational Interviewing	Fall 2013

Publications

Davis RW*, **Muse CG***, Eggleston H, Hill M, Panizzi P. Sugar shock: Probing *Streptococcus pyogenes* metabolism through bioluminescence imaging. *Front Microbiol.* 2022 June 2.
<https://doi.org/10.3389/fmicb.2022.864014>

*Co-first authors; these authors contributed equally to this work

Panizzi P, Krohn-Grimberghe M, Keliher E, Ye YX, Grune J, Frodermann V, Sun Y, **Muse CG**, Bushey K, Iwamoto Y, van Leent MMT, Meerwaldt A, Toner YC, Munitz J, Maier A, Soultanidis G, Calcagno C, Pérez-Medina C, Carlucci G, Riddell KP, Barney S, Horne G, Anderson B, Maddur-Appajiah A, Verhamme IM, Bock PE, Wojtkiewicz GR, Courties G, Swirski FK, Church WR, Walz PH, Tillson DM, Mulder WJM, Nahrendorf M. Multimodal imaging of bacterial-host interface in mice and piglets with *Staphylococcus aureus* endocarditis. *Sci Transl Med.* 2020 Nov 4;12(568):eaay2104. doi: 10.1126/scitranslmed.aay2104. PMID: 33148623; PMCID: PMC7818516.

Muse CG, Panizzi PR. Synthetic Staphylocoagulase Analogs as Novel Hemostatic Agents [Abstract]. *ASM Microbe Online.* 2020 June. Available at:
<https://www.abstractsonline.com/pp8/#!/9103/presentation/12145>

Professional Presentations

Production and Functional Plasma Protein Binding of a Novel *Staphylococcus aureus*-derived Hemostatic Agent. **Muse CG**, Colthorpe W, Panizzi P.
American Society for Microbiology Microbe [Poster Presentation]. Walter E. Washington Convention Center. Washington, D.C. 2022 June 11.

Bioengineered *E. coli* secrete antimicrobial peptides for the treatment of *Clostridioides difficile* infection. **Muse CG**.

General Oral Exam, Department of Drug Discovery & Development. Auburn University Harrison College of Pharmacy. Auburn, AL. 2021 Feb 26.

Developing a novel *Staphylococcus aureus* derived hemostatic agent. **Muse CG**.

Department of Drug Discovery & Development Seminar Series. Auburn University Harrison College of Pharmacy. Auburn, AL. 2020 Feb 24.

Glucagon-like peptide-1 receptor agonists versus bolus Insulin in advancing treatment of type 2 diabetes mellitus. **Muse CG**.

Fourth Year Pharmacy Student Professional Seminar Presentation: Harrison College of Pharmacy at UAB School of Medicine-Huntsville Campus Huntsville, AL. 2016 Sept.

Articles: Rosenstock, Fonseca VA, Gross JL, et al. Advancing basal insulin replacement in type 2 diabetes inadequately controlled with insulin glargine plus oral agents: A comparison of adding albiglutide, a weekly GLP-1 receptor agonist, versus thrice-daily prandial insulin lispro. *Diabetes Care.* 2014 Aug; Diamant M, Nauck MA, Shaginian R, et al. Glucagon-like peptide 1 receptor agonist or bolus insulin with optimized insulin in type 2 diabetes. *Diabetes Care.* 2014 Oct.

ASHP Convention Poster: Assessing the Impact of an Early Pharmacy Practice Experience through Progress Note Review. Davis J, Jobson B, **Muse C**, Stamm PL Pharm.D., Williamson M, Pharm.D.
ASHP Midyear National Conference. New Orleans, LA. 2015 Dec.

Auburn University Student Society of Health-System Pharmacy (AUSSHP) Presentation. Daniell K, President, **Muse C**, Treasurer..

ASHP Midyear National Conference. New Orleans, LA. 2015 Dec.

Topic: Fundraising ideas for school chapters of ASHP and information about the Auburn Chapter of ASHP

Fostering a Healthier Generation in Tupelo, MS. Bonds K, Bush A, Danielle K, Ellison L, Harris K, **Muse C**, Silvey M.

7th Annual Rite Aid Marketing Plan Competition. Harrison College of Pharmacy, Auburn, AL. 2015 Apr.

Topic: Developed a plan to implement a new service in a pharmacy for community outreach and improve adolescent health

Community Service

Lee County Humane Society , Auburn, AL	Jun-Aug 2021
Medicare Part D Open Enrollment Event , Auburn, AL	Nov 2014
Loachapoka Syrup Soppin' Health Fair , APhA sponsored, Loachapoka, AL	Oct 2014
Tanzania Christian Clinic , Monduli, Tanzania	Jul 2013
Mercy Medical Clinic , Auburn, AL	Jan 2012-May 2015
Big Event, Auburn University , Auburn, AL	Mar 2012, 2013