Amanda J. Stolarz

University of Arkansas for Medical Sciences
Department of Pharmaceutical Sciences
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EDUCATION

University of Arkansas for Medical Sciences, Graduate School Little Rock, AR
Doctor of Philosophy, Pharmacology **July 2016**

University of Arkansas for Medical Sciences, College of Pharmacy Little Rock, AR
Pharmacy Teaching Certificate Program **May 2014**

University of Arkansas for Medical Sciences, College of Pharmacy Little Rock, AR
Doctor of Pharmacy Degree, ***Honors in Research*** **August 2009- May 2013**

Arkansas Tech University Russellville, AR
B.S. ACS Chemistry, ***Magna Cum Laude*** **August 2006-May 2009**

RESEARCH EXPERIENCE

University of Arkansas for Medical Sciences, *Assistant Professor* Little Rock, AR
Departments of Pharmaceutical Sciences **July 2018-Present**

- My laboratory focuses on determining mechanisms of doxorubicin-induced lymphatic dysfunction and how it contributes to cancer-related lymphedema development and cancer metastasis, and identifying novel therapeutic strategies to treat and/or prevent cancer-related lymphedema.

University of Arkansas for Medical Sciences, *Post Doctoral Fellow* Little Rock, AR
Departments of Pharmacology and Toxicology and Pharmaceutical Sciences **August 2016-June 2018**
Mentors: Nancy Rusch, PhD and Peter Crooks, PhD

- Performed vessel perfusion and calcium imaging studies using isolated rat lymph vessels, arteries and veins, RT-PCR, immunocytochemistry, and non-survival and survival surgery for intravital video-microscopy studies to image lymph flow *in vivo*.
- Prepared animal use protocols, drug inventory, and grant submissions.

University of Arkansas for Medical Sciences, *Graduate Assistant* Little Rock, AR
Department of Pharmacology and Toxicology **July 2013-July 2016**
Mentor: Nancy Rusch, PhD

- **Title:** Doxorubicin inhibition of lymphatic function and prevention by dantrolene.
- Performed vessel perfusion and calcium imaging studies using isolated rat lymph vessels, immunocytochemistry, and intravital video-microscopy for *in vivo* rat studies.

University of Arkansas for Medical Sciences, *Research Assistant* Little Rock, AR
Department of Pharmaceutical Sciences **June 2011-May 2012**
Preceptor: Elvin T. Price PharmD/PhD

- Performed cell culture studies, ELISA assays, BCA assay, and RNA isolation techniques

University of Arkansas for Medical Sciences, *Research Assistant* Little Rock, AR
Department of Geriatrics **July 2010- December 2010**
Preceptor: Gohar Azhar, MD

- Performed data collection for retrospective patient chart review study

Arkansas Tech University, *Undergraduate Research Assistant* Russellville, AR
Department of Chemistry **August 2007- May 2009**
Preceptor: Franklin Hardcastle, PhD

- Performed wet chemical analysis, UV-VIS spectroscopy, and zeta potentiometry

University of Arkansas for Medical Sciences, *SURF Student Research Assistant* Little Rock, AR
Department of Pharmacology and Toxicology **June 2008- August 2008**
Preceptor: Lee Ann MacMillan-Crow, PhD

- Performed tissue processing, UV-VIS spectroscopy, SDS-PAGE, and Western blot

TEACHING EXPERIENCE

University of Arkansas for Medical Sciences, College of Pharmacy Little Rock, AR
Pharmacology I Coordinator (PhSc 7201) **Fall 2019**

- Cooridnate syllabus, lecture schedule, exams, and review sessions for the entire course. Deliver lectures for the following pharmacological agents:
  - Hypothalamus and Pituitary Hormones (2 hs)
  - Thyroid Hormones (1 hr*)*
  - Andrenocorticosteroids (2 hrs)
  - Androgens and Antiandrogens (1 hr)
  - Estrogens and Antiestrogens (1 hr)
  - Hormonal contraceptives (1hr)
  - Bone and Mineral Homeostatic Agents (2 hrs)

University of Arkansas for Medical Sciences, College of Pharmacy Little Rock, AR
Pharmacology I Instructor (PhSc 7201) **Fall 2018**

- Prepare lectures and exam questions for the following pharmacological agents:
  - Andrenocorticosteroids (2 hrs)
  - Androgens and Antiandrogens (1 hr)
  - Estrogens and Antiestrogens (1 hr)
  - Hormonal contraceptives (1hr)

University of Arkansas for Medical Sciences, Dept of Pharmacology & Toxicology Little Rock, AR
Experimental Pharmacology and Toxicology II (PCOL 5033) **Spring 2015**
Principles and Methods of Pharmacology & Toxicology (PCOL 5105) **Spring 2016 & 2017**

- Prepare lectures and exam questions for experimental methods used in hypertension research
  - Animal Models in Hypertension (3 hrs)
- Prepare and perform laboratory demonstrations for techniques including vessel perfusion, tail cuff blood pressure, and insertion of osmotic mini-pumps

University of Arkansas for Medical Sciences, College of Pharmacy Little Rock, AR
Molecular Biology and Biotechnology Instructor (PhSc 7204) **Fall 2014-2016**

- Prepare lectures and exam questions regarding the pharmacogenomics of antihypertensive agents
  - The Pharmacogenomics of Hypertension (1 hr)

University of Arkansas for Medical Sciences, College of Pharmacy Little Rock, AR
Pharmacology II Instructor (PhSc 7202) **Spring 2013-Present**

- Prepare lectures and exam questions for agents used in the treatment of hypertension and myocardial ischemia.
  - Antihypertensive Agents (4 hrs)
  - Myocardial Ischemia Agents (3 hrs)
- Participate in exam item reviews to optimize exam items
- Facilitate interprofessional education simulations covering hypertensive crisis

University of Arkansas for Medical Sciences, College of Pharmacy Little Rock, AR
Therapeutics I Supplemental Instructor (PhPr 5482) **January 2012-May 2012**

- Prepare and present information from Therapeutics 1 Course and assessed student comprehension to identify areas for improvement

University of Arkansas for Medical Sciences, College of Pharmacy Little Rock, AR
Pharmacy Tutor (PhSc 4124 and PhSc 4134) **August 2010-May 2011**

MENTORING OF UNDERGRADUATE STUDENTS

Dates	Name of Mentee	Program	Mentoring role	Current position
June 2015-August 2015	Kionna Henderson	ASPET, SURF	Primary mentor	MPH student at Tulane University School of Public Health and

				Tropical Medicine
June 2017-August 2017	Daniel Stuckey	ASPET, SURF	Primary Mentor	Junior BS Chemistry student at University of Arkansas at Little Rock
June 2017-August 2017	Michelle Everett	NIH, SURP	Primary Mentor	Senior BS Biology Student, Mississippi College

PHARMACY PRACTICE EXPERIENCE

UAMS 12th Street Clinic, *Preceptor* Little Rock, AR
Supervisor: Lanita White, PharmD **September 2013, June 2014**

- Provided support and guidance on an interprofessional healthcare team for this student-run clinic.

Arkansas Poison Control Center*, Intern Pharmacist* Little Rock, AR
Supervisor: Erik Swafford, PharmD/Poison Specialist **September 2011-May 2013**

- Provided patient counseling and drug/poison information and treatment for various Arkansas populations. Utilized Micromedex, Lexi-Comp, and Toxicall softwares.

University of Arkansas for Medical Scicences, *Intern Pharmacist* Little Rock, AR
Preceptor: Larry Franklin, PharmD **April 2013**

- P4 APPE-Acute Care Rotation-Internal Medicine. Performed inpatient services including patient histories, medication reconciliations, and therapeutic recommendations on an interprofessional healthcare team. Presented a CE: "Prolonged QT Syndrome".

University of Arkansas for Medical Sciences, *Intern Pharmacist* Little Rock, AR
Preceptor: Lisa Hutchison, PharmD **March 2013**

- P4 APPE-Acute Care Rotation-Geriatrics. Performed inpatient clinical services on an inter-professional healthcare team. Participated in Brown Bag event for underserved patient population.

University of Arkansas for Medical Sciences, *Intern Pharmacist* Little Rock, AR
Preceptor: Nikki Carver, PharmD **February 2013**

- P4 APPE-Hospital Management Rotation. Performed medication reconciliations, medication use review audits, attended a P&T Committee meeting, helped to develop an educational booth for the Patient Safety Health Fair. Presented a CE: "Opportunistic Infections in HIV".

Arkansas Children's Hospital, *Intern Pharmacist* Little Rock, AR
Preceptor: Starr McClain, PharmD **January 2013**

- P4 APPE-Acute Care Rotation-Critical Care (NICU, PICU, CVICU, Heme/Onc). Performed inpatient clinical services on an interprofessional healthcare team. Presented a CE: "Serotonin Syndrome".

City Pharmacy, *Intern Pharmacist* Little Rock, AR
Preceptor: Gary Bass, PharmD **August 2012**

- P4 APPE- Community Pharmacy Management Rotation. Performed comprehensive medication reviews, medication therapy management, blood pressure checks, and blood glucose monitoring. Administered vaccinations. Presented CE: "Influenza Vaccine Toolkit".

C&D DrugStore, *Intern Pharmacist* Russellville, AR
Preceptor: RD Walker, PharmD **July 2012**

- P4 APPE- Advanced OTC Community Pharmacy Rotation. Provided patient counseling for over-the-counter medications and self-care. Performed drug-herbal interaction and comprehensive medication reviews and developed end cap displays and patient history forms. Performed basic compounding skills including capsules, creams, and shampoos.

Arkansas Children's Hospital Pulmonary Clinic, *Intern Pharmacist* Little Rock, AR
Preceptor: Catherine O'Brien, PharmD **June 2012**

- P4 APPE-Ambulatory Care Rotation-Pulmonary clinic. Worked as part of an interprofessional healthcare team. Performed patient histories, medication reconciliation, patient counseling, therapeutic recommendation/ substitution, and literature evaluation/review.

Shepherd's Hope Free Clinic*, Intern Pharmacist* Little Rock, AR
Preceptor: Nikki Carver, PharmD and Marylin McCauley, PharmD **June 2011-August 2011**

- P3 IPPE--Community pharmacy within a free medical clinic for underserved patient population. Dispensed prescriptions, counseled patients, stocked inventory, and worked with translators.

PHARMACY PRACTICE EXPERIENCE (continued)

Arkansas Children's Hospital, *Intern Pharmacist* — Little Rock, AR
Preceptor: Gary Enderlin, PharmD — **May 2011**

- P2 IPPE--Hospital pharmacy experience in pediatric patients. Performed IV admixture and compounding, prepared batch doses, compounded oral preparations, and stocked Pyxis machines.

Coleman's Pharmacy, *Intern Pharmacist* — Alma, AR
Preceptor: Justin Boyd, PharmD — **May 2010**

- P1 IPPE--Community pharmacy experience. Dispensed prescriptions; counseled patients; ordered merchandise and restocked inventory.

People's Pharmacy, *Intern Pharmacist* — Murfreesboro, AR
Supervisor: Rob Evans, PharmD — **October 2009- August 2010**

- Community pharmacy experience. Dispensed prescriptions; processed new prescriptions and refill requests; performed third party online adjudication; ordered merchandise and restocked inventory.

AWARDS AND HONORS

Donald W. Reynolds Tri State Collegiate Elevator Pitch Competition (1st place)	**May 2017**
Arkansas Governor's Cup Collegiate Business Plan Competition (1st Place)	**April 2017**
ASPET Postdoctoral Travel Award	**April 2017**
ASPET Best Presentation ISTCP Division (1st Place)	**April 2016**
Seager-Braswell Symposium Senior Division Award (1st Place)	**January 2016**
PhRMA Predoctoral Fellowship in Pharmacology and Toxicology	**January 2016-December 2016**
LE&RN Travel Award	**September 2015**
ASPET Travel Award	**March 2015**
ASPET Best Abstract Award ISTCP Division (2nd Place)	**March 2015**
Seager-Braswell Symposium Junior Division Award (1st Place)	**January 2015**
ASPET Travel Award	**April 2014**
ASPET Best Abstract Award ISTCP Division (1st Place)	**April 2014**
Rho Chi APFE Fellowship First Year Graduate	**March 2013-July 2014**
UAMS College of Pharmacy Dean's List	**December 2009-May 2013**
UAMS College of Pharmacy Scholarship	**April 2012**
Pharmacist Mutual Scholarship	**August 2011-December 2011**
Kappa Psi Scholarship	**August 2011-December 2011**
A. Nelson Voldeng Fellowship	**June 2011-August 2011**
Coca-Cola Foundation Scholarship	**August 2006-May 2011**
Arkansas Governor's Distinguished Scholarship	**August 2006-May 2010**
Arkansas Tech University Board of Trustees Scholarship	**August 2006-May 2009**
Dr. David R. Matayo Award for the Most Outstanding Chemistry Student	**May 2009**
American Chemical Society Freshmen Chemist of the Year	**May 2007**

RESEARCH AWARDS and GRANTS

Completed

PhRMA Predoctoral Fellowship in Pharmacology & Toxicology (PI)	1/2016-12/2016	$20,000/1 yr
Rho Chi APFE Fellowship First Year Graduate (PI)	7/2013-6/2014	$7,500/1 yr
Technology Transfer Assistance Grant AEDC (Co-PI)	1/2018-6/2018	$5,000/6 mos

Ongoing

Intramural support (Startup funding)

Dr. Stolarz has negotiated a $500,000 over 3 years start-up package from the University of Arkansas Medical School for use towards laboratory setup, major equipment purchase, and salary support for technical personnel.

UAMS College of Pharmacy Seed Grant Stolarz (PI); Painter (Co-I) 10/2018-09/2019 $11,500/1 yr
Title: **Antihypertensive-associated risk of lymphedema in breast cancer patients treated with doxorubicin.** The aim of this project is to assess the relative risk of antihypertensive medication classes on developing lymphedema among female breast cancer patients exposed to doxorubicin.

COBRE Pilot Grant Stolarz (PI);Todorova (Co-I) 04/01/2019-03/31/2020 $75,000/1 yr
Title: **Mechanism by which doxorubicin contributes to lymphedema and potential therapy.** The aim of this project is to explore how doxorubicin inhibits contractions of lymph vessels and evaluate ryanodine receptor blockers as potential anti-lymphedema medications.

PUBLICATIONS

Peer-Reviewed Research Papers-Accepted for Publication

1. **Stolarz AJ,** Farris R, Wiley C, Obrien C, and Price E. Fenofibrate represses inflammatory chemokines in airway epithelia from a healthy donor and an individual with cystic fibrosis. Clin Transl Sci. 2015; 8(6): 696-701.
2. Sarimollaoglu M, **Stolarz AJ**, Nedosekin DA, Garner BR, Fletcher TW, Galanzha EI, Rusch NJ, Zharov VP. In vivo high-speed microscopy to quantify contractile and flow parameters in lymph vessels. J Biophotonics 2018 Aug; 11(8):e201700126. DOI: 10.1002/jbio.201700126. PMCID: PMC6314807.
3. **Stolarz AJ**, Sarimollaoglu M, Fletcher TW, Marecki JC, Klimberg S, Sung RW, Galanzha EI, Zharov VP, Rusch NJ. Doxorubicin inhibition of lymphatic function is mediated by ryanodine receptors. Journal of Pharmacology and Experimental Therapeutics August 22, 2019,jpet.119.257592; DOI: https://doi.org/10.1124/jpet.119.257592. PMID: 31439806
4. **Stolarz AJ**, Lakkad M, Klimberg VS, Painter JT. Calcium channel blocker and risk of lymphedema among breast cancer patients: nested case control study. Cancer Epidemiol Biomarkers Prev August 9 2019 DOI: 10.1158/1055-9965.EPI-19-0448. PMID: 31399477.

Chapters

1. **Stolarz AJ,** Rusch NJ. Gender differences in cardiovascular drugs. Cardiovasc Drugs Ther. 2015; 29(4): 403-410.
2. **Stolarz AJ,** Rusch NJ. Gender differences in cardiovascular drugs. Gender Differences in the Pathogenesis and Management of Heart Disease. *Springer. In press; 2018.*
3. **Stolarz AJ**, Detweiler ND, England SK, Rusch NJ. Smooth muscle cell excitability. *Cell Physiology Sourcebook 5th edition. In press; 2018.*

Abstracts

1. Garner BR, **Stolarz AJ**, Rusch NJ, Mu S. Contribution of the renal circulation to the development of sal-sensitive hypertension. *Poster Presentation at Experimental Biology Conference, April 2019.*
2. Garner BR**, Stolarz AJ**, Fletcher TW, Mu S, Rusch NJ. Potassium Channel Openers Inhibit Rhythmic Contractions and Lymph Flow in Rat Mesenteric Lymph Vessels. *Poster presentation at North American Vascular Biology Organization's Vasculata Workshop, St. Louis, Missouri, July 2018.*
3. Everett M, Garner BR, Fletcher TW, **Stolarz AJ**, Rusch NJ. Evaluation of ryanodine receptors in lymphatic muscle cells. *Poster and Oral Presentation at Central Arkansas Undergraduate Research Symposium, July 2017.*
4. **Stolarz AJ**, Garner BR, Sarimollaoglu M, Galanzha E, Zharov V, Rusch NJ. Characterization of a surgical model of lymphatic insufficiency in the rat mesentery. *Poster Presentation at Experimental Biology Conference, April 2017.*
5. Garner BR, **Stolarz AJ**, Fletcher TW, Rusch NJ. ATP-Sensitive K+ channels in smooth muscle cells from rat mesenteric lymph vessels. *Poster Presentation at Experimental Biology Conference, April 2017.*
6. **Stolarz AJ**, Fletcher TW, Marecki JC, Sarimollaoglu M, Galanzha E, Zharov V, Klimberg S, Rusch NJ. Doxorubicin acutely inhibits lymph flow in rat mesenteric lymph vessels. *Poster and Oral Presentation at Experimental Biology Conference, April 2016.*

7. **Stolarz AJ**, Pathan A, Versluis R, Fletcher TW, Stimers JR, Sarimollaoglu M, Galanzha E, Zharov V, Klimberg S, Rusch NJ. Doxorubicin inhibits spontaneous contractions of rat mesenteric lymph vessels *in vitro* and slows lymph flow *in vivo. Poster Presentation at The Third Circulation: Lymphatics as Regulators in Health and Disease Conference, September 2015*.
8. **Stolarz AJ**, Pathan A, Versluis R, Fletcher TW, Stimers JR, Sarimollaoglu M, Galanzha E, Zharov V, Rusch NJ. Doxorubicin inhibition of lymphatic function is mediated by ryanodine receptors and prevented by dantrolene. *Poster Presentation at Experimental Biology Conference, March 2015.*
9. **Stolarz AJ**, Pathan A, Versluis R, Fletcher TW, Stimers JR, and Rusch NJ. Doxorubicin inhibits lymphatic function *in vitro* and *in vivo. Poster Presentation at Experimental Biology Conference, April 2014.*
10. **Stolarz AJ,** Farris R, Wiley C, Obrien C, and Price E. Fenofibrate attenuates Interleukin-1β-Stimulated Inflammatory chemokine production in small airway epithelial cells. *Poster Presentation at ASCPT Annual Conference, March 2012.*
11. **Stolarz AJ**, Farris R, Wiley C, Obrien C, and Price E. Fenofibrate modulates bronchial epithelial colony stimulating factor production in cystic fibrosis. *Poster Presentation at International Lung Conference, October 2011.*
12. Odenyi B, Farris R, **Stolarz A**, Wiley C, Price E. Fenofibrate modulates the expression of the CCR5 receptor in CD4+T cells: Potential implications for HIV. *Abstract and Poster Presentation at ASCPT Annual Conference, March 2012.*

LICENSURE AND CERTIFICATIONS

Pharmacy Teaching Certificate	**May 2014-Present**
DLAM Certification	**July 2013-Present**
Arkansas Pharmacist License	**June 2013-Present**
Authority to Administer Immunizations	**May 2012-Present**
CITI Certification	**August 2010-Present**
BCLS Certification	**April 2010-Present**
HIPAA Certification	**August 2009-Present**

PROFESSIONAL ORGANIZATIONS

American Society for Pharmacology and Experimental Therapeutics (ASPET)
Rho Chi Honor Society (Beta Iota Chapter President 2011-2012)
American Society of Clinical Pharmacy and Therapeutics (ASCPT)
Arkansas Pharmacy Association (APhA)
Kappa Psi Pharmaceutical Fraternity (Gamma Omega Chapter-President 2010-2011)

OTHER ACTIVITIES

Dual Degree Task Force UAMS College of Pharmacy **January 2017-December 2018**

- Conducted student surveys, additional research, and participated in discussions/meetings regarding the implementation of a dual PharmD/PhD graduate program at UAMS.

Arkansas Regional Innovation Hub I-Fund Program **September 2016-Present**
Chief Science Officer, Rejuvenics Technologies, LLC

- The I-Fund program provides small startup companies with initial investment to determine commercial viability and develop a commercialization business plan. I worked with a team of EMBA students at the University of Arkansas Walton School of Business to develop a commercialization strategy for a drug delivery technology developed in collaboration between UAMS and UAF laboratories. Our business plan earned 1st place in the Arkansas Governor's Cup Collegiate Business Plan Competition. More information upon request.

Special Project: Arkansas State Board of Pharmacy Intern Hour Policy **August 2010-May 2011**
Student Project Co-Leader

- As project co-leader, I spearheaded a project to reform the Arkansas State Board of Pharmacy Policy regarding intern hours required for pharmacist licensure. We worked closely with the UAMS College

of Pharmacy Dean's office to conduct research, perform student and school surveys, develop visual aids, and presentations. Our efforts resulted in full adoption of the policy reform proposal by the Arkansas State Board of Pharmacy. Now experiential experience hours attained at ACPE accredited institutions take the place of the 500 intern hours previous required for pharmacy licensure.