Michael L. Bernauer

Curriculum Vitae

Education

University of New Mexico

2012–Present · **Doctor of Pharmacy**, *University of New Mexico College of Pharmacy*, Albuquerque, NM.

2011 · **Bachelor of Science: Biochemistry**, *University of New Mexico*, Albuquerque, NM.

Coursera

2015 · **Reproducible Research**, *Johns Hopkins Bloomberg School of Public Health*, Roger D. Peng

2015 · **Developing Data Products**, *Johns Hopkins Bloomberg School of Public Health*, Brian Caffo

2014 · **Machine Learning**, *Stanford University*, Andrew Ng

2014 · **Cuaranderismo: Traditional Medicine**, *University of New Mexico*, Eliseo Torres

Experience/Employment

2013–Present · **Clinical Research Coordinator**, University of New Mexico College of Pharmacy Department of Pharmacy Practice and Administrative Sciences, Albuquerque, NM.
Study Title: Biomarkers of Bacterial Infection in High Risk Populations
Description: The purpose of the study is to identify biomarkers that predict *Staphylococcus aureus* infection in hemodialysis patients.

2013–Present · **Student Researcher**, University of New Mexico College of Pharmacy Department of Pharmaceutical Sciences, Albuquerque, NM.
Description: Research activities are directed towards the development of a devices that allows monitoring and enforcement of patient medication compliance in real-time using with single-dose resolution.

2013–Present · **Student Researcher**, University of New Mexico College of Pharmacy Department of Pharmacy Practice and Administrative Sciences, Albuquerque, NM.
Description: Research activities include Pulsed Field Gel Electrophoresis (PFGE) of clinical Methicillin Resistant *Staphylococcus aureus* (MRSA) isolates and maintenance of Relational Database Management System (RDMS) for storage of clinical and bacterial information.

2011–2013 **Clinical Research Coordinator**, NEW MEXICO VA HEALTHCARE SYSTEM, Albuquerque, NM.
Study Title: Combined Angiotensin Inhibition for the Treatment of Diabetic Nephropathy
Type: Multicenter, Randomized, Double-Blind, Placebo-Controlled, Phase III Clinical Trial
Sponsor: Department of Veteran Affairs
Description: To purpose of the study is to evaluate the combination of angiotensin converting enzyme inhibitor (ACEI) with an angiotensin receptor blocker (ARB) vs. standard treatment with angiotensin receptor blocker on the progression of kidney disease in individuals with Type 2 diabetes overt nephropathy.

2011–2013 **Clinical Research Coordinator**, NEW MEXICO VA HEALTHCARE SYSTEM, Albuquerque, NM.
Study Title: Systolic Blood Pressure Intervention Trial (SPRINT)
Type: Multicenter, Randomized, Clinical Trial
Sponsor: Wake Forest University Baptist Medical center
Description: The Systolic Blood Pressure Intervention Trial (SPRINT) is a 2-arm, multicenter, randomized clinical trial designed to test whether a treatment program aimed at reducing systolic blood pressure (SBP) to a lower goal than currently recommended will reduce cardiovascular disease (CVD) risk.

2006–2011 **Laboratory Assistant**, LOVELACE RESPIRATORY RESEARCH INSTITUTE, Albuquerque, NM.
Description: Activities included receiving and processing human tissue samples including erythrocytes, lymphocytes, sputum and urine as well as preparing and staining slides for microscopy according to established protocols and procedures.

2009 **Student Researcher**, UNIVERSITY OF NEW MEXICO DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY, Albuquerque, NM.
Description: Research directed at establishing a non-invasive approach for the identification of prostate cancer in male patients through H^1NMR analysis of citrate levels via prostatic secretions.

2008 **Undergraduate Research Fellow**, UNIVERSITY OF TEXAS M.D. ANDERSON CANCER CENTER SCIENCE PARK-RESEARCH DIVISION, Smithville, TX.
Study Title: Functional Analysis of ER Transcriptional Inhibition by CtIP Co-repressor Complex
Description: Admission to the program is granted on a competitive basis to academically talented undergraduates considering careers in basic biomedical research. Research was directed towards CtIP mediated silencing of endonuclear estrogen receptors in breast cancer.

2006 **Certified Nursing Assistant**, CARLSBAD MEDICAL CENTER, Carlsbad, NM.

Licensure

2013–Present **Pharmacy Intern License**, *New Mexico Regulation and Licensing Department, Albuquerque, NM.*

Professional Affiliations

2015–Present **Student Membership**, AMERICAN SOCIETY FOR MICROBIOLOGY (ASM), Membership ID: 57348369.

2014–2015 **Student Membership**, AMERICAN ASSOCIATION OF PHARMACEUTICAL SCIENTISTS (AAPS), Membership ID: 231752.

2014–2015 **President**, STUDENT PHARMACIST RESEARCH INTEREST GROUP (SPRIG), University of New Mexico College of Pharmacy.

2013–2014 **President Elect**, STUDENT PHARMACIST RESEARCH INTEREST GROUP (SPRIG), University of New Mexico College of Pharmacy.

Honors/Awards

12/2013 **Dean's List**, *University of New Mexico College of Pharmacy*

12/2007 **Dean's List**, *University of New Mexico College of Arts and Sciences*

05/2007 **Dean's List**, *University of New Mexico College of Arts and Sciences*

Research Projects

Ongoing

2015–Present **Assessment of ACI performance on particle distribution using a modified 3D printed trachea induction port**
Description: The purpose of this project is to determine how Anderson Cascade Impactor performance varies when using a 3D printed trachea model.

2014–Present **Automated Analysis of Gel Electrophoresis Using Machine Learning Algorithms**
Description: Application of machine learning algorithms for detection and classification of gel electrophoresis fingerprints.

2013–Present **Development of Intelligent Pharmaceutical Packaging for Real-Time Monitoring of Patient Compliance**
Description: Research is directed towards development of a device that uses printable circuits to allow real-time monitoring and enforcement of patient medication adherence with single dose resolution.

Completed

2015 **Application of Supervised Learning Algorithms for Rapid Identification of MRSA PFGE Strain Types**
Description: Automated classification of MRSA PFGE strain type using Support Vector Machines, Random Forrest and Artificial Neural Networks.

2014 **Online Epidemiology Mapping Tool**
Description: Development of an online interactive epidemiological mapping tool.

2008 **Functional Analysis of ER Transcriptional Inhibition by CtIP Co-Repressor Complex**
Description: Research directed towards CtIP mediated silencing of endonuclear estrogen receptors in breast cancer.

Grants/Funding

2015/09 **ASM Student and Post Doctoral Fellow Travel Grant**, *ICAAC/ICC Annual Meeting, San Diego, CA, September 2015*

Patents/Inventions

2014 **Wireless Medication Monitor**
STC Ref No. 2014-051
Description: A device that allows real-time monitoring and enforcement of patient medication compliance.

Abstracts

2015 **M. L. Bernauer**, J. M. Lewis, J. J. Shroba, R. C. Mercier. **Application of Supervised Learning Algorithms for Rapid Identification of MRSA PFGE Strain Types**, *ICAAC/ICC Annual Meeting, San Diego, CA, September 2015*

2015 J. J. Shroba, T. J. Dilworth, **M. L. Bernauer**, R. C. Mercier. **Clinical and Microbiological Characterization of Recurrent Invasive Methicillin Resistant *Staphylococcus aureus* (MRSA) Infections**, *ICAAC/ICC Annual Meeting, San Diego, CA, September 2015*

2015 M. C. Vazquez-Guillamet, J. J. Shroba, B. Deaton, R. Vazquez, **M. L. Bernauer**, R. C. Mercier. **Trajectory and Long-Term Outcomes in Patients with MRSA Bacteremia**, *ICAAC/ICC Annual Meeting, San Diego, CA, September 2015*

2014 **Michael L. Bernauer**, Jason T. McConville. **Development of Intelligent Pharmaceutical Packaging for Real-Time Monitoring of Patient Compliance**, *American Association of Pharmaceutical Scientists (AAPS) Meeting and Exposition, San Diego, CA, November 2014.*

Publications

2013 Fried LF, Emanuele N, Zhang JH, Brophy M, Conner TA, Duckworth W, Leehey DJ, McCullough PA, O'Connor T, Palevsky PM, Reilly RF, Seliger SL, Warren SR, Watnick S, Peduzzi P, Guarino P; **VA NEPHRON-D Investigators**. **Combined angiotensin inhibition for the treatment of diabetic nephropathy**. N Engl J Med. 2013 Nov 14. VA NEPHRON-D Coordinator

Presentations

09/2015 **M. L. Bernauer**, J. M. Lewis, J. J. Shroba, R. C. Mercier. **Application of Supervised Machine Learning Algorithms for Rapid Identification of MRSA PFGE Strain Types**, *ICAAC/ICC Annual Meeting, San Diego, CA, September 2015*

12/2014 **Michael L. Bernauer**, **University of New Mexico College of Pharmacy Summer Research Fellowship (SRF)**, *University of New Mexico College of Pharmacy, Albuquerque, NM, December 2014*

11/2014 **Michael L. Bernauer**, Jason T. McConville. **Development of Intelligent Pharmaceutical Packaging for Real-Time Monitoring of Patient Compliance**, *American Association of Pharmaceutical Scientists (AAPS) Meeting and Exposition, San Diego, CA, November 2014.*

03/2013   **Michael L. Bernauer**, Jason T. McConville. **Development of Smart Blister Pack to Increase Medication Adherence**, *University of New Mexico College of Pharmacy Annual Research Day, Albuquerque, NM, March 2014.*

07/2008   **Michael L. Bernauer. Functional Analysis of ER Transcriptional Inhibition by CtIP Co-repressor Complex**, *MD Anderson Cancer Center Science Park-Research Division (MDACC-SPRD), Smithville, TX, July 2008.*

Interests/Skills

- Programming
- Machine Learning
- Informatics

- R, Python, Julia, Matlab/Octave, SQL
- Data Analysis/Data Science
- Text/Data Mining