

Jeremy B **Provance**, MS *Curriculum Vitae*

CONTACT

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Offices:

- University of Missouri-Kansas City School of Medicine, 5th Floor, Department of Biomedical & Health Informatics
 - Saint Luke's Mid America Heart Institute, 9th Floor, Cardiovascular Outcomes Research Group
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EDUCATION

August 2017-

Doctoral Candidate

Discipline: Biomedical & Health Informatics (University of Missouri-Kansas City School of Medicine)

Dissertation Chair: Kim G Smolderen, PhD

Dissertation Committee: Brian Anderson, PhD; Matthew Bunte, MD; Mark Hoffman, PhD; Phil Jones, MS; John Spertus, MD; Todd Vogel, MD

Graduate Research Assistantship: Cardiovascular Disease Outcomes Research (Saint Luke's Mid America Heart Institute, Kansas City, Missouri)

August 2015-May 2017

Master of Science

Discipline: Biomedical & Health Informatics (University of Missouri-Kansas City School of Medicine)

Thesis Chair: Kim G Smolderen, PhD

Thesis Committee: Julie Banderas, PharmD; Mark Hoffman, PhD; John Spertus, MD

Thesis: Decisional Conflict in Peripheral Artery Disease: Association with Treatment Choice and Health Status

August 2010-May 2014

Bachelor of Arts

Major: Biology (William Jewell College, Liberty, Missouri)

Faculty Mentors: Scott Falke, PhD; Tara Allen, PhD

Senior Research Project: Fermentation Vessel Geometry Effects on *Saccharomyces cerevisiae* Metabolites with Gas Chromatograph-Mass Spectroscopy Analysis

WORK EXPERIENCE

October 2020-

Independent Informatics Consultant

Provance Consulting LLC

December 2015-

Software Support Analyst

University of Missouri-Kansas City School of Medicine, Department of Biomedical & Health Informatics,
Center for Health Insights

- Manage installations of REDCap and i2b2 software platforms for UMKC School of Medicine and Truman Medical Center research stakeholders
- Completed user implementation of i2b2 software package in April 2016
- Experienced with Cerner Health Facts, Microsoft HoloLens, Oculus Rift, Ingenuity Pathways Analysis, Unity, and DNASTar software platforms

January 2015-December 2015

Microbiologist

Boulevard Brewing Company (Kansas City, Missouri)

- Managed microbiology quality control and analysis lab operations
- Propagated proprietary brewery yeast strains
- Implemented qPCR analysis pipeline
- Trained in chemical and physical analysis methods

May 2014-December 2014

Production Brewer

Tallgrass Brewing Company (Manhattan, Kansas)

- Developed post-packaging beer microbial stability program
- Developed environmental and sustainability programs

PROGRAMMING

Expert: R, SAS, SQL, markdown

Intermediate: MongoDB, Python, MySQL, PostgreSQL

Working Knowledge: PHP, HTML5, CSS, Oracle, Command Line

PEER-REVIEWED PUBLICATIONS

1. Smolderen KG, Malik AO, Peri-Okonny P, Gosch K, Thomas BT, Mena C, Hiatt W, Aronow HD, Jones PG, **Provance JB**, Labroschiano C, Jelani Q, Spertus JA. 2020. Association of Perceived Stress with Health Status in Patients with Peripheral Artery Disease. *Journal of Psychosomatic Research*. Submitted.
2. Smolderen KG, Pacheco C, **Provance JB**, Stone N, Fuss C, Decker C, Bunte M, Jelani Q, Safley DM, Secemsky E, Sepucha K, Spatz ES, Mena-Hurtado C, Spertus JA. 2020. Treatment Decisions for Patients with Peripheral Artery Disease and Symptoms of Claudication: Development Process and Alpha Testing of the SHOW-ME-PAD © Decision-Aid. *Vascular Medicine*. Accepted.

3. Peri-Okonny P, Spertus JA, Malik AO, Jackson EA, Shishehbor MH, Mena-Hurtado C, **Provance JB**, Hejjaji V, Patel S, Gosch KL, Smolderen KG. 2020. Physical Activity after Treatment for Symptomatic Peripheral Artery Disease. *American Journal of Cardiology*. Accepted.
4. Peri-Okonny P, Patel S, Heyligers JM, Spertus JA, Jackson EA, Malik AO, **Provance JB**, Mena C, Shishehbor MH, Hejjaji V, Gosch KL, Smolderen KG. 2020. Physical Activity in Patients with Symptomatic Peripheral Artery Disease: Insights from the PORTRAIT Registry. *European Journal of Vascular & Endovascular Surgery*. In Press.
5. Malik AO, Peri-Okonny P, Gosch K, Thomas M, Mena C, Hiatt WR, Jones PG, **Provance JB**, Labrosciano C, Jelani Q, Spertus JA, Smolderen KG. 2020. Association of Perceived Stress Levels with Long-Term Mortality in Patients with Peripheral Artery Disease. *JAMA Netw Open*. 3(6):e208741.
6. **Provance JB**, Spertus JA, Decker C, Jones PG, Smolderen KG. 2019. Assessing Patient Preferences for Shared Decision-Making in Peripheral Artery Disease: Insights from the PORTRAIT Registry. *Circulation: Cardiovascular Quality and Outcomes*. 12(8).
7. Ward-Smith P, Hawks JH, Quallich SA, **Provance JB**. 2018. Workplace incivility: Perceptions of urology nurses. *Urological Nursing*. 38(1), 20-26.
8. Hoffman MA, **Provance JB**. 2017. Visualization of Molecular Structures Using HoloLens-based Augmented Reality. *AMIA Jt Summits Trans Sci Proc*. 68-74.

ABSTRACTS

1. **Provance JB**, Spertus JA, Jones PG, Bunte MC, Vogel TR, Hoffman MA, Mena-Hurtado C, Anderson BS, Smolderen KG. 2020. Factors Associated with 30-Day Amputation in Patients with Chronic Limb-Threatening Ischemia Undergoing Endovascular Intervention. *American College of Cardiology*. Submitted.
2. **Provance JB**, Spertus JA, Jones PG, Bunte MC, Vogel TR, Hoffman MA, Mena-Hurtado C, Smolderen KG. 2020. Site Variability in 30-Day Amputation Rates Among Patients with Critical Limb Ischemia Undergoing Endovascular Intervention. *American College of Cardiology*. Submitted.
3. **Provance JB**, Spertus JA, Decker C, Buchanan D, Jones P, Smolderen KG. 2019. Preferences and Patterns of Shared Decision-Making in Patients With Peripheral Artery Disease: Insights From the PORTRAIT Registry. *JACC*. 73(9): S1.
4. Peri-Okonny P, Malik A, **Provance JB**, Hejjaji V, Gosch K, Spertus JA, Smolderen KG. 2019. Cross Country Comparison of Leisure Time Physical Activity Trajectories in Patients With Symptomatic Peripheral Artery Disease: Insights From the PORTRAIT Registry. *JACC*. 73(9): S1.
5. Peri-Okonny P, Malik A, **Provance JB**, Hejjaji V, Gosch K, Spertus JA, Smolderen KG. 2019. Leisure Time Physical Activity After Invasive Treatment For Symptomatic Peripheral Artery Disease: Insights From the PORTRAIT Registry. *JACC*. 73(9): S1.
6. Malik AO, Peri-Okonny P, **Provance JB**, Gosch K, Thomas M, Labrosciano C, Spertus JA, Smolderen KG. 2019. The Association of Perceived Stress With Health Status Outcomes in Patients With Peripheral Artery Disease. *JACC*. 73(9): S1.
7. **Provance JB**, Spertus JA, Decker C, Smolderen KG. 2018. Examining Patients' Knowledge With Regards to Peripheral Artery Disease Treatments and Outcomes: Insights From the PORTRAIT Registry. *Circulation*. 138: A15970.

8. **Provance JB**, Spertus JA, Decker C, Smolderen KG. 2018. How Patients Value Different Treatment Goals and Outcomes in Peripheral Artery Disease Outcomes: Insights From the PORTRAIT Registry. *Circulation*. 138: A16038.
 9. **Provance JB**, Spertus JA, Safley D, Jones P, Sepucha K, Spatz E, Decker C, Smolderen KG. 2017. Decisional Conflict in Peripheral Artery Disease: Association with Treatment Choice and Health Status in the PORTRAIT Registry. *Circulation*. 136: A20550.
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ORAL PRESENTATIONS

1. **Visualization of molecular structures using HoloLens-based augmented reality**, Midwest Bioinformatics Conference, Data Visualization Session, Kansas City, April 2017 [video, start at 28:35]
 2. **Visualization of molecular structures using HoloLens-based augmented reality**, American Medical Informatics Association Joint Summits for Translational Science, Data Visualization Session, San Francisco, March 2017
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MODERATED POSTER PRESENTATIONS

1. **Preferences and Patterns of Shared Decision-Making in Patients with Peripheral Artery Disease: Insights from the PORTRAIT Registry**, American College of Cardiology Scientific Sessions, New Orleans, March 2019
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POSTER PRESENTATIONS

1. **Patterns of Provider-type Encounters for Patients with Peripheral Artery Disease, Insights from the Cerner Health Facts Database**, UMKC *Virtual* Health Sciences Student Research Summit, May 2020
2. **Catatonic patients given atypical antipsychotics have a significantly longer length of stay**
Catatonic patients treated early with a benzodiazepine have a significantly shorter length, UMKC 3rd Year Medical Student Poster Presentations, Dec 2019
3. **The Protective Effects of Smoking on Catatonia**, UMKC 3rd Year Medical Student Poster Presentations, Dec 2019
4. **The Effects of Insurance Status on the Route Type of the Catatonia Medication Prescribed**, UMKC 3rd Year Medical Student Poster Presentations, Dec 2019
5. **Preferences and Patterns of Shared Decision-Making in Patients with Peripheral Artery Disease: Insights from the PORTRAIT Registry**, Saint Luke's Hospital Annual Research Day, May 2019
6. **Studying Non-Traumatic, Lower-Limb Amputations in the Cerner Health Facts EMR Database**, UMKC Health Sciences Student Research Summit, April 2019
7. **Preferences and Patterns of Shared Decision-Making in Patients with Peripheral Artery Disease: Insights from the PORTRAIT Registry**, UMKC Health Sciences Student Research Summit, April 2019

8. **Preferences and Patterns of Shared Decision-Making in Patients with Peripheral Artery Disease: Insights from the PORTRAIT Registry**, UMKC Community of Scholars Research Symposium, March 2019
 9. **Examining Patients' Knowledge with Regards to Peripheral Artery Disease Treatments and Outcomes: Insights from the PORTRAIT Registry**, American Heart Association Scientific Sessions, Chicago, November 2018
 10. **How Patients Value Different Treatment Goals and Outcomes in Peripheral Artery Disease Outcomes: Insights from the PORTRAIT Registry**, American Heart Association Scientific Sessions, Chicago, November 2018
 11. **The Effect of Language Barrier on Prescribing of Pain Medication for Patients Diagnosed in the Emergency Department with Kidney Stones**, Truman Medical Center Emergency Medicine Resident Research Day, May 2018
 12. **Decisional Conflict in Peripheral Arterial Disease: Association with Treatment Choice and Health Status in the PORTRAIT Registry**, Saint Luke's Hospital Annual Research Day, Kansas City, April 2018
 13. **Comparison of a National and a Local Electronic Health Data Warehouse for Clinical Laboratory Quality Improvement Research**, Midwest Bioinformatics Conference, Columbia MO, April 2018
 14. **Decisional Conflict in Peripheral Arterial Disease: Association with Treatment Choice and Health Status in the PORTRAIT Registry**, American Heart Association Scientific Sessions, Anaheim, November 2017
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AWARDS & HONORS

2020 - **Scientific Writing Program Selection**, *Genetics Society of America* and *BioKansas*

2019 - **3rd Place (Poster)**, UMKC Community of Scholars Research Symposium

2019 - **Travel grant funded by Ida Bamberger Memorial Research Award (\$750)** to present:

- Preferences and Patterns of Shared Decision-Making in Patients with Peripheral Artery Disease: Insights from the PORTRAIT Registry, American College of Cardiology Scientific Sessions, New Orleans, March 2019

2019 - **Travel grant funded by UMKC School of Graduate Studies (\$800)** to present:

- Preferences and Patterns of Shared Decision-Making in Patients with Peripheral Artery Disease: Insights from the PORTRAIT Registry, American College of Cardiology Scientific Sessions, New Orleans, March 2019

2018 - **Travel grant funded by UMKC Student Activity Fee (\$1,200)** to present:

- Examining Patients' Knowledge with Regards to Peripheral Artery Disease Treatments and Outcomes: Insights from the PORTRAIT Registry, and
- How Patients Value Different Treatment Goals and Outcomes in Peripheral Artery Disease Outcomes: Insights from the PORTRAIT Registry, American Heart Association Scientific Sessions, Chicago, November 2018

2018 - **Sarah Morrison Student Research Award funded by UMKC Office of Research Administration** (\$2,500) to complete the project:

- Studying Amputations in the Cerner Health Facts Database: Overlap with Peripheral Artery Disease, Diabetes, and Prognostic Outcomes

2017 - **Travel grant funded by UMKC Student Activity Fee** (\$1,200) to present:

- Decisional Conflict in Peripheral Arterial Disease: Association with Treatment Choice and Health Status in the PORTRAIT Registry, American Heart Association Scientific Sessions, Anaheim, November 2017

2017 - **Travel grant funded by UMKC School of Graduate Studies** (\$800) to present:

- Decisional Conflict in Peripheral Arterial Disease: Association with Treatment Choice and Health Status in the PORTRAIT Registry, American Heart Association Scientific Sessions, Anaheim, November 2017

GRANT PARTICIPATION

2020-2025 (grant submitted)

Role: **Database Analyst**

Project: Pragmatic Trial: Medication Adherence Given Individual Change (PT-MAGIC) Study

Principal Investigator: Cynthia Russell, PhD, RN

Funding Agency: National Institute of Nursing Research (R01)

Projected Total Costs: \$2,405,190

2016-2018

Role: **Electronic Data Warehouse Analyst** (0.2 FTE)

Project: Practice-Based Evidence Using Local and National Data for Quality Improvement

Principal Investigators: Mark Hoffman, PhD; Kamani Lankachandra, MD

Funding Agency: Center for Disease Control (RFA-OE16-1602)

Grant amount: \$956,553 (3 years)

TEACHING & GUEST LECTURES

1. **Graduate Instructor**, *MEDB 5512: Clinical Trials*, Department of Biomedical & Health Informatics (UMKC School of Medicine), Spring 2020
2. **Discussion of Preparing Next-generation Scientists for Biomedical Big Data: Artificial Intelligence Approaches**, UMKC School of Medicine Multi-disciplinary Seminar Guest Lecture, September 2019 [slides]
3. **Teaching Assistant**, *MEDB 5512: Clinical Trials (Prof. Kim Smolderen)*, Department of Biomedical & Health Informatics (UMKC School of Medicine), Spring 2019
4. **Generalized Linear Mixed Models-Logistic Regression**, Biostatistics III: Multilevel Analysis Course Student Lecture, November 2018

5. **Introduction to Digital Open Science**, UMKC School of Medicine Multi-disciplinary Seminar Guest Lecture, October 2018 [slides]
 6. **Using Cerner i2b2 and Health Facts for Clinical Trials and General Research**, Clinical Trials Graduate Course Guest Lecture, UMKC School of Medicine, February 2018
 7. **Visualization of molecular structures using HoloLens-based augmented reality**, UMKC School of Medicine Multi-disciplinary Seminar Guest Lecture, October 2017
 8. **Using the De-identified Cerner i2b2 Database as a Research Resource**, UMKC School of Medicine Year 3 Medical Student Neuroscience Course Guest Lecture, October 2017
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RESEARCH MENTORSHIP

2020: Geetha Rajagopal (Medical Student), UMKC School of Medicine

2020: 3rd Year Medical Student Neuroscience Statistical Mentorship, UMKC School of Medicine

2019-2020: Fahad Qureshi (Medical Student), UMKC School of Medicine

2019: 3rd Year Medical Student Neuroscience Statistical Mentorship, UMKC School of Medicine

REVIEWING & JUDGING

American Heart Association *Quality of Care & Outcomes Research Scientific Sessions* (Data Science & Health Information Technology Abstract Reviewer, 2020-)

Saint Luke's Hospital Research Day (Poster Judge, May 2019)

American Heart Association, *Circulation: Cardiovascular Quality and Outcomes* (Reviewer, 2017-)

American Medical Informatics Association, *Informatics Summits* (Abstract Reviewer, 2017-)

PROFESSIONAL MEMBERSHIP

American College of Cardiology (Student Member, 2019-)

American Heart Association (Student Member, 2017-)

American Medical Informatics Association (Student Member, 2017-)

PODCAST APPEARANCES

Role in implementing i2b2 software, how i2b2 facilitates research goals, and challenges within clinical trials, The Research Rundown Podcast Series, Episode 3, Cerner Corporation, July 2018

SERVICE LEADERSHIP

UMKC Graduate Student Council, *President (2019), Vice President (2018), Secretary (2016, 2017)*

William Jewell College Presidential Scholars Mentorship Program, *Mentor*

Appointed July 2019

UMKC School of Graduate Studies Strategic Planning Committee, *Student Representative*

Appointed January 2019-May 2019

UMKC School of Graduate Studies Assistantship and Tuition Task Force, *Student Representative*

Appointed January 2019-May 2019

Golden Key International Honor Society, *Treasurer (2016)*

Inducted January 2016

Omicron Delta Kappa Honor Society

Inducted January 2016

UMKC Biomedical & Health Informatics Chair Search Committee, *Student Representative*

Appointed August 2016-October 2017

UMKC Biomedical & Health Informatics Curriculum Steering Committee, *Student Representative*

Appointed May 2016-May 2017

Phi Gamma Delta-Zeta Phi, Board of Graduate Advisers

Appointed May 2014

William Jewell College Student Senate, *President (2013), Treasurer (2014, 2012)*

Phi Gamma Delta-Zeta Phi, *New Member Educator (2014), Treasurer (2013), Judicial Chair (2012)*

William Jewell College Cardinal Hosts

Appointed 2011-2014

Missouri Boys State Staff Counselor

Summer 2010

Missouri Boys State *Boys Nation Finalist*

Summer 2009

PERSONAL ACHIEVEMENTS

Kansas City Marathon *2010, 2011, 2016, 2019*

Hospital Hill Half Marathon *2017, 2018, 2019*

Kansas City Half Marathon *2012, 2013, 2018*

Kansas Half Marathon *2014*

Des Moines 5150 Triathlon *2012*

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