

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

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## CONTACT

Twitter: @jeremyprovance

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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

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## WORK EXPERIENCE

*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

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## PROGRAMMING

**Advanced:** R, SAS, SQL

**Intermediate:** MongoDB, Python

**Basic:** PHP, HTML, CSS

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## PEER-REVIEWED PUBLICATIONS

1. 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*. Submitted.
2. Smolderen KG, Malik AO, Peri-Okonny P, Gosch K, Thomas BT, Mena C, Hiatt W, Aronow HD, Jones PG, **Provance JB**, Labrosciano C, Jelani Q, Spertus JA. 2020. Association of Perceived Stress with Health Status in Patients with Peripheral Artery Disease. *Journal of Psychosomatic Research*. Submitted.
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.

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## 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

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## GRANT PARTICIPATION

2020-2025 (grant submitted)

Role: **Database Analyst**

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

Principle 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)

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## 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), University of Missouri-Kansas City School of Medicine  
2019-2020: Fahad Qureshi (Medical Student), University of Missouri-Kansas City School of Medicine  
2019: 3rd Year Medical Student Neuroscience Statistical Mentorship (Group 1), University of Missouri-Kansas City School of Medicine  
2019: 3rd Year Medical Student Neuroscience Statistical Mentorship (Group 2), University of Missouri-Kansas City School of Medicine  
2019: 3rd Year Medical Student Neuroscience Statistical Mentorship (Group 3), University of Missouri-Kansas City School of Medicine

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#### 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-)

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#### PROFESSIONAL MEMBERSHIP

American College of Cardiology (Student Member, 2019-)  
American Heart Association (Student Member, 2017-)  
American Medical Informatics Association (Student Member, 2017-)

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#### 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

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## 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

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## 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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