

Mark Hoffman, Ph.D.

(816) 235-6068 Work

Work: hoffmanma@umkc.edu

EDUCATION

Undergraduate:

BA - Molecular Biology - Oxbridge Honors Program May 1991
William Jewell College (Summa cum laude)
Overseas Study - Oxford University Spring 1990

Graduate:

Doctor of Philosophy – Bacteriology May 1996
University of Wisconsin – Madison
Thesis title: Structural elements involved in the biological activities of staphylococcal enterotoxin A
Advisors: Late Dr. Marsha Betley, Dr. John Mansfield
Minor: Biotechnology, emphasis in Computer Science

Post-graduate:

Department of Bacteriology May 1996 – Aug 1996
University of Wisconsin
Dr. Rodney Welch

USDA - National Animal Disease Center Aug 1996 – Sept 1997
Ames, Iowa
Dr. Brad Bosworth

PROFESSIONAL EXPERIENCE

University of Kansas

Research Assistant – Biochemistry Summers 1990, 1991
Dr. Lynn Yarbrough
Adjunct Professor – School of Nursing (Informatics) June 2006 – Aug 2013

University of Wisconsin – Madison

Graduate Research Assistant Aug 1991 – May 1996
Marsha Betley, Ph.D. (1991-1994)
John Mansfield Ph.D. (1994-1996)

Postdoctoral Research Associate May 1996 – Aug 1996

Bioinformatics Programming Internship

DNASTAR, Inc – Madison WI Summer 1994

National Animal Disease Center – USDA – Ames, IA

Postdoctoral Research Associate Aug 1996 – Sept 1997
Brad Bosworth, Ph.D., DVM

Cerner Corporation

Application Developer - Microbiology Sept.1997 - Aug. 1998
Microbiology/Pathology Team Lead August 1998 -Sept. 2000
R&D Architect Sept 2000-Dec. 2002
Bioterrorism / Public Health Task Force Sept 2001-2003
Genomics Solution Manager January 2003 - March 2005
Clinical Bioinformatics Ontology Project Director January 2003 - Aug 2013
Director - Genomics Strategy March 2005-Sept 2006
Director - Translational Medicine Sept 2006 - March 2009
Vice President - Life Sciences Solutions March 2009 - Feb 2012
Vice President and General Manager - Cerner Research Feb 2012 - Apr 2013
Vice President - Personalized Medicine May 2013 - Aug 2013

University of Missouri – Kansas City (UMKC)

Research Assistant – School of Biological Sciences Summer 1989
Dr. Rona Hirschberg
Adjunct Professor – School of Computing and Engineering Jan 2004 – Aug 2013
Director Center for Health Insights Aug 2013 – present
Assoc. Professor Department of Biomedical and Aug 2013 – present
Health Informatics
Assoc. Professor Department of Pediatrics Aug 2013 - present

Children's Mercy Hospital

Director of Translational Bioinformatics

Aug 2013 - present

Consultancies:

RAND Corporation

Dec 2007-Dec 2009

Genetic test reporting (CDC funded)

BD Corporation

Aug 2014

Key Projects: Health Facts, i2b2 implementations, motion analysis of clinical simulation, REDCap, Personalized medicine initiatives, Envirome web services, development of technology solutions to enable drug and diagnostic development, Millennium Helix™, Pandemic flu surveillance, Clinical Bioinformatics Ontology™ development, Health Sentry™ functional and project lead, AHRQ grant-funded project with University of Chicago Medical Center – HIV pharmacogenomics decision support, Electronic Signatures - 21 CFR part 11 compliance project lead, bill at result project lead.

PUBLICATIONS AND PATENTS

Peer reviewed

1. **Hoffman M**, Tremaine M, Mansfield J, Betley M. "Biochemical and mutational analysis of the histidine residues of staphylococcal enterotoxin A." *Infect Immun.* 1996 Mar;64(3):885-90. PMID: 8641796
2. Laegreid W, **Hoffman M**, Keen J, Elder R, Kwang J. "Development of a blocking enzyme-linked immunosorbent assay for detection of serum antibodies to O157 antigen of Escherichia coli." *Clin Diagn Lab Immunol.* 1998 Mar;5(2):242-6. PMID: 9521150
3. **Hoffman, MA.**, Wilkinson, T, Bush, A, Myers, W, Griffin R, Hoff, G, Archer, R. "Multijurisdictional approach to Biosurveillance, Kansas City" *Emerg. Inf. Dis.* 2003 9(10):1281-1286 PMID: 14609464
4. **Hoffman, M.**, Arnoldi, C., Chuang, I "The Clinical Bioinformatics Ontology: a curated semantic network utilizing RefSeq information" *Pac. Symp. Biocomp.* 2005, p. 139-150 PMID: 15759621
5. **Hoffman, MA.** "The Genome Enabled EMR" *J. Biomed. Info.* 2007 40(1):44-6 PMID: 16616698
6. **Hoffman, M.**; Menge, C; Casey, T; Laegreid, W; Bosworth, B; Dean-Nystrom, E. "Bovine immune response to Shiga-toxigenic Escherichia coli O157:H7" *Clin. Vacc. Immun.* 2007; 13(12):1322-7 PMID: 17050743
7. Uy, J.; Baker,R; **Hoffman,M**; Moorman, A.; Novak, R. et. al "HIV Genotypic Resistance

Testing to Optimize Antiretroviral Prescribing: Is There Room for Improvement?"
Antiviral Therapy 2007 12 (6):957-62 PMID: 17926650

8. Deshmukh, V.; **Hoffman, M**; Arnoldi, C.; Bray, B; Mitchell, J. "Efficiency of CYP2C9 Genetic Test Representation for Automated Pharmacogenetic Decision Support" Methods Inf. Med. 2009; 48(3):282-290 PMID: 19387508
9. **Hoffman, MA**, Williams, M; "Electronic medical records and personalized medicine" Human Genetics 2011, 130(1)33-39 PMID: 21519832
10. Masys, D, Jarvik, GP, Abernethy, NF., Anderson, NR., Papanicolaou, G; Paltoo, DN., **Hoffman, MA**, Kohane, IS., Levy, HP "Technical desiderata for the Integration of Genomic Data into Electronic Health Records" J. Biomed Info. 2012 45(3): 419-22 PMID: 22223081
11. Laird, M; Mitchell, SB; **Hoffman, MA** "Integrating Clinical Care and Clinical Research: A Real-World Experience" Persp. Health Inf. Mgmt. v11 Oct 1;11:1e PMID: 25593571
12. Yu, P; **Hoffman, MA**; Hayes, DF "Biomarkers and Oncology: The Path Forward to a Learning Health System" Arch. of Path. Epub PMID: 25152310 (print in 2015)

Book chapters

1. McCormick, K.; **Hoffman, M**. "Influence of Biomedical Informatics on Clinical Information Systems" in Nursing and Informatics for the 21st Century: Cases, Practice, and the Future, edited by Charlotte Weaver, Connie Delaney, Patrick Weber, and Robyn Carr HIMSS 2006
2. **Hoffman, M**. "Genomic Medicine: Informatics Implications and Opportunities" in Managing information Technology in Health Services Organizations ed. Gordon Brown 2005
3. **Hoffman, M**. "Genomic Medicine: Informatics Implications and Opportunities" in Managing information Technology in Health Services Organizations ed. Gordon Brown 2012 (2nd edition)
4. Kannry, J.; Kushniru, A.; Denny, J.; **Hoffman, M**.; Levy, H.; Williams, M.S. "Effectively Integrating Genomic Clinical Decision Support into the EHR" in Clinical Genomics: Practical Applications in Adult Patient Care edited by Michael Murray, Mark Babyatsky and Monica Giovanni 2014
5. **Hoffman, MA** "Why Study Health Informatics?" Health Informatics for the Curious: Why Study Health Informatics (ISBN 978-1-925128-71-0) (Accepted for publication in August 2014 – University of Canberra Australia)

Patents issued

1. U.S. Patent – 7,634,359 – **Hoffman, M.**, Power, K., Kuhns, G., Smith, N. “Computerized System and Method for Building a System of Test Components for a Healthcare Orderable Procedure”
2. U.S. Patent – 7,729,865 - **Hoffman, M.**, Kuhns, G., Power, K. “A computerized system and method for automated correlation of genetic test results”
3. U.S. Patent – 7,773,793 - **Hoffman, M.**, Humphrey, L., Duello, D. “Computerized method and system for association a portion of a diagnostic image with an electronic medical record”
4. U.S. Patent – 7,813,879 Bush, A, Gosch, J, **Hoffman, M** “System and method for processing biologically significant events”
5. U.S. Patent 7,869,956 - **Hoffman, M.** “A computerized system and method for documenting and presenting mutation observations”
6. U.S. Patent – 7,885,445 - **Hoffman, M.**, Humphrey, L., Duello, D. “Computerized method and system for association a portion of a diagnostic image with an electronic medical record”
7. U.S. Patent – 7,957,914 – **Hoffman, M.**, Kuhns, Ginger, Power, K.. “Automated detection of genetic test duplication”
8. U.S. Patent – 7,983,848 – **Hoffman, M.**, McCallie, D. “Computerized method and system for inferring genetic finding for a patient”
9. U.S. Patent – 8,001,097 - **Hoffman, M.**, Power, K., Kuhns, G., Smith, N. “Computerized System and Method for Building a System of Test Components for a Healthcare Orderable Procedure”
10. U.S. Patent – 8,224,585 – **Hoffman, M.** – “Documenting and presenting mutation observations”
11. U.S. Patent – 8,224,671 – Nedblake, G, **Hoffman, M.**, Power, K. “Documentation of protocol orders”
12. US Patent – 8,364,502 – Nedblake, G; **Hoffman, M**; Power, K – “Proactive correction alerts”
13. US Patent – 8,489,409 – Moussavi, M; **Hoffman, M** – “Automated newborn screening reporting”
14. US Patent – 8,498,880 – Nedblake, G; **Hoffman, M**; Power, K; “Shared protocol statements”

15. US Patent – 8,538,704 – **Hoffman, M**; McCallie, D; “Computerized method and system for inferring genetic finding for a patient”
16. US Patent – 8,924,224 – **Hoffman, M**; Haven, S; Kuhns, G; Power, K “System and method for creating and displaying optional orders in healthcare environment”
17. Australian Patent 2,002,303,386 **Hoffman M.**, McCallie D. “Computer system for providing information about the risk of an atypical clinical event based upon genetic information”

ABSTRACTS (representative)

1. **Hoffman, M**; Casey, T; Bosworth, B “Bovine Immune Response to Escherichia coli O157:H7” International Symposium and Workshop on Shiga Toxin, 1997
2. Arnoldi, C; **Hoffman M** "Using the Clinical Bioinformatics Ontology to Represent CYP2D6 Information" Kansas City Life Sciences Institute Research Day, 2004
3. Arnoldi, C, Moussavi, M; **Hoffman, M** "Modeling Cytogenetic Information in the Clinical Bioinformatics Ontology" Advancing Practice Innovation and Instruction through Informatics, 2005
4. Gravlin, S.; Moussavi, M; **Hoffman, M** “Promoting Personalized Medicine through Health Information Technology” Pediatric Pharmacogenomics Conference, 2010
5. Fiske, KS, Siefert, M, **Hoffman, M** “EHR-based syndromic surveillance during the 2009-2010 H1N1 pandemic” Emerging Health Threats Journal 2011; 4:s133: 37-38
6. Gravlin, S; Moussavi, M; **Hoffman, M** “Integrating clinical decision support rules for pharmacogenomics into the EHR” Pediatric Pharmacogenomics Conference, 2011
7. DeShazo, JP; **Hoffman, M**; Aro, T “Academic/Industry partnership for rapid implementation of a clinical data warehouse using cloud computing infrastructure” AMIA Public Health Informatics, 2011
8. Gonzalez, AF; Gravlin, S; Neale, M; **Hoffman, M**; Gonzalez, I; M Moussavi M “Integrating pharmacogenetics into the Electronic Health Record” J.Mol Diag. 2011 12(6):896
9. Blackburn, R; Bui, T; **Hoffman, MA** “Using REDCap to facilitate field assessments for community health improvement” 6th Annual REDCap Conference, 2014
10. Venkitachalam L, Gerkovich, MM, Allsworth JE, Ross JN, **Hoffman MA**, Williams KB “Will access to timely primary care influence the success of the American Heart Association’s 2020 Strategic Impact Goals? A report from the 2012 National Health

Interview Survey” American Heart Association Conference, 2014

FUNDED RESEARCH

Consultant – University of Illinois – Chicago

HIV Pharmacogenomics and Decision Support

AHRQ – Clinical Informatics and Patient Safety (CLIPS) 2001-2004

PI – Personal Genomics Evaluation Pilot

Innovation initiative, internally funded by Cerner Corporation, IRB approved, 2009-2010

This project funded a comparison of three direct to consumer genetic testing companies and evaluated the suitability of these results for integration with the electronic health record.

PI – Informatics and Personalized Medicine collaboration with Virginia Commonwealth University (VCU)

Innovation initiative, internally funded by Cerner Corporation, IRB approved, 2009-2011

This project funded a collaborative initiative with VCU to pilot pharmacogenomics decision support and a family history application capable of integrating with the personal health record and the electronic health record.

PI – Informatic and architectural analysis of human performance in a clinical simulation setting

University of Missouri System – Interdisciplinary Intercampus (IDIC) program

Co-investigators: Bimal Balakrishnan, Ph.D. (MU), Greg King, Ph.D. (UMKC)

\$94,460 total (\$49,740 UMKC)

Other Research:

Member advisory committee – R21 “Electronic Health Record-linked Decision Support to for Communicating Genomic Data”

PI: Casey Overby, Ph.D – University of Maryland (2014 – present)

Mentor – KL2TR000119 – “Variation of bioactivation and detoxification of trimethoprim in children”

PI: Jennifer Goldman, MD - Children’s Mercy Hospital (2014 – 2016)

TEACHING

Primary Instructor

Clinical Bioinformatics 5510 (UMKC Biomedical and Health Informatics – 3cr), Fall 2014

Teaching Assistant

Bacteriology 101 – Dept. of Bacteriology, Univ. of Wisconsin – Madison, Fall 1992

Bacteriology 550 – Dept. of Bacteriology, Univ. of Wisconsin – Madison, Spring 1993

Guest Lecturer

Shawnee Mission South – Anatomy and Physiology AP – Annually 2008 - 2014

UMKC Summer Scholars Program – “Bioinformatics”, Summer 2014

UMKC – Biology 303 - From Bench to Bedside: Translational Research, Fall 2014

Thesis committees

1. Master’s Thesis Committee (member) – Chintan Patel (UMKC SCE), 2004
Title: “Ontolinks: Facilitating conceptual linking of ontologies”
Chair: Yugyung Lee, Ph.D.
2. Master’s Thesis Committee (member) – Vijay Nalla (UMKC SCE), 2005
Title: “Automated splice site analysis”
Chair: Peter Rogan, Ph.D.
3. Master’s Thesis Committee (member) – Safer Siddicky (UMKC SCE) (planned for May, 2015)
Title: Use of biomechanical motion capture to evaluate Endotracheal Intubation (ETI) skill in a simulated clinical setting
Chair: Gregory King, Ph.D.

Independent Study (for credit)

1. Independent Study, Thach Bui (UMKC DBHI), Summer 2014
Project: Develop a mobile implementation of REDCap to document housing quality information.

Summer Students Supervised

1. Catherine Arnoldi, William Jewell (intern at Cerner), 2002-2005
Project: Development of clinical bioinformatics ontology
2. Vikrant Deshmukh, University of Utah (Ph.D. candidate) (intern at Cerner), 2008
Project: Optimizing pharmacogenetic clinical decision support
3. Diana Hylton, University of Kansas (MD candidate) (intern at Cerner), 2012
Project: Adding surgical terminologies to Cerner Health Facts
4. Spenser Martin, Missouri State University (Computer Science, Geospatial Sciences),

2014

Project: Implementing GIS resources for use in evaluating food deserts and other socioeconomic phenomenon

5. Vishnu Harikumar, UMKC School of Medicine, 2014

Project: Validating DNASTAR for Clinical Bioinformatics Class

Additional research projects supervised

1. Jonah Graves – UMKC Medicine (year 2), 2015

Project: Use REDCap to support oncology health disparities research project with Dr. Jill Moormeier.

2. Shabhu Sekhon – UMKC Medicine (year 2), 2015

Project: Use motion analysis to evaluate ergonomic risks for ophthalmologists.

3. Ronnie Blackburn – UMKC Department of Biomedical and Health Informatics – MS Candidate – Dec, 2015 (planned)

Project: Point of care access to socioeconomic data

SCIENTIFIC SERVICE (Representative)

1. Bioinformatics Curriculum Committee - UMKC, 2003-2004

2. Search Committee for Dean of School of Computing and Engineering - UMKC, 2004-2005

3. President's Council of Advisors on Science and Technology (PCAST) Personalized Medicine Subcommittee, Special Meeting, 2007

4. Health and Human Services Secretary's Advisory Committee on Genetics, Health, and Society (SACGHS) Task force on Oversight of Genetic Testing, 2007

5. AMIA Translational Bioinformatics Conference Track Co-Chair, 2009

6. AMIA Translational Bioinformatics Conference Scientific Program Committee, 2010

7. Evaluating Genomic Applications in Practice and Prevention Stakeholders group (EGAPP ESG), 2007-2009

8. EGAPP ESG - IT Subcommittee Co-Chair, 2008-2009

9. NeuroDevNet (Canada) - Scientific Advisory Board, 2010 – present

10. Department of Biomedical and Health Informatics - Curriculum Committee, 2014 – present
11. Center for Practical Bioethics - Board of Directors, 2014 – present
12. Sprint Mobile Health Accelerator - Mentor, 2014
13. UMKC School of Medicine - Dean Search Committee, 2014
14. DARTNet Institute - Board of Directors, 2014 – present
15. Rare and Undiagnosed Diseases Network – Advisory Board – 2014 - present
16. University of Missouri Research Board grant reviewer – 2014 - present
17. Editorial review:
 - Journal of Biomedical Informatics
 - Emerging Infectious Diseases
 - Nature Reviews Genetics
 - Genetics in Medicine
 - Clinical and Vaccine Immunology
 - Journal of Maternal - Fetal and Neonatal Medicine
 - Associate Editor - Journal of Clinical Bioinformatics

INVITATION ONLY WORKSHOPS

1. “Perspectives and Tools: How to interpret Pharmacogenetic reporting” American Association of Clinical Chemistry, 2006, 2007
2. “Enabling Research Use of Clinical Data” NIH, 2013
3. “Patient Reported Outcomes” – PCORI, Atlanta GA. 2014
4. “Genomic Clinical Decision Support – Developing Solutions for Clinical and Research Implementation” – NIH, Bethesda, MD - 2014

INVITED LECTURES (regional, national, international)

1. "Structure Function Analysis of Staphylococcal Enterotoxin A" Human Gene Therapy Research Institute, Des Moines, Iowa, 1996
2. “Capturing Pharmacogenomic Information for Patient Management” AACC Pharmacogenomics Workshop, 2002
3. “Clinical Decision Support Using HIV Genotype Information” AIMCL, University of

Michigan, 2002

4. “Biomedical Informatics: New Frontiers” MOBIO - Missouri Chamber of Commerce, Lake of the Ozarks, 2002
5. “The Genome Enabled Laboratory Information System” AACC Cool Tools Conference, San Diego, 2004
6. “Genetic data in the LIS and EMR” with Michael Feldman, MD (University of Pennsylvania), Pathology Executive War College, 2005
7. “Clinical Bioinformatics and Personalized Medicine” H. Lee Moffitt Total Cancer Care Summit, 2007
8. “Care Drives Discovery, Discovery Drives Care”, Missouri Regional Life Sciences Summit, 2010
9. “Health data ecosystem: readiness for genomic data sharing” HHS Secretary’s Advisory Committee on Genomics, Health and Society, Washington DC, 2010
10. “HITECH and Meaningful Use: The Impact of the Current EHR Landscape on the Support of Personalized Medicine” Intermountain Healthcare, 2010
11. “Bridging Patient Care and Research” Leveraging Electronic Health Records for Genetic Research – University of Michigan, 2011
12. “Accelerating Clinical Research: A New Paradigm” Georgia Health Sciences University Tech Fair, 2011
13. “Use of Genetic Information in a Widely Distributed EHR” NHLBI Workshop – Integration of Genetic Test Results Within Medical Records, Rockville MD, 2011
14. “Genomics and the EHR” NHGRI Conference - Genomics and Health Information Technology Systems: Exploring the Issues, Rockville MD, 2011
15. “Partners in Discovery and Health: Building an Institution-wide Research Cohort with Integrated Health Records and Biospecimens” University of Southern California, 2012
16. “Beyond the Hype – Developing, Implementing, and Sharing Pharmacogenomic Clinical Decision Support” Panel – AMIA Summit on Translational Bioinformatics, San Francisco, 2013
17. Association of Medical Directors of Information Systems – Symposium Ojai, CA, 2013
18. “Powerful Patient Data: Genomics and Family Health History in Health IT” – Genetic Alliance and Intermountain Healthcare, 2013

19. "Personalized Medicine" – Cerner Physician Forum, 2013
20. "Clinical Decision Support" Regulatory Issues in Next Generation Medicine and Pharmacogenomics – University of Maryland, 2013
21. "Your Personal Brand: Developing your competitive edge in a collaborative world" with Marian Limacher, MD and Rebecca Pauly, MD, my section was shared by video. AAMC Mid-Career Women Faculty Professional Development Seminar, Austin TX, 2013
22. "Big Data, Little Data and Personalized Medicine" World of Health IT HIMSS Europe, Nice, France, 2014
23. "Crafting and Communicating One's Message: The Elevator Speech, the Tweet and Beyond" with Rebecca Pauly, MD UMKC, my section was shared by video, ICCH Amsterdam, Netherlands 2014
24. "Using Big Data to Understand Patient Context" Midwest Health Informatics and Telemedicine Conference, Kansas City, MO, 2014

*During my career at Cerner I delivered many client presentations that are not included in this list. The presentations listed here were delivered in an academic (versus sales or consulting) style and were often eligible for Continuing Education credits.

INVITED LECTURES (local, representative)

1. "Immune Response to Bacterial Toxins" Midwest Research Institute, 1997
2. Kansas City Life Sciences Institute Life Sciences and Technology Expert panel - 2003
3. "Non-intrusive Integration of Genomics Information into a Clinical Information System" University of Missouri Kansas City, School of Engineering, 2006
4. "The Intersection of Public Health and Personalized Medicine" William Jewell College, 2010
5. "Healthcare Reform: How Will we Know if Things Have Improved?" William Jewell College, 2011
6. "Medical Informatics as an Enabler of Translational Medicine" – Kansas City Life Sciences Institute Research Symposium, 2013
7. "Biobanking and Big Data" Genomics and Learning Health Systems – Center for Practical Bioethics Symposium, 2013

8. "Big Data, Little Data – Gaining and applying Health Insights" UMKC Department of Computer Science, 2013
9. "Enabling Research through informatics" UMKC Vision Research Center, 2014
10. "Enabling Research through Informatics" St. Luke's Cardiovascular Outcomes Research group, 2014
11. "Enabling Clinical and Biomedical Research" UMKC Center of Excellence in the Study of Dental and Musculoskeletal Tissues, 2014
12. "Health Care and Big Data" – UMKC Friends of the Library Lecture, 2014
13. "Health Care and Big Data" – KC Project Lead the Way – KC Area Biomedical High School Teachers, 2015
14. "New Data and Technology Resources Available for Biomedical Research" UMKC Cranio-facial Research Seminar, 2015
15. "Context Matters: Socioeconomic API" Kansas City Civic Apps Forum, 2015

PANELIST

1. McCarthy, JF, Hoffman, M, Nelson, S, Schrag, RC, Larson, RR "Bridging the Molecular Gap: Extracting, Representing and Utilizing Molecular Knowledge in Clinical Medicine" AMIA, 2001
2. "Integrating molecular & clinical information and knowledge to improve health care" MedInfo Genomics working group panel, 2004
3. "Embedding structured genetic findings in the EMR" AMIA, 2005
4. "Clinical Decision Support and Personalized Medicine" Personal Healthcare Workgroup – Health and Human Services, 2007
5. "Executive Office Panel: Evolution of the Clinical Lab Software Industry on a Five-Year Horizon", LabInfoTech 2008
6. IT Roundtable – Clinical Research Forum, 2012
7. Clinical Research and Population Health – Cerner Health Conference, 2014

MEMBERSHIPS

American Society for Microbiology	1993-present
American Association for the Advancement of Science	2000-present

American Medical Informatics Association	2001-present
Healthcare Information and Management Systems Society	2001-2008
Association for Molecular Pathology	2006-2010

AWARDS

Missouri Academy of Science - 2 nd place Undergraduate Biological Research	1991
William Jewell College - Spanish Poetry Award	1991
William Jewell College - Biology Departmental Award	1991
William Jewell College Faculty Award to top graduating senior	1991
NIH Biotechnology Training Program	1991-1994
USDA Certificate of Merit for work on the First Virtual Conference on Infectious Disease in Animals	1997
Cerner Top Gun Award to top 5% of associates	2002
Finalist - Cerner Innovation of the Year “HIV Pharmacogenomics Decision Support”	2003
Finalist - Cerner Innovation of the Year “Health Sentry”	2003
Winner – Cerner Innovation of the Year – “Patent Program” (with other inventors and legal department)	2004
Winner – Cerner Outstanding Intellectual Property Achievement “Millennium Helix”	2004

SKILLS

Languages:

- English - fluent
- Spanish – strong conversational

Software development:

- Programming languages used professionally: C, COBOL, Visual Basic, SQL (Cerner variant “CCL”)
- Programming languages used personally: Perl, Python, PHP, Java, Ruby
- Content management systems: Wordpress, Joomla, Typo3
- Software architecture

- Ontology design
- Project management

Software platforms:

Platform	Skill level
Cerner Millennium	Expert
Cerner Classic	Expert
Cerner Health Sentry	Expert
DNASTAR	Expert
Cerner Discovere	Skilled
Ingenuity Pathways Analysis (IPA)	Skilled
Visual Genetics	Skilled
REDCap	Skilled
i2b2	Skilled
Protégé (ontology mgmt.)	Learner
Motive (motion capture)	Learner

COMMUNITY

Moderator Technology Department – Lee’s Summit Christian Church, 2002-2004

Board of Directors – University Associates (UMKC), 2003-2006

Search Committee for Senior Pastor – Lee’s Summit Christian Church, 2003-2004

Administration Department – Lee’s Summit Christian Church, 1999-2001, 2005-2012

Vice Moderator – Lee’s Summit Christian Church, 2007

Moderator – Lee’s Summit Christian Church, 2008

Parliamentarian – Lee’s Summit Christian Church, 2009

Founder, President – Eden Renewal, 2009-present

Elder – Lee’s Summit Christian Church, 2011-2013

Adult sponsor – Lee’s Summit Christian Church youth mission trip to Costa Rica, 2014