Abu Saleh Mohammad Mosa, MS, PhD
Director, Research Informatics, University of Missouri School of Medicine
Assistant Research Professor, Department of Health Management and Informatics

CONTACT

University of Missouri School of Medicine
NW505 Medical Sciences Building, DC018.00
One Hospital Drive
Columbia, MO 65212

Email: mosaa@health.missouri.edu
Office: (573) 882-8349
Google Scholar:
https://scholar.google.com/citations?user=SABx15TZhTIC&hl

EDUCATION

Doctor of Philosophy in Health Informatics   **(Dec 2015)**
Informatics Institute
University of Missouri, Columbia, MO, USA

Dissertation Title: A Novel And Dynamic Prediction Engine For Practicing Precision Medicine To Prevent Chemotherapy-Induced Nausea And Vomiting.
Dissertation Supervisor: Dr. Illhoi Yoo, PhD.

Master of Science in Computer Science and Informatics   **(June 2010)**
Department of Computer Science and Informatics
University College Dublin (UCD), National University of Ireland, Ireland

Thesis Title: Hosting, Indexing And Visualization of Three-Dimensional (3D) Point Clouds.
Thesis Supervisor: Dr. Michela Bertolotto, PhD.

Bachelor of Science in Computer Science and Engineering   **(October 2006)**
Department of Computer Science and Engineering
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

Thesis Title: Distance Metric Learning, a Normalized Cut Approach.
Thesis Supervisor: Abu Wasif

Appointments

2013-Present	Director, Research Informatics, University of Missouri School of Medicine, Columbia, MO, USA
2016-Present	Assistant Research Professor, Department of Health Management and Informatics, University of Missouri School of Medicine, Columbia, MO, USA
2016-Present	Affiliate Faculty, Informatics Institute, University of Missouri, Columbia, MO, USA
2017-Present	Adjunct Assistant Professor, Electrical Engineering and Computer Science, University of Missouri, Columbia, MO, USA
2010 – 2013	Graduate Research Assistant, Department of Health Management and Informatics, University of Missouri School of Medicine, Columbia, MO, USA
2009 – 2010	Postgraduate Researcher and Teaching Assistant, Computer Science and Informatics, University College Dublin, Ireland
2006 – 2009	Senior Software Engineer, VonAir Software Services, Dhaka, Bangladesh

2005 – 2006	Software Engineer, AfriGIS BD, Dhaka, Bangladesh

CURRENT RESEARCH GRANTS

1. Project ID: 00065713, (PI: Mosa) **02/01/2019-01/31/2020**
Roche Molecular Systems, Inc.
Non-small Cell Lung Cancer (NSCLC): Data Analytics, Patient Journeys, and Patient Clusters
Principal Investigator, Total Budget: $172,959
The goals of the projects are: (a) Identify and define a patient cohort of up to 500 aNSCLC patients dating from 2010 onward, (b) Sequentially define individual patient journeys according to laboratory diagnostic and oncology-related treatment events at cancer-related encounters, (c) Define unique patient clusters based on key demographic and clinical data attributes necessary to identify similar patients within a given cohort, and (d) Develop interactive descriptive data dashboards to visualize patient pathways and pools linked with key clinical outcomes (e.g. cancer-specific mortality, survival), and quality and accreditation metrics.

2. AOC16380067 and AOC19380106 (PI: Mosa) **08/22/2016-09/30/2019**
MO Department of Health and Senior Services
Maternal Infant And Early Childhood-Integrated Data System
Principal Investigator, Total Award Amount: $298,111
The goal of this project is to develop a data collection system for the Missouri Department of Health and Senior Services (DHSS) Maternal and Child Health Home Visiting Programs which are funded by the United States Department of Health and Human Services. The system is used by the public health workers at the local implementing agencies across the State of Missouri, which is a secure, central and completely online system.

3. AOC19380003 and Project ID 00065417 (PI: Mosa) **06/01/2018-01/31/2020**
MO Department of Health and Senior Services
DHSS Zika Pregnancy Registry and Birth Defects Surveillance of Missouri
Principal Investigator, Total Award Amount: $114,076
In this project we have developed a research electronic data capture system to be used by the Missouri Department of Health and Senior Services in order to facilitate secure online data collection. The system is used by the US Zika Pregnancy and Infant Registry program staffs at the Missouri DHSS.

4. PCRF 1247 (GPC PI: Waitman, MU Site-PI: Parker) **11/01/2018 – 09/30/2020**
People-Centered Research Foundation (PCRF) through University of Kansas Medical Center
The Greater Plains Collaborative; a PCORnet Clinical Data Research Network 2.0
Co-Investigator and Site Project Director
Total Budget: $ 215,195
Major Goals: extend the capacity of the research network that captures complete and comprehensive data from patients at twelve medical centers. Continue governance, regulatory processes, technical infrastructure (e.g., i2b2, SQL, PopMedNet, SAS, and REDCap), and patient engagement strategies to enable a learning healthcare system by integrating Comparative Effectiveness Research within clinical workflows. Develop sustainable model for this digital infrastructure.

5. 1R24HS022140 (PI: Mehr) **09/30/2013-09/29/2019**
Agency for Healthcare Research and Quality
Building Patient Centered Outcomes Research Capacity: Care Transitions
Co-Investigator, Total Award Amount: $1,001,859
The MU Center for PCOR will develop capacity to conduct research and disseminate results related to transitions patients experience from one site of care to another, such as hospital to home, or from one phase of care to another, such as initiating opioids to treat chronic pain. The grant includes three research projects and core activities focused on improving capabilities in using large data sets to

conduct comparative effectiveness research and on facilitating practice and system change. There is a partnership with the American Academy of Family Physicians National Research Network.

6. **ASP-1502-27079 (PI: Hernandez, GPC PI: Waitman, Site PI: Mehr)   02/28/2017-08/15/2020**
Patient-Centered Outcomes Research Institute (PCORI)
Aspirin Dosing: A Patient-Centric Trial Assessing Benefits and Long-term Effectiveness (ADAPTABLE)
Co-Investigator, Total Award Amount: $26,800
MU is a sub-site of the ADAPTABLE clinical trial. To identify the optimal dose of aspirin for secondary prevention in patients with ASCVD, we are participating in a pragmatic clinical trial in which 20,000 patients who are at high risk for ischemic events will be randomly assigned in a 1:1 ratio to receive an aspirin dose of 81 mg/day vs. 325 mg/day. Study participants will be enrolled over 24 months. Maximum follow-up will be 30 months. The primary endpoint is a composite of all-cause death, hospitalization for MI, or hospitalization for stroke. The primary safety endpoint is hospitalization for major bleeding with an associated blood product transfusion.

7. **R01HS022497 (PI: Alexander)   09/01/2017-08/31/2022**
Agency for Healthcare Research and Quality
A National Report of Nursing Home Quality Measures and Information Technology
Co-Investigator, Total Award Amount: $2,034,023
Nursing home (NH) health information technology (IT) is becoming more prevalent across the country. The research strategy includes a 4 round Delphi Technique with 30 NH IT experts to validate a NH IT Maturity survey that includes 29 content areas in resident care, clinical support, and administrative activities. Delphi experts will help also develop a NH IT maturity staging model based on NH IT capabilities, extent of IT use, and IT integration. Delphi expert opinion regarding the the NH IT Maturity scale and staging model will be combined to form a new survey that will be used to measure NH IT Maturity nationally, in the U.S.

8. **4R44NR014090 (PI: Jacobs, MU Site-PI: Vogelsmeier)   08/13/2015- 05/31/2019**
National Institute of Health – through PerceptiMed, Inc.
PerceptiMed SBIR Evaluation: Reduction in Medication Administration and Charting Errors in Nursing Facilities
Co-Investigator, Total Award Amount: $ 224,950
Medication errors occur in nursing homes and can cause harm to residents. Many nursing homes employ various staff to administer medications to residents including registered nurses, licensed practical nurses, and certified medication technicians. This study is conducted in a single nursing home in Missouri to compare a new technology, IdentRx Medication Safety System which involves scanning medications, to routine medication administration processes currently implemented. The goal is to identify if IdentRx reduces medication error rates and thus reduce risk of adverse drug events for nursing home residents. Secondly, new technology can improve the efficiency of how medication administration including documentation of medications being administered. This study will compare the workflow of staff who administer medications using the IdentRx system to staff who administer medications using their current administration process.

9. **Internal Project (PI: Worsowicz)   2014-2019**
Mizzou Advantage
Interdisciplinary, Inter-Institutional Stroke Research Collaborative
Data Scientist and Informatics Specialist, Total Award Amount: $250,000
This project is centered around building the informatics infrastructure needed to establish a detailed stroke research registry–simplifying these elements and allowing MU researchers to participate in inter-institutional collaborations (e.g. Washington University) and research opportunities (e.g. NIH grants) previously unavailable.

COMPLETED RESEARCH GRANTS

1. **CDRN-1501-26643 (GPC PI: Waitman , MU Site-PI: Parker)**   **10/01/2015-12/31/2018**
Patient-Centered Outcomes Research Institute (PCORI)
The Greater Plains Collaborative; a PCORnet Clinical Data Research Network
Site Project Director, Total Award Amount: $395,737
Major Goals: extend the capacity of the research network that captures complete and comprehensive data from patients at twelve medical centers. Continue governance, regulatory processes, technical infrastructure (e.g., i2b2, SQL, PopMedNet, SAS, and REDCap), and patient engagement strategies to enable a learning healthcare system by integrating Comparative Effectiveness Research within clinical workflows. Develop sustainable model for this digital infrastructure.

2. **Fellowship (PI: Mosa)**   **01/01/2018-05/31/2018**
BD2K Training Coordinating Center
Data Science Rotations for Advancing Discovery (RoAD-Trip) Fellowship Program
Development of a Context-Sensitive and Dynamic Prediction System for Cancer Prognosis Using SEER, Socio-Economic and Social Media Data
Research Fellow, Total Award Amount: $4,000
Development of a cancer prognostic system can help physicians design treatments as per expected outcomes. Cancer is a very dynamic disease in which new types of cancers are discovered very often and treatment choices are evolving over time. In this project, we propose to develop a novel, data-driven, context-sensitive and dynamic cancer prognostic system using a large database of cancer cases (about 9.1 million cancer cases) that is enhanced with socio-economic data from the American Community of Survey database and the decennial census database and patient reported outcome data from the social media. The proposed approach will use the association rule mining and contrast mining techniques for context-sensitive and dynamic predictive modeling.

3. **AOC13380090 (PI: Parker)**   **10/01/2013-10/31/2016**
MO Department of Health and Senior Services
DHSS Home Visiting Program/REDCap- year 4
Co-Investigator
The goal of this project is to create a REDCap-based repository for the collection of statewide data on child and maternal health.

4. **1C1CMS331001-01-00 (PI: Parker)**   **07/01/2012-06/30/2015**
Centers for Medicare and Medicaid Services- Innovation Award
LIGHT2 – Leveraging Information Technology to Guide High Tech, High Touch Care
Data Scientist and Informatics Specialist, Total Grant Amount: $13,300,000
This project provided enhanced primary care to Medicare and Medicaid beneficiaries receiving primary care within the University of Missouri Health System, many of them are chronically ill. The program used advanced health information technology, evidence-based treatment planning, and a specialized workforce to coordinate care for both patients and the existing health care team.

SUBMITTED/PENDING RESEARCH GRANT APPLICATIONS

1. **Project ID: 00065417 (PI: Mosa), Submitted on: 11/21/2018, Project Period: 1 Year**
MO Department of Health and Senior Services
DHSS Zika Pregnancy Registry and Birth Defects Surveillance of Missouri-Year 2
Principal Investigator, Total Budget: $61,071

In this project we have developed a research electronic data capture system to be used by the Missouri Department of Health and Senior Services in order to facilitate secure online data collection. The system is used by the US Zika Pregnancy and Infant Registry program staffs at the Missouri DHSS.

2. **Project ID: 00062393 (PI: Buttlar), Submitted on: 02/28/2018, Project Period: 4 Years**
National Science Foundation
SCC: Smart and Connected, Citizen-Enabled Transportation Infrastructure Platform for Enhanced Monitoring, Prognosis, Repair, Accessibility and Use
Co-Principal Investigator, Total Budget: $2,671,781
The goal of this project is to create a citizen-engaged smart and connected system for: (a) Pavement Condition Assessment and Feature Detection, (b) Bridge Health Monitoring and Feature Detection, (c) Material Characterization via Molecular Sensing, and (d) **Monitoring Impact of Civil Infrastructure Defects/Deterioration on Human Health.**

3. **Project ID: 00064647 (PI: Pulakat), Submitted on: 09/20/2018, Project Period: 4**
Department of Defense
A Novel Comprehensive Approach to Expedite Wound Healing and Attenuate Multidrug-Resistant Bacterial Infections
Co-Investigator, Total Budget: $10,000,000
The goal of this DoD FY18 Peer Reviewed Medical Focused Program application is to develop a new and comprehensive treatment paradigm to expedite wound healing by a multi-prong approach. Here we propose to address at least three of the FY18 PRMRP Topic Areas: Diabetes-, Anti-microbial resistance-, and Pressure ulcer-associated wounds. Proposed Focused Program involves four independent projects that collectively comprise a new diagnostic and treatment paradigm to expedite Diabetes-, Anti-microbial resistance-, and Pressure ulcer-associated wound healing. For creating a large wound infection dataset and developing a data mining approach, we will use the **PCORNet CDRN infrastructure through the Greater Plains Collaborative**.

4. **Internal Proposal (PI: Joshi), Project Period: 1 Year**
Mizzou Advantage
Improving Use Accessibility and Security of a Health Big Data Ecosystem
Co-Principal Investigator, Total Budget: $49,200
The goals of this project are: (a) Study computing foundations and develop tools that can increase of the overall speed in which researcher are able to analyze the Health Big Data, and (b) Develop user interfaces and tools that improve the accessibility of Health Facts and other Health Big Data systems to those not familiar to programming.

5. **Project ID: 00058065 (PI: Despins), Submitted on: 02/16/2017, Project Period: 2 Years**
Agency For Healthcare Research And Quality
Identifying Factors Differentiating Survivors from Non-Survivors in ICU-Acquired Sepsis
Co-Investigator, Total Budget: $100,000
Although detecting early sepsis signals has been key to improving outcomes, early detection has proven difficult in patients hospitalized for a different diagnosis who then develop sepsis during their stay. Failing to detect in-patient sepsis onset signals can double intensive care unit (ICU) lengths of stay and lead to mortality rates almost twice those of community-acquired sepsis. Data analytic approaches will identify temporal relationships between physiological parameters and orders for diagnostic studies and treatment in ICU survivors and non-survivors.

6. **Project ID: 00060394 (PI: Despins), Submitted on: 09/08/2017, Project Period: 1 Year**
Washington University Institute of Clinical and Translational Science
Using Electronic Medical Record Data In ICU-Acquired Sepsis Model Development

Co-Investigator, Total Budget: $ 44,502
Sepsis detection in intensive care unit (ICU) patients can be difficult; early sepsis signals are sometimes thought to be related to admission diagnoses. Almost 35% of ICU patients admitted with a non-infection diagnosis develop sepsis; 32% will die in the ICU. Current automated sepsis detection efforts focus on detecting sepsis for all hospitalized patients regardless of location. These algorithms scan EMR data for specific criteria based on published sepsis guidelines. This study's purpose is to develop a computational model that identifies ICU-acquired sepsis onset using the results of mining electronic medical record (EMR) data.

7. **Project ID: 00059936 (PI: Yoo), Submitted on: 09/08/2017, Project Period: 1 Year**
    Washington University Institute of Clinical and Translational Science
    Acute And Chronic Pain Management Using A Mobile Pain Monitoring System
    Co-Investigator, Total Budget: $29,082
    The ultimate goal of the study is to develop a mobile pain management system in order to efficiently and effectively alleviate patient's pain and to improve patient satisfaction using high-tech and high-touch care.

8. **Project ID: 00061730 (PI: Yoo), Submitted on: 01/18/2017, Project Period: 1 Year**
    Washington University Institute of Clinical and Translational Science
    Comprehensive pain management using mobile technologies
    Co-Investigator, Total Budget: $49,989
    Pain is the most common and distressing symptom among patients. Our goal is address pain problems through patient participation in pain management using mobile technologies that enable patients to efficiently and effectively participate in their pain management.

9. **Project ID: 00061259 (PI: Yoo), Submitted on: 12/01/2017, Project Period: 2 Years**
    Missouri Foundation for Health
    Pain management using High-tech and High-touch care against the opioid crisis
    Co-Investigator, Total Budget: $667,009
    The ultimate goal of the study is to efficiently and effectively alleviate patient's pain and to improve patient satisfaction using high-tech and high-touch care. The study mainly consists of two main parts: high-tech (an informatics part) and high-touch care (a clinical part). The high-tech part is the development of a mobile pain monitoring system, while the high-touch care part is designing pilot trials that includes patient and health professional education on pain management, and developing pain control protocols for pain management.

10. **Project ID: 00059946 (PI: Sheets), Submitted on: 07/21/2017, Project Period: 1 Year**
    Greater Plains Collaborative PCORNet CDRN
    The Effect of Geographic Disadvantage on Metabolic Health
    Co-Investigator, Total Budget: $9,717
    This multi-institutional research project will use geospatial data to identify at-risk groups, without collecting personal income or education data. Our pilot study will test the association of socioeconomic and built-environmental disadvantages with increased metabolic and vascular threats to individual health. Aim 1: Estimate geospatial impacts on metabolic health adjusted for age, gender, race/ethnicity, marital status. Aim 2: With GPC patient guidance, design followup surveys of patient-reported health outcomes & behaviors.

11. **Project ID: 00055891 (PI: Mehr), Submitted on: 07/25/2016, Project Period: 5 Years**
    Center for Disease Control
    National Diabetes Amputation Prevention Study (NDAPS)
    Co-Investigator, Total Budget: $1,077,885

Each year, over 70,000 Americans with diabetes mellitus (DM) experience non-traumatic, lower extremity amputations (LEA). Five-year mortality after an LEA exceeds 50% and leads to poor quality of life. Using the PCORNet common data model, project bio-informaticians will identify adult (> 18 y.o.) patients with type 1 or 2 DM, who have had a diagnosis of foot ulcer, leg ischemia or lower extremity osteomyelitis prior to the start of clinic participation. We will recruit and enroll these patients, who will provide patient-reported outcomes at enrollment and every 6 months thereafter. Amputations and hospitalizations will be determined from a partially de-identified dataset for all patients in part.

TEACHING ACTIVITIES

HMI 8090: Thesis Research in Health Management and Informatics (Summer 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019)

Teaching and Advising related Faculty Memberships
1. University of Missouri Doctoral Faculty (August 2016 - present)
2. University of Missouri Graduate Faculty (May 2016 - present)

Master's Degree Examination/Thesis Committee Chair/Member (6 Students)
1. Vasanthi Mandhadi (Computer Science, September 2015 - 2016)
2. Rumana Akter (Computer Science, September 2016 - 2017)
3. Mark Anderson (Health Management and Informatics, Spring, 2017)
4. Sairam Sutari (Health Management and Informatics, Spring, 2017)
5. Maniza Shahreen (Health Management and Informatics, Spring, 2018)
6. Dhinakaran Rajendran (Health Management and Informatics, Spring, 2018)

Graduate Student Supervision (8 Students)
1. Vasanthi Mandhadi (Computer Science, September 2015 – December, 2016)
2. Jayanth Kanugo (Computer Science, September 2015 – December, 2017)
3. Maniza Shahreen (Health Management and Informatics, September 2016 – May 2018)
4. Dhinakaran Rajendran (Health Management and Informatics, September 2016 – May 2018)
5. Humayera Islam (Health Management and Informatics, September 2018 - present)
6. Teja Venkat Pavan Kotapati (Health Management and Informatics, September 2018 - present)
7. Park Joon (Health Management and Informatics, September 2018 - present)
8. Chalermpon Thongmotai (Computer Science, September 2018 - present)

Undergraduate Research Assistant Supervision (3 Students)
1. Leah N. Treffeisen (May 2017 - present)
2. Lefatshe M. Lefatshe (May 2017 - present)
3. Casey R. Richenberger (September 2017 - present)

Informatics Workshops/Training, Institute for Clinical and Translational Science, University of Missouri School of Medicine
1. REDCap 101: Introduction to REDCap (recurrent)
2. REDCap 201: REDCap Advanced – Tools and Applications (recurrent)
3. REDCap 202: REDCap Advanced – Online Survey Design (recurrent)
4. i2b2 101: Introduction to i2b2 (recurrent)
5. i2b2 201: i2b2 Advanced – Longitudinal Data Queries (recurrent)
6. HealthFacts 101: Introduction to HealthFacts (recurrent)
7. HealthFacts 201: HealthFacts Advanced Analytics (recurrent)
8. Secure High Performance Computing (recurrent)
9. Clinical Data Research Network (recurrent)
10. HealthFacts User Forum (recurrent)
11. Informatics Walk-in Clinic (recurrent)

Guest Lecture, Department of Health Management and Informatics, University of Missouri School of Medicine
1. Lecture Title: Data Management in Clinical Research. Course Name: Regulatory Issues in Clinical Research and Clinical Trials
2. Introduction to REDCap and Interactive Demonstration, INFOINST/HMI 8810: Research Methods in Health and Biomedical Informatics (Spring 2014, Spring 2015)
3. Introduction to i2b2 and Interactive Demonstration, INFOINST/HMI 8810: Research Methods in Health and Biomedical Informatics (Spring 2014, Spring 2015)
4. Empowering Data Driven Translational Science, INFOINST/HMI 7430: Introduction to Health Informatics, Health Management and Informatics Department, University of Missouri (Fall 2014)
5. Secondary Use of EMR Data for Research, HMI 8550: Health Data Analytics, Health Management and Informatics Department, University of Missouri (Spring 2015, Spring 2016)

Teaching Assistant, Dept. of Health Management and Informatics, University of Missouri School of Medicine, MO, USA
1. HMI 8441: Theory and Application of Controlled Terminologies (Spring 2011, Spring 2012 & Spring 2013)
2. HMI 8437: Data Mining and Data Warehousing in Healthcare (Fall 2011, Fall 2012 and Fall 2013)
Responsibility: producing teaching materials such as video tutorials and contents for presentation slides; lab demonstration; grading of home works and examination papers.

Lab Demonstrator, School of Computer Science and Informatics, University College Dublin, Ireland, (Feb 2009 – June 2010)
1. Databases and Information Systems
2. Software Engineering Project – I
3. Software Engineering Project – III
Responsibility: mentoring the students with their assignments and projects on the software engineering projects and database programming.

PUBLICATIONS
Google Scholar: https://scholar.google.com/citations?user=SABx15TZhTIC&hl
(h-index: 6, i10-index: 6, Citations: 942)

Peer-Reviewed Publications in Journals or Conference Proceedings
1. **Mosa ASM**, Yoo I. A study on PubMed search tag usage pattern: association rule mining of a full-day PubMed query log. BMC Medical Informatics and Decision Making. 2013;13(January):8. **(Highly Accessed)**
2. **Mosa ASM**, Yoo I, Sheets L. A systematic review of healthcare applications for smartphones. BMC Medical Informatics and Decision Making. 2012;12(July):67. **(Highly Accessed)**
3. Marinov M, **Mosa ASM**, Yoo I, Boren SA. Data-mining technologies for diabetes: a systematic review. Journal of Diabetes Science and Technology. 2011;5(6):1549–56.
4. Schön B, **Mosa ASM**, Laefer DF, Bertolotto M. Octree-based indexing for 3D point clouds within an Oracle Spatial DBMS. Computers & Geosciences. 2013;51:430–8.
5. **Mosa ASM**, Schön B, Bertolotto M, Laefer DF. Evaluating the Benefits of Octree-based Indexing for Lidar Data. Photogrammetric Engineering and Remote Sensing. 2012;78(9):927–34.
6. **Mosa ASM**, Yoo I. Association mining of search tags in PubMed search sessions. 2014 IEEE Int. Conf. Bioinforma. Biomed., 2014, pp. 56–61.
7. **Mosa ASM**, Yoo I, Parker JC. Online Electronic Data Capture and Research Data Repository System for Clinical and Translational Research. Mo. Med. 2015;112(1):46–52.
8. Yoo I, **Mosa ASM**. Analysis of PubMed User Sessions Using a Full-Day PubMed Query Log: A Comparison of Experienced and Non-experienced PubMed Users. JMIR Med. Informatics. 2015;3:e25.

9. **Mosa ASM**, Yoo I, Apathy NC, Ko KJ, Parker JC. Secondary Use of Clinical Data to Enable Data-Driven Translational Science with Trustworthy Access Management. *Mo Med*. 2015;112(6):443-448.
10. Raju M, Chisholm M, **Mosa ASM**, Shyu CR, Fraunfelder FW. Investigating Risk Factors for Cataract Using the Cerner Health Facts® Database. *J Eye Cataract Surg*. 2017;3(1). doi:10.21767/2471-8300.100019.
11. Tanaka T, **Mosa ASM**, Litofsky NS. Utilization of informatics for integrating biology and the outcome data of post-operative associated with diabetes mellitus. *Clin Investig (Lond)*. 2017;7(2):67-73. doi:10.4172/Clinical-Investigation.1000114.
12. Sanchez-Pinto L, **Mosa ASM**, Fultz-Hollis K, Tachinardi U, Barnett WK, Embi PJ. The Emerging Role of the Chief Research Informatics Officer in Academic Health Centers. Appl Clin Inform. 2017;8(3):845-853. doi:10.4338/ACI-2017-04-RA-0062.
13. Sheets L, Lyttle K, Popejoy LL, Petroski GF, Geltman J, **Mosa ASM**, Wilkinson K, Parker JC. The impact of risk stratification on care coordination. 2017 IEEE Int. Conf. Bioinforma. Biomed., IEEE; 2017, pp. 1594–8.
14. Valluripally S, Raju M, Calyam P, Chisholm M, Sivarathri SS, **Mosa ASM**, Joshi T. Community cloud architecture to improve use accessibility with security compliance in health big data applications. In: Proceedings of the 20th International Conference on Distributed Computing and Networking - ICDCN '19. New York, New York, USA: ACM Press 2019. 377–80. doi:10.1145/3288599.3295594
15. Day MA, Malone MS, Mandhadi V, **Mosa ASM**, Richelle JK. Improving Warfarin Safety for Hospitalized Patients. Am J Med Qual 2019;:1062860618824025. doi:10.1177/1062860618824025
16. Alexander GL, Powell K, Deroche CB, Popejoy LL, **Mosa ASM**, Koopman RJ, Pettit L, and Dougherty M. Building consensus toward a national nursing home information technology maturity model. *J Am Med Inform Assoc*. Published Online First: 19 March 2019. doi:10.1093/jamia/ocz006

Book Chapter
1. **Mosa ASM**, Yoo I, and Sheets L, Healthcare Applications for Smartphones, In Z. Yan (Ed.), Encyclopedia of Mobile Phone Behavior (Volumes 1, 2, & 3). Hershey, PA: IGI Global.

Patent Application
1. Laefer D, Bertolotto M, Schon B, **Mosa ASM**. Enablement of three-dimensional hosting, indexing, analyzing and querying structure for spatial systems. European Patent Application No. EP2339481A1, 2009.

Conference Presentations
1. **Mosa ASM**, Hossain A, Yoo I. A Dynamic Decision Support System for Preventing Chemotherapy-Induced Nausea and Vomiting. AMIA Annual Symposium, San Francisco, CA: 2018.
2. Crenshaw B, **Mosa ASM**, Rolbiecki A, Mehr D. An Online Framework for Managing Longitudinal Data in PBRN Research. NAPCRG Annual Meeting, Chicago, IL: 2018.
3. Lutgen C, Rolbiecki A, LeMaster J, **Mosa ASM**, Mehr D. Physician perspectives of a Photo-elicitation Intervention designed to support patient-centered approaches to managing chronic pain. NAPCRG Annual Meeting, Chicago, IL: 2018.
4. Alexander G, Madsen R, Popejoy L, **Mosa ASM**. Three-Year National Survey Trends in Nursing Home Information Technology and Relationships to Quality in the United States. The Nursing Home Research International Working Group - Long Term Care Research, Rome, Italy: 2018.
5. **Mosa ASM.** Big Data Analytics and Data Mining Techniques in Stroke and Rehabilitation. Stroke and Rehabilitation: Translating Evidence into Practice, Columbia, MO: 2016.
6. **Mosa ASM**, Yoo I, Hossain A. Dynamic Predictive Analytics to Prevent Chemotherapy-Induced Nausea and Vomiting. AMIA iHealth Clinical Informatics Conference, Minneapolis, MN: 2016.
7. **Mosa ASM**. PCORnet and the Greater Plains Collaborative: The National Patient-Centered Clinical Research Network and Our Roles. Panel Discussion (Co-presenter: Waitman R, Teachout W). Cerner Health Conference, Kansas City, MO: 2015.

8. **Mosa ASM**. Introducing PCORnet: The National Patient-Centered Clinical Research Network from a Plains Perspective. Panel Discussion (Co-presenter: Hoffman M, Teachout W). Midwest Health Informatics and Telemedicine Conference, Kansas City, MO: 2015.
9. **Mosa ASM**, Yoo I. Association mining of search tags in PubMed search sessions. 2014 Int. Work. Biomed. Heal. Informatics in conjunction with IEEE Int. Conf. Bioinforma. Biomed., Belfast, UK: 2014.
10. **Mosa ASM**. Cohort Discovery and Management i2b2. Cerner Health Conference, Kansas City, MO: 2014.
11. **Mosa ASM**, Yoo I, Hossain A. Decision Tree Induction for the Screening of Patients at Risk of Moderately Emetogenic Chemotherapy-Induced Nausea and Vomiting During Delayed Phase. AMIA Annu. Symp. 2013, Washington, D.C.: 2013.
12. Fitch D, Yoo I, **Mosa ASM**. Child and elder abuse thesaurus for an information retrieval system. Annu. Progr. Meet. Counc. Soc. Work Educ., 2013.

Conference Pre-Symposia
1. Sanchez-Pinto L, Hollis KF, **Mosa ASM**, Logan J, Solomonides T. WG08: The Emerging Role of the Chief Research Informatics Officer in Academic Medical Centers (sponsored by the AMIA Clinical Research Informatics Working Group). In: *AMIA Annu Symp.* Chicago, IL; 2016.
2. Weng C, **Mosa ASM**, Ahuja M, Szarfman A, Solomonides T, Huser V, Zozus M. AMIA CRI-WG Pre-Symposium: Community Strengthening and Knowledge Sharing Towards Systematic and Scalable Clinical Data Quality Assessment. In: *AMIA Annu Symp.* San Francisco, CA; 2018.

Tutorials in Conference
1. Solomondies A, Hollis KF, **Mosa ASM**, Pinto NS, Sheets L. Research Data Governance: A Tutorial Introduction. AMIA Informatics Summit, San Francisco, CA: 2019.

Conference Posters
1. Chisholm M, Raju M, **Mosa ASM**, Shyu CR, Fraunfelder FW. Investigating Risk Factors for Age Related Cataract using Healthcare Big Database" received Outstanding Poster award at Missouri Life Science Week April 10-15, 2017. Poster presented by Matthew R. Chisholm, Senior, Biological Engineering.
2. Mandhadi V, Kanugo J, Shahreen M, **Mosa ASM**, Parker JC. SPARC: A CENTRAL AND ONLINE PORTAL FOR RESEARCH SERVICES. , Health Sciences Research Day, University of Missouri, Columbia, MO: 2016.
3. Kanugo J, **Mosa ASM**, Yoo I, Hossain AM. noCINV: DEVELOPMENT OF A SMARTPHONE APPLICATION FOR PREDICTING CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING USING APPLE ResearchKit. , Health Sciences Research Day, University of Missouri, Columbia, MO: 2016.
4. Green TA, **Mosa ASM,** Whitt S, Parker JC. Using I2b2 for Quality Improvement, Health Sharing Days, University of Missouri, Columbia, MO: 2016. **(CEO Award Winner)**
5. Green TA, **Mosa ASM,** Whitt S, Parker JC. Using I2b2 for Quality Improvement, Health Sciences Research Day, University of Missouri, Columbia, MO: 2015.
6. **Mosa ASM**, Frey SH, Parker JC. Developing Informatics Infrastructure to Enable Data-driven Stroke Research at MU. 2015 Summit Clin. Res. Informatics, San Francisco, CA: 2015.
7. **Mosa ASM**, Apathy NC, Ko KJ, Parker JC. An Informatics Framework for Clinical and Translational Research: The Mizzou Approach. AMIA 2014 Annu. Symp., Washington, D.C.: 2014.
8. Apathy NC, **Mosa ASM**, Ko KJ. Protecting Patient Data and Maintaining Site Autonomy: Managing Project Access in a Multi-Site i2b2 Database. AMIA 2014 Annu. Symp., Washington, D.C.: 2014.
9. **Mosa ASM**, Yoo I, Hossain AM. An Informatics Solution for the Management of Chemotherapy-Induced Nausea and Vomiting. Missouri Informatics Symposium 2013, University of Missouri, Columbia, MO: 2013.
10. **Mosa ASM**, Yoo I. New Design Requirements for PubMed Interface: Mining Association Rules for PubMed Search Field Tag Usage through Log Analysis. Missouri Informatics Symposium 2012, University of Missouri, Columbia, MO: 2012.
11. **Mosa ASM**. Smartphones in Healthcare: Opportunities and Challenges. Informatics Day 2011, University of Missouri, Columbia, MO: 2011.

12. Schön B, **Mosa ASM.** Storage, Manipulation and Visualization of LiDAR Data. EMPS Innovation Day June 2009, University College Dublin, Ireland.

Doctoral Dissertation
1. **Mosa ASM**. A Novel And Dynamic Prediction Engine For Practicing Precision Medicine To Prevent Chemotherapy-Induced Nausea And Vomiting, Doctoral Dissertation, University of Missouri, Columbia, MO, USA. 2015. Dissertation Supervisor: Dr. Illhoi Yoo, PhD.

Thesis
1. **Mosa ASM**. Hosting, Indexing And Visualization of Three-Dimensional (3D) Point Clouds, Master's Thesis, University College Dublin, Dublin, Ireland. 2010.
2. **Mosa ASM.** Distance Metric Learning, a Normalized Cut Approach. Undergraduate Thesis, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh. 2006.

HONORS & AWARDS

1. **Research Scholarship**, National Digital Research Center, Ireland, January 2009 – June 2010
2. Software nominated for the '**Irish Software Award"** (ISA) Student Award, October 2010
3. **Best Student Poster Award** (2nd Place), Health Informatics Track, Missouri Informatics Symposium' 2012, University of Missouri, Columbia, MO, October 22-23, 2012
4. **Sweden-Bangladesh Travel Grant**, Economic Relations Division, Ministry of Finance, Government of the People's Republic of Bangladesh, 2013
5. **Mizzou Advantage Staff Development Award** to attend the AMIA 2014 Summit on Clinical Research Informatics
6. **CEO Award,** MU Health Sharing Days, 2016
7. **Fellow,** Leadership Institute, Association of American Medical Colleges (AAMC), 2017
8. **Full Membership,** Sigma Xi, 2017

PROFESSIONAL SERVICES

Leadership and Committee Services in National Organizations

2017-present	Co-Chair, AAMC GIR Research Technology Working Group
2018-2019	Member, AMIA Finance and Investment Committee
2017-2018	Member-At-Larger, AMIA Clinical Research Informatics
2017-present	Member, SPARC OS Technical Committee
2018-present	Member, PCORNet Real World Evidence Working Group
2018-present	Member, WashU Opioid Workgroup
2017-present	Member, ODHSI CDM Working Group
2016-present	Member, Data Request Oversight Committee, Greater Plains Collaborative

Leadership and Committee Services at the University of Missouri

2011-2012	Member, Student Organization Allocation (Budget) Committee
2011-2012	Treasurer, Informatics Institute Graduate Student Association
2012-2013	President, Informatics Institute Graduate Student Association
2012-2014	President, Bangladesh Student Association
2014-present	Member, SOM IT Advisory and Governance Committee
2014-present	Member, Information Technology Transition Committee for Research
2015-present	Member, Cyberinfrastructure Council
2016-present	Advisor, Bangladesh Student Association
2017-present	Member, Clinical Trial Management System Evaluation Committee
2018-present	Member, MU Information Technology Committee

Membership in Professional Organization

2013-present   American Medical Informatics Association (AMIA)
2014-present   AAMC Group on Information Resources
2017-present   Sigma Xi
2017-present   Institute of Electrical and Electronics Engineers

Editorial Service

2017   Assistant Editor, The 16th World Congress on Medical and Health Informatics
                 (MEDINFO2017)
2018-Present   Editor, Health and Medical Informatics: Open Access
2018-Present   Editor, Journal of Business Analytics (A Journal of the Operational Research Society)

Journal Reviewer

2014-2017   International Journal of Data Mining and Bioinformatics (IJDMB)
2013   Photogrammetric Engineering and Remote Sensing (PE&RS)
2015   International Journal of Communication Systems (IJCS)
2015-2018   Journal of Medical Internet Research (JMIR)
2014   International Journal of Medicine and Medical Sciences (IJMMS)

Conference Reviewer

2012-2017   AMIA Annual Symposium
2015-2018   AMIA Joint Summits on Translational Science
2018   AMIA High School Scholar Competition
2014-2017   International Workshop on Biomedical and Health Informatics in conjunction with IEEE
                 International Conference on Bioinformatics and Biomedicine (BIBM)
2014   Medicine 2.0: Social Media, Mobile Apps, and Internet/Web 2.0
2015   Missouri Informatics Symposium 2015, University of Missouri, Columbia, MO

Conference Committee

2011   Volunteer, IEEE Healthcom, 2011, Columbia, MO
2011   Program committee member and Session Chair, Informatics Day, University of Missouri, Columbia, MO
2012   Chair of the Organizing Committee, Missouri Informatics Symposium, University of Missouri, Columbia, MO
2014   Program Committee, International Workshop on Biomedical and Health Informatics in conjunction with IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Belfast, Ireland
2015   Program Committee, International Workshop on Biomedical and Health Informatics in conjunction with IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Washington D.C., USA
2016   Program Committee, International Workshop on Biomedical and Health Informatics in conjunction with IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Shenzhen, China
2016   Organizer, AMIA Clinical Research Informatics Working Group (CRI-WG) Pre-Symposia in conjunction with AMIA Annual Symposium.
2017   Program Committee, International Workshop on Biomedical and Health Informatics in conjunction with IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Kansas City, MO, USA
2017   Technical Program Committee, IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Kansas City, MO, USA
2018   Scientific Program Committee, American Medical Informatics Association (AMIA) Annual Symposium, San Francisco, CA, USA
2018   Technical Program Committee, IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Madrid, Spain

2018   Technical Program Committee, The Eleventh International Conference on eHealth, Telemedicine, and Social   Medicine (eTELEMED 2019), Athens, Greece
2018   Scientific Program Committee, AMIA Informatics Summit 2019, San Francisco, CA
2019   Program Committee, First International Symposium On Mathematical And Computational Oncology, Incline Village, Nevada
2019   Technical Program Committee, IEEE International Conference on Bioinformatics and Biomedicine (BIBM), San Diego, CA, USA

Poster Judging
2018   2018 Third Annual Midwest Bioinformatics Conference, Columbia MO.
2018   MU Health Sciences Research Day, Columbia, MO

Grant Reviewer
2017   Greater Plains Collaborative Pilot Funding Program
2017   University of Missouri Research Board Grant Funding