

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME: Mudaranthakam, Dinesh Pal

POSITION TITLE: Director of Research Information Technology/ Teaching Associate

EDUCATION/TRAINING:

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Kansas, Lawrence, KS	MBA	2018	Leadership and Management
Kansas State University, Manhattan, KS	MS	2011	Computer Science
Jawaharlal Nehru Technology Univ., Hyd., India	B. Tech	2009	Computer Science Engineering

A. Personal Statement

My role as a Director of Research Information Technology is to oversee and provide expertise with design and implementation of Data ware house such as Cancer Curated Clinical Outcomes Database, Research Databases to collect clinical research information, Query Module to validate study design feasibility, Software module to identify early cancer patient, Clinical Integration (Epic and EResearch), Investigator Initiated trail study build, standard eCRF (electronic case report form), Data dissemination for analysis and administrative purpose, patient accrual tracking and Managing the Biospecimen Inventory Software (OpenSpecimen) for the University of Kansas Cancer Center (KUCC). I joined the University of Kansas Medical Center (KUMC) in the fall of 2012 with extensive experience in patient health records and the different data structures related to patient demographics, patient diagnosis, labs, and patient's treatments etc.

a. **Dinesh Pal Mudaranthakam**, Jeffrey Thompson, Jinxiang Hu, Dong Pei, Shanthan Reddy Chintala, Michele Park, Brooke L. Fridley, Byron Gajewski, Devin C. Koestler, Matthew S. Mayo. "A Curated Cancer Clinical Outcomes Database (C3OD) for accelerating patient recruitment in cancer clinical trials" **JAMIA Open**. 2018 Oct;1(2):166-171 PMID: PMC6241508

b. **Dinesh Pal Mudaranthakam**, Lisa M Harlan-Williams, Roy A Jensen, Hanluen Kuo, Vandita Garimella, Ronald C Chen, Matthew S Mayo, Hope Krebill. "OPTIK: a database for understanding catchment areas to guide mobilization of cancer center assets." **Database (Oxford)**. 2020 Jan 1;2020: baaa054. doi: 10.1093/database/baaa054.

c. **Dinesh Pal Mudaranthakam**, Ron Krebill, Ravi D Singh, Cathy Price, Jeffrey Thompson, Byron Gajewski, Devin Koestler, Matthew S Mayo. "System Validation for Real-time Data capture and smooth clinical trial execution at Academic Institutions." **SCDM Data Basics**. 2019

d. **Dinesh Pal Mudaranthakam**, Elena Shergina, Michele Park, Jeffrey Thompson, David Streeter, Jinxiang Hu, Jo Wick, Byron Gajewski, Devin C. Koestler, Andrew K. Godwin, Roy A. Jensen, Matthew S. Mayo. "Optimizing Retrieval of Biospecimens Using the Curated Cancer Clinical Outcomes Database (C3OD)." **Cancer Informatics** 2019; 18:1176935119886831. doi: 10.1177/1176935119886831

e. **Dinesh Pal Mudaranthakam**, Colin Cernik, Leslie Curtis, Blake Griffith, Jinxiang Hu, Jo Wick, Jeffrey Thompson, Byron Gajewski, Devin Koestler, Roy A. Jensen, Matthew S. Mayo. Utilization of Technology to Improve Efficiency in Investigational Drug Management Processes. **Journal of Pharmacy Technology** <https://doi.org/10.1177/8755122519900049>

f. **Dinesh Pal Mudaranthakam**, Milind A Phadnis, Ron Krebill, Lauren Clark, Jo A Wick, Jeffrey Thompson, John Keighley, Byron J Gajewski, Devin C Koestler, Matthew S Mayo. "Improving the efficiency of clinical trials by standardizing processes for Investigator Initiated Trials." **Contemporary Clin Trials Communications**. 2020 May 27; 18:100579. doi: 10.1016/j.conctc.2020.100579

g. Jeffrey Thompson, Jinxiang Hu, **Dinesh Pal Mudaranthakam**, David Streeter, Lisa Neums, Michele Park, Devin C. Koestler, Byron Gajewski, Roy Jensen & Matthew S. Mayo. "Relevant Word Order Vectorization for Improved Natural Language Processing in Electronic Health Records." **Sci Rep**. 2019 Jun 25;9(1):9253. doi: 10.1038/s41598-019-45705-y

h. Junhao Liu, Jo A Wick, **Dinesh Pal Mudaranthakam**, Yu Jiang, Matthew S Mayo, Byron J Gajewski. "Accrual Prediction Program: A web-based clinical trials tool for monitoring and predicting accrual for early-phase cancer studies." **Clin Trials**. 2019 Dec;16(6):657-664. doi: 10.1177/1740774519871474

i. Katelyn A McKenzie, Suzanne L Hunt, Genevieve Hulshof, **Dinesh Pal Mudaranthakam**, Kayla Meyer, Eric D Vidoni, Jeffrey M Burns, Jonathan D Mahnken. "A semi-automated pipeline for fulfillment of resource requests from a longitudinal Alzheimer's disease registry." **JAMIA Open**. 2019 Aug 26;2(4):516-520. doi: 10.1093/jamiaopen/ooz032

j. Janet D. Pierce, Diane E. Mahoney, John B. Hiebert, Amanda R. Thimmesch, Francisco J. Diaz, Carol Smith, Qiuhua Shen, **Dinesh Pal Mudaranthakam** & Richard L. Clancy. "Study protocol randomized controlled trial: reducing symptom burden in patients with heart failure with preserved ejection fraction using ubiquinol and/or D-ribose" **BMC Cardiovasc Disord**. 2018 Apr 2;18(1):57 PMID: PMC5879598

k. Marjorie Bott, Alex G. Karanevich, Lili Garrard, Larry R. Price, **Dinesh Pal Mudaranthakam**, Byron Gajewski "Confirmatory Factor Analysis Alternative: Free, Accessible CBID Software" **West J Nurs Res**. 2018 Feb;40(2):257-269 PMID: PMC5453854

l. Alexandra R. Brown, Byron J. Gajewski, Lauren S. Aaronson, **Dinesh Pal Mudaranthakam**, Suzanne L. Hunt, Scott M. Berry, Melanie Quintana, Mamatha Pasnoor, Mazen M. Dimachkie, Omar Jawdat, Laura Herbelin & Richard J. Barohn. "A Bayesian comparative effectiveness trial in action: developing a platform for multisite study adaptive randomization." **Trials**. 2016 Aug 31;17(1):428 PMID: PMC5006258

B. Positions and Honors

Positions and Employment

2009-2010	Application Developer, Kansas State University
2010	Software Engineer, GTM Sportswear
2011-2012	Software Engineer, CERNER
2013	Clinical Application Developer, University of Kansas Medical Center
2014-Current	Director of Research Information Technology, University of Kansas Medical Center
2016-Current	Co-Director of Investigator Initiated Trials, University of Kansas Cancer Center

Honors

2015	Invited talk at OpenSpecimen Community Meeting, Thomas Jefferson University, Philadelphia, PA
2016	Invited talk at Velos Annual Meeting, Fremont, CA
2017	Invited talk at Research Grand Rounds, University of Kansas Medical Center, Kansas, KS
2017	Invited talk at Velos Annual Meeting, Fremont, CA
2017	Invited talk at the Association of American Cancer Institutes, Washington, DC
2018	Invited talk at Velos Annual Meeting, Fremont, CA
2019	Tableau Certified

C. Contribution to Science

Most of my work has been architecting the data warehouses, research data bases along with instrumental design and executing clinical trials from the study design and informatics standpoint:

1. Informatics:

a. **Dinesh Pal Mudaranthakam**, Jeffrey Thompson, Jinxiang Hu, Dong Pei, Shanthan Reddy Chintala, Michele Park, Brooke L. Fridley, Byron Gajewski, Devin C. Koestler, Matthew S. Mayo. "A Curated Cancer Clinical Outcomes Database (C3OD) for accelerating patient recruitment in cancer clinical trials" **JAMIA Open**. 2018 Oct;1(2):166-171 PMID: PMC6241508

b. **Dinesh Pal Mudaranthakam**, Lisa M Harlan-Williams, Roy A Jensen, Hanlue Kuo, Vandita Garimella, Ronald C Chen, Matthew S Mayo, Hope Krebill. "OPTIK: a database for understanding catchment areas to guide mobilization of cancer center assets." **Database (Oxford)**. 2020 Jan 1;2020: baaa054. doi: 10.1093/database/baaa054.

c. **Dinesh Pal Mudaranthakam**, Elena Shergina, Michele Park, Jeffrey Thompson, David Streeter, Jinxiang Hu, Jo Wick, Byron Gajewski, Devin C. Koestler, Andrew K. Godwin, Roy A. Jensen, Matthew S. Mayo. "Optimizing Retrieval of Biospecimens Using the Curated Cancer Clinical Outcomes Database (C3OD)." **Cancer Informatics** 2019; 18:1176935119886831. doi: 10.1177/1176935119886831

d. Alex G. Karanevich, Lili Garrard, Larry R. Price, **Dinesh Pal Mudaranthakam**, Byron Gajewski, Marjorie Bott "Confirmatory Factor Analysis Alternative: Free, Accessible CBID Software" **West J Nurs Res**. 2018 Feb;40(2):257-269 PMID: PMC5453854

e. Jeffrey Thompson, Jinxiang Hu, **Dinesh Pal Mudaranthakam**, David Streeter, Lisa Neums, Michele Park, Devin C. Koestler, Byron Gajewski, Roy Jensen & Matthew S. Mayo. "Relevant Word Order Vectorization for Improved Natural Language Processing in Electronic Health Records." **Sci Rep**. 2019 Jun 25;9(1):9253. doi: 10.1038/s41598-019-45705-y

Under Review

a. Colin Cernik; John Fife; Jeffrey Thompson; Lisa Harlan-Williams; Matthew Mayo; **Dinesh Pal Mudaranthakam**. "Publications Search Optimization: Comparison of a Homegrown – API approach Vs Manual Publication Searches at an NCI Designated Cancer Center"

2. Clinical Trials:

- a. **Dinesh Pal Mudaranthakam**, Colin Cernik, Leslie Curtis, Blake Griffith, Jinxiang Hu, Jo Wick, Jeffrey Thompson, Byron Gajewski, Devin Koestler, Roy A. Jensen, Matthew S. Mayo. Utilization of Technology to Improve Efficiency in Investigational Drug Management Processes. **Journal of Pharmacy Technology** <https://doi.org/10.1177/8755122519900049>
- b. **Dinesh Pal Mudaranthakam**, Milind A Phadnis, Ron Krebill, Lauren Clark, Jo A Wick, Jeffrey Thompson, John Keighley, Byron J Gajewski, Devin C Koestler, Matthew S Mayo. "Improving the efficiency of clinical trials by standardizing processes for Investigator Initiated Trials." **Contemporary Clin Trials Communications**. 2020 May 27; 18:100579. doi: 10.1016/j.conctc.2020.100579
- c. Dinesh Pal Mudaranthakam, Ron Krebill, Ravi D Singh, Cathy Price, Jeffrey Thompson, Byron Gajewski, Devin Koestler, Matthew S Mayo. System Validation for Real-time Data capture and smooth clinical trial execution at Academic Institutions
- d. Junhao Liu, Jo A Wick, Dinesh Pal Mudaranthakam, Yu Jiang, Matthew S Mayo, Byron J Gajewski. Accrual Prediction Program: A web-based clinical trials tool for monitoring and predicting accrual for early-phase cancer studies.
<https://journals.sagepub.com/doi/abs/10.1177/1740774519871474?journalCode=ctja>
- e. Katelyn A McKenzie, Suzanne L Hunt, Genevieve Hulshof, Dinesh Pal Mudaranthakam, Kayla Meyer, Eric D Vidoni, Jeffrey M Burns, Jonathan D Mahnken. A semi-automated pipeline for fulfillment of resource requests from a longitudinal Alzheimer's disease registry.
<https://academic.oup.com/jamiaopen/advance-article/doi/10.1093/jamiaopen/ooz032/5554801>
- f. Janet D. Pierce, Diane E. Mahoney, John B. Hiebert, Amanda R. Thimmesch, Francisco J. Diaz, Carol Smith, Qihua Shen, **Dinesh Pal Mudaranthakam** & Richard L. Clancy. "Study protocol randomized controlled trial: reducing symptom burden in patients with heart failure with preserved ejection fraction using ubiquinol and/or D-ribose" **BMC Cardiovasc Disord**. 2018 Apr 2;18(1):57
PMCID: PMC5879598
- g. Alexandra R. Brown, Byron J. Gajewski, Lauren S. Aaronson, **Dinesh Pal Mudaranthakam**, Suzanne L. Hunt, Scott M. Berry, Melanie Quintana, Mamatha Pasnoor, Mazen M. Dimachkie, Omar Jawdat, Laura Herbelin & Richard J. Barohn. "A Bayesian comparative effectiveness trial in action: developing a platform for multisite study adaptive randomization." **Trials**. 2016 Aug 31;17(1):428
PMCID: PMC5006258

Under Review

- a. Ben King; Truman J. Milling Jr; Byron Gajewski; Todd Costantini; Jo Wick; Michelle Price; **Dinesh Pal Mudaranthakam**; Deborah Stein; Stuart Connolly; Alex Valadka; Steven Warach. "estarting and Timing of Oral Anticoagulation after Traumatic Intracranial Hemorrhage: A Review and Summary of Ongoing and Planned Prospective Randomized Clinical Trials"
- b. Elena Shergina, Colin Cernik, Jeffrey Thompson, Karen Blackwell, Kyle Stephens, Kim S. Kimminau, Jo Wick, Matthew S Mayo, Byron Gajewski, Jianghua He, and Dinesh Pal Mudaranthakam. "Non-Cancer Clinical Trials Start-up metrics at an academic medical center: Implications for advancing research"

D. Research Support

Ongoing Research Support

1 P30 CA168524-01
NIH/NCI

Jensen, Roy (PI)

07/11/2012 – 6/30/2021

Cancer Center Support Grant

The University of Kansas Cancer Center is a growing matrix organization that aims to leverage unique scientific assets to build nationally significant cancer research and treatment center that will become the leading academic institution in the world for transforming discoveries in the laboratory into new therapeutic approaches.

Role: Data core Manager

R01 HD083292
NIH

Carlson, Susan (PI)

05/03/2016- 05/30/2020

Assessment of DHA on Reducing Early Preterm Birth (ADORE)

The primary purpose of this study is to determine if DHA supplements totaling 1000 mg/d compared to 200 mg/d during the last two trimesters of pregnancy can reduce ePTB. a Phase III Clinical Trial (randomized to low or high dose DHA, double-blind) to examine the efficacy of high dose DHA supplementation to reduce ePTB and confirm the safety of supplementing pregnant women for the last two trimesters of pregnancy with high dose DHA (1000 mg/d) compared to 200 mg/day, the amount recommended by the FAO/WHO for pregnant and lactating women (1000 mg/d) compared to 200 mg/day, the amount recommended by the FAO/WHO for pregnant and lactating women.

Role: Data core Manager

R21 HD059019
NICHD

Gustafson, Kathleen (PI)

11/01/2016- 11/30/2020

Prenatal Docosahexaenoic Acid (DHA) & Neurofunctional Development

By doing this study, researchers hope to learn whether taking a dietary supplement of DHA during pregnancy influences maternal and fetal heart rate variability (the natural ability to speed up and slow down your heart rate) and fetal movements from 24 weeks gestational age to 2 months postnatal age.

Role: Data core Manager

R01 DA035796-01
NIH

Cox, Lisa Sanderson (PI)

06/01/2014 - 03/31/2019

Advancing Tobacco Use Treatment for African American Smokers

This study will evaluate the efficacy of varenicline treatment to improve quit rates in African American daily smokers of all smoking levels, with the goal of reducing tobacco-related disparities.

Role: Data core Manager

Completed Research Support

R01 DA031815
NIH

Nollen, Nicole L (PI)

05/01/2012 - 04/30/2017

Understanding Disparities in Quitting in African American and White Smokers

This study will examine mechanisms explaining lower quit rates in African Americans relative to Whites and has the potential to significantly improve tobacco use treatment outcomes by identifying specific barriers and facilitators to quitting smoking for African Americans and for Whites.

Role: Data core Manager

R03 NR013236

Gajewski (PI)

05/21/2014 - 05/20/2016

National Institutes of Health

A Novel Method for Expediting the Development of Patient Reported Outcome Measures

Major Goals: The specific aims for this proposed study are to 1) Test Ordinal Bayesian Instrument Development (OBID) by comparing its performance (i.e., stability and development time differences) to classical instrument development using simulation data 2) Beta test OBID across settings of patient and family caregiver populations 3) Disseminate OBID software for evaluation by investigators in varied research communication.

Role: Informatician

AD-1310-08709

Nollen, Nicole L (PI)

10/01/2014 - 09/30/2017

Patient-Centered Outcomes Research Institute

Informing Tobacco-Treatment Guidelines for African American Non-Daily Smokers

Major Goals: The long-term objective of our research is to inform evidence-based guidelines for treating tobacco dependence among non-daily smokers. The objective of this study is to see if NRT is an effective treatment option for AA non-daily smokers

Role: Data core Manager