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Education

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| 2006 | Ph.D., Statistics, University of New Mexico, Albuquerque NM
Thesis Title: Semiparametric Estimation for the Odds Ratio and ROC Curve of a Generalized Odds-Rate Model
Advisor: Professor Edward Bedrick |
| 2003 | M.S., Statistics, University of New Mexico, Albuquerque NM |
| 1984 | M.S., Applied Mathematics, Beijing University of Post & Telecommunications, Beijing, China |
| 1981 | B.S., Mathematics, Beijing University of Post & Telecommunications, Beijing, China |
| 1994 | One-year practical training in software engineering, Kawasaki Steel Systems R&D Corporation, Chiba, Japan |

Employment

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| 2022 – Present | Professor, Division of Epidemiology, Biostatistics & Preventive Medicine, Department of Internal Medicine, University of New Mexico School of Medicine, Albuquerque, NM |
| 2013 – 2022 | Associate Professor, Division of Epidemiology, Biostatistics & Preventive Medicine, Department of Internal Medicine, University of New Mexico School of Medicine, Albuquerque, NM |
| 2007 – 2013 | Assistant Professor, Division of Epidemiology, Biostatistics & Preventive Medicine, Department of Internal Medicine, University of New Mexico School of Medicine, Albuquerque, NM |
| 2006 – 2007 | Research Assistant Professor, Division of Epidemiology, Biostatistics & Preventive Medicine, Department of Internal Medicine, University of New Mexico School of Medicine, Albuquerque, NM |
| 2004 – Present | Member of Biostatistics Shared Resource, University of New Mexico Comprehensive Cancer Center |
| 2004 – 2007 | Senior Statistician, University of New Mexico Comprehensive Cancer Center |

1984 – 2001

Faculty Member, Division of Mathematics, Beijing Forestry University

Professional Service

- Expert of the United Nations Convention to Combat Desertification
- Vice Chief, Board member, Association of Chinese Agricultural Applied Mathematics (2000 – 2004)
- Editorial board member, Journal of Beijing Forestry University (1999 – 2001)
- Treasurer, Board member, Association of Chinese-American Engineers and Scientists of New Mexico (2006 – 2009)
- Journal reviews for: Journal of Clinical Oncology, BMC Medicine, BMC Supplements, Cancers, PLOS ONE, Scientia Silvae Sinicae, Forestry Studies in China, Journal of Beijing Forestry University

Research Interests

- Statistical modeling and analysis for high dimensional genomic data
- Statistical methods for biomarker evaluation and clinical prediction
- Statistical epidemiology

Publications

Original research or scholarly articles in refereed journals:

§ Co-first author

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1. Zhai T, Diergaarde B, Wilson DO, **Kang H**, Sood A, Bayliss SH, Yuan JM, Picchi MA, Lan Q, Belinsky SA, Siegfried JM, Cook LS, Leng S. Early natural menopause is associated with poor lung health and increased mortality among female smokers. Am J Obstet Gynecol. 2022 Aug 4;. doi: 10.1016/j.ajog.2022.07.031. [Epub ahead of print] PubMed PMID: 35934119; NIHMSID:NIHMS1828099.
2. Li W, Qi Z, Ma Q, Ding J, Wu C, Song H, Yang Q, Duan J, Liu L, **Kang H**, Wu L, Ji K, Zhao W, Li C, Sun C, Li N, Fisher M, Ji X, Liu KJ. Normobaric Hyperoxia Combined With Endovascular Treatment for Acute Ischemic Stroke Patients: A Randomized Controlled Clinical Trial.

- Neurology. 2022 Jun 17;. doi: 10.1212/WNL.0000000000200775. [Epub ahead of print] PubMed PMID: 35715198.
3. Harding EM, Gibson AL, **Kang H**, Zuhl MN, Sharma H, Blair CK. Self-Selected Walking Cadence after 16-Week Light-Intensity Physical Activity Intervention for Older Cancer Survivors. *Int J Environ Res Public Health*. 2022 Apr 14;19(8). doi: 10.3390/ijerph19084768. PubMed PMID: 35457633; PubMed Central PMCID: PMC9027651.
 4. Shi Y, Lee JH, **Kang H**, Jiang H. A Two-Part Mixed Model for Differential Expression Analysis in Single-Cell High-Throughput Gene Expression Data. *Genes (Basel)*. 2022 Feb 18;13(2). doi: 10.3390/genes13020377. PubMed PMID: 35205420; PubMed Central PMCID: PMC8872627.
 5. Castle PE, Kinney WK, Chen L, Kim JJ, Jenison S, Rossi G, **Kang H**, Cuzick J, Wheeler CM. Adherence to National Guidelines on Cervical Screening: A Population-Based Evaluation from a Statewide Registry. *J Natl Cancer Inst*. 2021 Aug 31;. doi: 10.1093/jnci/djab173. [Epub ahead of print] PubMed PMID: 34463763; PubMed Central PMCID: PMC9002271.
 6. Yuan S, Li W, Hou C, **Kang H**, Ma Q, Ji X, Qi Z, Liu KJ. Serum Occludin Level Combined With NIHSS Score Predicts Hemorrhage Transformation in Ischemic Stroke Patients With Reperfusion. *Front Cell Neurosci*. 2021;15:714171. doi: 10.3389/fncel.2021.714171. eCollection 2021. PubMed PMID: 34475814; PubMed Central PMCID: PMC8407002.
 7. Jin Q, Boyce TW, **Kang H**, Nervi L, Sussman AL, Guest DD. Acceptability of Phone Calls and Texts to Promote Healthy Behaviors Among Spanish-Speaking Hispanics. *Hispanic Journal of Behavioral Sciences*. 2021 July. doi: 10.1177/07399863211034950.
 8. Guo Y, Yu H, Song H, He J, Oyebamiji O, **Kang H**, Ping J, Ness S, Shyr Y, Ye F. MetaGSCA: A tool for meta-analysis of gene set differential coexpression. *PLoS Comput Biol*. 2021 May;17(5):e1008976. doi: 10.1371/journal.pcbi.1008976. eCollection 2021 May. PubMed PMID: 33945541; PubMed Central PMCID: PMC8121311.
 9. Fischer M, Chander P, **Kang H**, Mellios N, Weick JP. Transcriptomic changes due to early, chronic intermittent alcohol exposure during forebrain development implicate WNT signaling, cell-type specification, and cortical regionalization as primary determinants of fetal alcohol syndrome. *Alcohol Clin Exp Res*. 2021 May;45(5):979-995. doi: 10.1111/acer.14590. Epub 2021 Apr 27. PubMed PMID: 33682149; PubMed Central PMCID: PMC8643076.
 10. Blair CK, Harding E, Wiggins C, **Kang H**, Schwartz M, Tarnower A, Du R, Kinney AY. A Home-Based Mobile Health Intervention to Replace Sedentary Time With Light Physical Activity in Older Cancer Survivors: Randomized Controlled Pilot Trial. *JMIR Cancer*. 2021 Apr 13;7(2):e18819. doi: 10.2196/18819. PubMed PMID: 33847588; PubMed Central PMCID: PMC8087341.
 11. Sheng Q, Yu H, Duan M, Ness S, He J, **Kang H**, Jiang L, Wyrick JJ, Mao P, Guo Y. A streamlined solution for processing, elucidating and quality control of cyclobutane pyrimidine dimer sequencing data. *Nat Protoc*. 2021 Apr;16(4):2190-2212. doi: 10.1038/s41596-021-00496-3. Epub 2021 Mar 17. PubMed PMID: 33731963; PubMed Central PMCID: PMC8555867.
 12. Matthijssens F, Sharma ND, Nysus M, Nickl CK, **Kang H**, Perez DR, Lintermans B, Van Looke W, Roels J, Peirs S, Demoen L, Pieters T, Reunes L, Lammens T, De Moerloose B, Van Nieuwerburgh F, Deforce DL, Cheung LC, Kotecha RS, Risseuw MD, Van Calenbergh S, Takarada T, Yoneda Y, van Delft FW, Lock RB, Merkley SD, Chigaev A, Sklar LA, Mullighan CG, Loh ML, Winter SS, Hunger SP, Goossens S, Castillo EF, Ornatowski W, Van Vlierberghe P, Matlawska-Wasowska K. RUNX2 regulates leukemic cell metabolism and chemotaxis in high-

- risk T cell acute lymphoblastic leukemia. *J Clin Invest*. 2021 Mar 15;131(6). doi: 10.1172/JCI141566. PubMed PMID: 33555272; PubMed Central PMCID: PMC7954605.
13. Jiang L, Guo F, Tang J, Leng S, Ness S, Ye F, **Kang H**, Samuels DC, Guo Y. Global Autozygosity Is Associated with Cancer Risk, Mutational Signature and Prognosis. *Cancers (Basel)*. 2020 Dec 4;12(12). doi: 10.3390/cancers12123646. PubMed PMID: 33291726; PubMed Central PMCID: PMC7761949.
 14. Li W, Qi Z, **Kang H**, Qin X, Song H, Sui X, Ren Y, Ji X, Ma Q, Jian Liu K. Serum Occludin as a Biomarker to Predict the Severity of Acute Ischemic Stroke, Hemorrhagic Transformation, and Patient Prognosis. *Aging Dis*. 2020 Dec;11(6):1395-1406. doi: 10.14336/AD.2020.0119. eCollection 2020 Dec. PubMed PMID: 33269096; PubMed Central PMCID: PMC7673856.
 15. Ye B, Shi J, **Kang H**, Oyebamiji O, Hill D, Yu H, Ness S, Ye F, Ping J, He J, Edwards J, Zhao YY, Guo Y. Advancing Pan-cancer Gene Expression Survival Analysis by Inclusion of Non-coding RNA. *RNA Biol*. 2020 Nov;17(11):1666-1673. doi: 10.1080/15476286.2019.1679585. Epub 2019 Oct 18. PubMed PMID: 31607216; PubMed Central PMCID: PMC7567505.
 16. Luo L^S, **Kang H**^{S*}, Li X, Ness SA, Stidley CA. Two-step mixed model approach to analyzing differential alternative RNA splicing. *PLoS ONE*. 2020 Oct 9; 15(10): e0232646. <https://doi.org/10.1371/journal.pone.0232646>. PMID: 33035235
 17. Ping J, Oyebamiji O, Yu H, Ness S, Chien J, Ye F, **Kang H**, Samuels D, Ivanov S, Chen D, Zhao YY, Guo Y. MutEx: a multifaceted gateway for exploring integrative pan-cancer genomic data. *Brief Bioinform*. 2020 Jul 15; 21(4):1479-1486. doi: 10.1093/bib/bbz084. PubMed PMID: 31588509; PubMed Central PMCID: PMC7373173.
 18. Yu H, Zhao S, Ness S, **Kang H**, Sheng Q, Samuels DC, Oyebamiji O, Zhao YY, Guo Y. Non-canonical RNA-DNA Differences and Other Human Genomic Features Are Enriched Within Very Short Tandem Repeats. *PLoS Comput Biol*. 2020 Jun 8; 16(6):e1007968. Online ahead of print. PMID: 32511223
 19. Frerich CA, Sedam HN, **Kang H**, Mitani Y, El-Naggar AK, Ness SA. N-Terminal Truncated Myb with New Transcriptional Activity Produced Through Use of an Alternative MYB Promoter in Salivary Gland Adenoid Cystic Carcinoma. *Cancers (Basel)*. 2019 Dec 21;12(1). doi: 10.3390/cancers12010045. PubMed PMID: 31877778; PubMed Central PMCID: PMC7016764.
 20. Shi Y*, Wang M, Shi W, Lee JH, **Kang H***, Jiang H*. Accurate and efficient estimation of small P-values with the cross-entropy method: applications in genomic data analysis. *Bioinformatics*. 2019 Jul 15;35(14):2441-2448. doi: 10.1093/bioinformatics/bty1005. PubMed PMID: 30521030; PubMed Central PMCID: PMC6612894.
 21. Sharma ND, Nickl CK, **Kang H**, Ornatowski W, Brown R, Ness SA, Loh ML, Mullighan CG, Winter SS, Hunger SP, Cannon JL, Matlawska-Wasowska K. Epigenetic silencing of SOCS5 potentiates JAK-STAT signaling and progression of T-cell acute lymphoblastic leukemia. *Cancer Sci*. 2019 Jun;110(6):1931-1946. doi: 10.1111/cas.14021. Epub 2019 May 3. PubMed PMID: 30974024; PubMed Central PMCID: PMC6549933.
 22. Chen DQ, Cao G, Chen H, Argyropoulos CP, Yu H, Su W, Chen L, Samuels DC, Zhuang S, Bayliss GP, Zhao S, Yu XY, Vaziri ND, Wang M, Liu D, Mao JR, Ma SX, Zhao J, Zhang Y, Shang YQ, **Kang H**, Ye F, Cheng XH, Li XR, Zhang L, Meng MX, Guo Y, Zhao YY. Identification of serum metabolites associating with chronic kidney disease progression and anti-fibrotic effect of 5-

- methoxytryptophan. *Nat Commun.* 2019 Apr 1;10(1):1476. doi: 10.1038/s41467-019-09329-0. PubMed PMID: 30931940; PubMed Central PMCID: PMC6443780.
23. Hudson LG, Gillette JM, **Kang H**, Rivera MR, Wandinger-Ness A. Ovarian Tumor Microenvironment Signaling: Convergence on the Rac1 GTPase. *Cancers (Basel).* 2018 Sep 27;10(10). doi: 10.3390/cancers10100358. Review. PubMed PMID: 30261690; PubMed Central PMCID: PMC6211091.
 24. **Kang H**, Sharma ND, Nickl CK, Devidas M, Loh ML, Hunger SP, Dunsmore KP, Winter SS, Matlawska-Wasowska K. Dysregulated transcriptional networks in KMT2A- and MLLT10-rearranged T-ALL. *Biomark Res.* 2018;6:27. doi: 10.1186/s40364-018-0141-z. eCollection 2018. PubMed PMID: 30159143; PubMed Central PMCID: PMC6107954.
 25. Leng S, Picchi MA, **Kang H**, Wu G, Filipczak PT, Juri DE, Zhang X, Gauderman WJ, Gilliland FD, Belinsky SA. Dietary Nutrient Intake, Ethnicity, and Epigenetic Silencing of Lung Cancer Genes Detected in Sputum in New Mexican Smokers. *Cancer Prev Res (Phila).* 2018 Feb;11(2):93-102. doi: 10.1158/1940-6207.CAPR-17-0196. Epub 2017 Nov 8. PubMed PMID: 29118161.
 26. Frerich CA, Brayer KJ, Painter BM, **Kang H**, Mitani Y, El-Naggar AK, Ness SA. Transcriptomes define distinct subgroups of salivary gland adenoid cystic carcinoma with different driver mutations and outcomes. *Oncotarget.* 2018 Jan 26;9(7):7341-7358. doi: 10.18632/oncotarget.23641. eCollection 2018 Jan 26. PubMed PMID: 29484115; PubMed Central PMCID: PMC5800907.
 27. Floruta CM, Du R, Kang H, Stein JL, Weick JP. Default Patterning Produces Pan-cortical Glutamatergic and CGE/LGE-like GABAergic Neurons from Human Pluripotent Stem Cells. *Stem Cell Reports.* 2017 Nov 14;9(5):1463-1476. doi: 10.1016/j.stemcr.2017.09.023. Epub 2017 Oct 26. PubMed PMID: 29107596; PubMed Central PMCID: PMC5831028.
 28. Matlawska-Wasowska K, **Kang H**, Devidas M, Wen J, Harvey RC, Nickl CK, Ness SA, Rusch M, Li Y, Onozawa M, Martinez C, Wood BL, Asselin BL, Chen IM, Roberts KG, Baruchel A, Soulier J, Dombret H, Zhang J, Larson RS, Raetz EA, Carroll WL, Winick NJ, Aplan PD, Loh ML, Mullighan CG, Hunger SP, Heerema NA, Carroll AJ, Dunsmore KP, Winter SS. MLL rearrangements impact outcome in HOXA-deregulated T-lineage acute lymphoblastic leukemia: a Children's Oncology Group Study. *Leukemia.* 2016; 30(9):1909-12. PMCID: PMC5014577
 29. Brayer KJ, Frerich CA, **Kang H**, Ness SA. Recurrent fusions in MYB and MYBL1 define a common, transcription factor-driven oncogenic pathway in salivary gland adenoid cystic carcinoma. *Cancer Discov.* 2016 Feb; 6(2):176-87. PMCID: PMC4744535.
 30. Weick JP, **Kang H**, Bonadurer GF 3rd, Bhattacharyya A. Gene expression studies on human trisomy 21 iPSCs and Neurons: Towards mechanisms underlying Down' Syndrome and early Alzheimer's disease-like pathologies. *Methods in molecular biology (Clifton, N.J.).* 2016; 303:247-65.
 31. Guo Y, Kenney SR, Cook L, Adams SF, Rutledge T, Romero E, Oprea TI, Sklar LA, Bedrick E, Wiggins CL, **Kang H**, Lomo L, Muller CY, Wandinger-Ness A, Hudson LG. A novel pharmacologic activity of ketorolac for therapeutic benefit in ovarian cancer patients. *Clin Cancer Res.* 2015 Nov 15;21(22):5064-72. PMCID:PMC4644688
 32. Mahmoud AZ, George TI, Czuchlewski DR, Zhang QY, Wilson CS, Sever CE, Bakhirev AG, Zhang D, Steidler NL, Reichard KK, **Kang H**, Foucar K, Vasef MA. Scoring of MYC protein expression

- in diffuse large B-cell lymphomas: concordance rate among hematopathologists. *Mod Pathol*. 2015 Apr; 28(4):545-51 PMID:25431238 [PMCID: PMC Journal – In Process]
33. Zhang QY, Chabot-Richards D, Evans M, Spengel K, Andrews J, **Kang H**, Foucar K. A retrospective study to assess the relative value of peripheral blood, bone marrow aspirate and biopsy morphology, immunohistochemical stains, and flow cytometric analysis in the diagnosis of chronic B cell lymphoproliferative neoplasms. *Int J Lab Hematol*. 2015 Jun; 37(3):390-402. PMID:25307888 [PMCID: PMC Journal – In Process]
 34. Davies S, Holmes A, Lomo L, Steinkamp MP, **Kang H**, Muller CY, Wilson BS. High incidence of ErbB3, ErbB4, and MET expression in ovarian cancer. *Int J Gynecol Pathol*. 2014 Jul; 33(4):402-10. PMCID: PMC4153698
 35. Pierce JR Jr, Shirley M, Johnson EF, **Kang H**. Narcotic administration and fall-related injury in the hospital: implications for patient safety programs and providers. *Int J Risk Saf Med*. 2013; 25(4):229-34. PMID: 24305561
 36. Swaminathan S, Huang C, Geng H, Chen Z, Harvey R, **Kang H**, Ng C, Titz B, Hurtz C, Sadiyah F, Nowak D, Thoennissen GB, Rand V, Gradber TG, Koeffler HP, Carroll WL, Willman CL, Hall AG, Igarashi K, Melnick A, Muschen M. BACH2 mediates negative selection and p53-dependent tumor suppression at the pre-B cell receptor checkpoint. *Nat Med*. 2013 Aug;19(8):1014-22. PMCID: PMC3954721
 37. Loh ML, Zhang J, Harvey RC, Roberts K, Payne-Turner D, **Kang H**, Wu G, Chen X, Becksfort J, Edmonson M, Buetow KH, Carroll WL, Chen IM, Wood B, Borowitz MJ, Devidas M, Gerhard DS, Bowman P, Larsen E, Winick N, Raetz E, Smith M, Downing JR, Willman CL, Mullighan CG, and Hunger SP. Tyrosine kinome sequencing of pediatric acute lymphoblastic leukemia: a report from the Children's Oncology Group TARGET Project. *Blood*. 2013 Jan 17; 121(3):485-8. PMCID: PMC3548168
 38. Insuasti-Beltran G, Steidler NL, **Kang H** and Reichard KK. CD34+ megakaryocytes (>30%) are associated with megaloblastic anaemia and non-acute myeloid neoplasia. *Histopathology*, 2012 Oct, 61(4):694-701. PMCID: PMC3325039
 39. Chen I-M, Harvey RC, Mullighan CG, Gastier-Foster J, Wharton W, **Kang H**, Borowitz MJ, Camitta BM, Carroll AJ, Devidas M, Pullen DJ, Payne-Turner D, Tasian SK, Reshmi S, Cottrell CE, Reaman GH, Bowman WP, Carroll WL, Loh ML, Winick NJ Hunger SP and Willman CL. Outcome modeling with *CRLF2*, *IKZF1*, *JAK* and minimal residual disease in pediatric acute lymphoblastic leukemia: a Children's Oncology Group Study. *Blood*, 2012 Apr 12; 119(15):3512-22. PMCID: PMC3325039
 40. Chen J, Young SM, Allen C, Seeber A, Peli-Gulii MP, Panchaud N, Waller A, Ursu O, Yao T, Golden J, Strouse JJ, Carter MB, **Kang H**, Bologna CG, Foutz T, Edwards BS, Peterson BR, Aube J, Werner-Washburne M, Loewith R, de Virgilio C, Sklar LA. Identification of a small molecule yeast TORC1 inhibitor with a multiplex screen based on flow cytometry. *ACS Chem Biol*. 2012 Apr 20; 7(4):715-22. PMCID: PMC3331904
 41. Pierce JR, Chang B, Rogers KM, Jernigan JR, Fotieo DR, **Kang H** and Leverence RR. Redesign of an internal medicine ward rotation: operational challenges and outcomes. *Journal of Graduate Medical Education*, 2012 Mar;4(1):97-100. PMCID:PMC3312544
 42. **Kang H**, Wilson CS, Harvey RC, Chen IM, Murphy MH, Atlas SR, Bedrick EJ, Devidas M, Carroll AJ, Robinson BW, Stam RW, Valsecchi MG, Pieters R, Heerema NA, Hiden JM, Felix CA, Reaman GH, Camitta B, Winick N, Carroll WL, Dreyer ZE, Hunger SP, Willman CL. Gene

- expression profiles predictive of outcome and age in infant acute lymphoblastic leukemia: a Children's Oncology Group study. *Blood*, 2012 Feb. 119(8):1872-1881. PMCID: PMC3293641
43. Reichard KK, **Kang H**, Robinett S. Pediatric B-lymphoblastic leukemia with RUNX1 amplification: Clinicopathologic study of eight cases. *Mod Pathol*. 2011 Dec; 24(12):1606-11. PMID:21822204
 44. Harvey RC, Mullighan CG, Wang X, Dobbin KK, Davidson GS, Bedrick EJ, Chen IM, Atlas SR, **Kang H**, Ar K, Wilson CS, Wharton W, Murphy M, Devidas M, Carroll AJ, Borowitz MJ, Bowman WP, Downing JR, Relling M, Yang J, Bhojwani D, Carroll WL, Camitta B, Reaman GH, Smith M, Hunger SP, Willman CL. (2010) Identification of novel cluster groups in pediatric high-risk B-precursor acute lymphoblastic leukemia with gene expression profiling: correlation with genome-wide DNA copy number alterations, clinical characteristics, and outcome. *Blood*, 2010 Dec 2; 116(23):4874-84. PMCID: PMC3321747. Comment in Taking childhood leukemia personally. *Blood*. 2010 Dec 2;116(23):4737-8
 45. Hill DA, Nibbe A, Royce ME, Wallace AM, **Kang H**, Wiggins CL, Rosenberg RD. (2010) Method of detection and breast cancer survival disparities in Hispanic women. *Cancer Epidemiol Biomarkers Prev*. 2010 Oct; 19(10):2453-60. PMCID: PMC3402167
 46. Harvey RC, Mullighan CG, Chen IM, Wharton W, Mikhail FM, Carroll AJ, **Kang H**, Liu W, Dobbin KK, Smith MA, Carroll WL, Devidas M, Bowman WP, Camitta B, Reaman GH, Hunger SP, Downing JR and Willman CL. Rearrangement of CRLF2 is associated with mutation of JAK kinases, alteration of IKZF1, Hispanic/Latino ethnicity, and a poor outcome in pediatric B-progenitor acute lymphoblastic leukemia. *Blood*, 2010 Jul 1. 115(26):5312-21 PMCID: PMC2902132.
 47. Erdei E, **Kang H**, Meisner A, White K, Pickett G, Baca C, Royce M, Berwick M. (2010) Polymorphisms in cytokine genes and serum cytokine levels among New Mexican women with and without breast cancer. *Cytokine*. 2010 Jul;51(1):18-24 PMID: 20418110
 48. Torres SM, Divi RL, Walker DM, McCash CL, Carter NM, Campen MJ, Einem TL, Chu Y, Seilkop SK, **Kang H**, Poirier MC, Walker VE. *In utero* exposure of female CD-1 mice to AZT and/or 3TC:II. Persistence of functional alterations in cardiac tissue. *Cardiovasc Toxicol*. 2010 June; 10(2):87-99 PMCID: PMC3189686
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 50. **Kang H**, Chen IM, Wilson CS, Bedrick EJ, Harvey RC, Atlas SR, Devidas M, Mullighan CG, Wang X, Murphy M, Ar K, Wharton W, Borowitz MJ, Bhojwani D, Carroll WL, Camitta BM, Reaman GH, Smith MA, Downing JR, Hunger SP, Willman CL. Gene expression classifiers for relapse-free survival and minimal residual disease improve risk classification and outcome prediction in pediatric B-precursor acute lymphoblastic leukemia. *Blood*, 2010 Feb 18; 115(7):1394-405. PMCID: PMC2826761. Comment in Pediatric oncology: Gene-expression profiling is prognostic in ALL cases. *Nat Rev Clin Oncol*. 2010 May;7(5):239
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- methylation in the aerodigestive tract of smokers. *Cancer Res*, 2010 Jan, 70(2):568-74. PMCID: PMC2736991.
52. Bhojwani D, **Kang H**, Menezes RX, Yang W, Sather H, Moskowitz NP, Min DJ, Potter JW, Harvey R, Hunger SP, Seibel N, Raetz EA, Pieters R, Horstmann MA, Relling MV, den Boer ML, Willman CL, Carroll WL; Children's Oncology Group Study; Dutch Childhood Oncology Group; German Cooperative Study Group for Childhood Acute Lymphoblastic Leukemia. Gene expression signatures predictive of early response and outcome in high-risk childhood acute lymphoblastic leukemia: A Children's Oncology Group Study. *J Clin Oncol*, 2008 Sep 20, 26(27):4376-84. PMCID: PMC2736991. Comment in Genomics of childhood leukemias: the virtue of complexity. *J Clin Oncol*, 2008 Sep 20; 26(27):4367-8
 53. Martin SB, Mosquera-Caro MP, Potter JW, Davidson GS, Andries E, **Kang H**, Helman P, Veroff RL, Atlas SR, Murphy M, Wang X, Ar K, Xu Y, Chen IM, Schultz FA, Wilson CS, Harvey R, Bedrick E, Shuster J, Carroll AJ, Camitta B, Willman CL. Gene expression overlap affects karyotype prediction in pediatric acute lymphoblastic leukemia. *Leukemia*, 2007 Jun, 21(6):1341-4. PMID: 17410195
 54. Bhojwani D, **Kang H**, Moskowitz NP, Min DJ, Lee H, Potter JW, Davidson G, Willman CL, Borowitz MJ, Belitskaya-Levy I, Hunter SP, Raetz EA, Carroll WL. Biologic pathways associated with relapse in childhood acute lymphoblastic leukemia: a Children's Oncology Group Study. *Blood*, 2006 Jul 15, 108(2):711-7. PMCID: PMC1895482
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 56. **Kang H.**, An approach to modeling the changing structure of a forest stand, *Forestry Studies in China*, 1999, 1(1): 1-9
 57. Ma L., **Kang H**, Wu Q., Curve Fitting and Analysis for Soil Water Characteristic Data of Beijing Xishan Mountain, *J. Beijing For. Univ.*, 1998, 20(4): 24-29
 58. **Kang H**, Ma Q, Yuan J, Estimation of carbon sink function of forests in China, *Chin. J. Appl. Ecol.*, 1996, 7(3): 230-234
 59. **Kang H**, Transition locus of tree and solution for the growth equation of forest-stand, *J. Beijing For. Univ.*, 1995, 17(2): 9-15
 60. Shen F, **Kang H**, Further study on the analysis of pressure-volume curves, *Plant Physiology Communications*, 1995, 31(4): 286-289
 61. **Kang H**, Dynamic model of growth variety of stand structure, *J. Beijing For. Univ.*, 1993, 15(1): 39-48
 62. Jia N, **Kang H** and Xu S, An Improved Method for Estimating the Transition Probability Using Diameter Growth in Even-aged Forest Stands, *J. Beijing For. Univ. (English Edition)*, 1992, 1(1): 33-46
 63. Ma L, Zhai M and **Kang H**, 1990, An approach to the causes of nursery stock death of Dahurian Larch after afforestation in Xilinji District, *J. Beijing For. Univ.*, Vol.12. Supp.1. 81-85

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Other writings and scholarly products:

1. **Kang H**, Atlas RS, Bedrick EJ, Willman CL, ROC curve of a generalized odds-rate model. *2007 Proceedings of the American Statistical Association*, Biometrics Section [CD-ROM], Salt Lake City, Utah: American Statistical Association: 354-360
2. **Kang H**, Atlas RS, Bedrick EJ, Li B-L, Willman CL, Statistical Methods for Evaluating the Performance of Class Predictors in Gene Expression Analysis, Technical Report HPC@UNM2004-2003, Dec. 2004
3. **Kang H**, A New Approach to Methods for Estimating Parameters of Weibull Distribution, *Collected Essays of the Young Forest Scientists*, pp.84-88, China Forest Publishing House, 1994

Patent Applications:

1. **Title:** Gene expression signatures for detection of underlying Philadelphia Chromosome-like (Ph-Like) Events and Therapeutic Targeting in Leukemia
Inventors: Willman CW, Hunger SP, Mullighan C, Chen IM, Roberts KG, **Kang H**, Harvey RC.
Pub. No.: PCT/US12/69228
Pub. Date: Dec. 12, 2012
2. **Title:** Gene expression classifiers for relapse free survival and minimal residual disease improve risk classification and outcome prediction in pediatric B-precursor acute lymphoblastic leukemia
Inventors: Willman CW, Harvey RC, **Kang H**, Bedrick E, Wang X, Atlas, SR, Chen IM.
Pub. No.: US 2011/0230372 A1
Pub. Date: Sep. 22, 2011
3. **Title:** FDA In Vitro Diagnostic Device Application (Pending). Gene Expression Signatures for Detection of Underlying Tyrosine Kinase Mutations and Therapeutic Targeting in Leukemia.
Inventors: UNM Inventors: Willman CL, Harvey RC, **Kang H**, Chen I-M. U Colorado/COG Inventor: Hunger S. St. Jude Inventor: Mullighan C.
United States Provisional Patent Application No: 61/569,507 (December 12, 2011)
UNM STC Ref.: 2012-050

Invited or refereed abstracts and/or presentations at professional meetings:

1. Blair CK, Harding EM, Wiggins C, **Kang H**, Williams E, Schwartz D, Tarnower A, Kinney AY. A home-based mHealth intervention in older cancer survivors to replace sedentary time with intermittent bouts of light physical activity. 6th International Conference on Ambulatory Monitoring of Physical Activity and Movement. Maastricht, The Netherlands. June 26 – 28, 2019

2. **Kang H.** A cost-effective method for identifying features that are associated with survival outcome for a larger cohort with a low failure rate in a high-throughput gene expression study. 4th International conference on Big Data and Information analytics. Theories, algorithms and applications in data science. Houston, TX, December 17-19, 2018
3. Sharma N, Nickl C, **Kang H**, Winter SS, Cannon J, Matlawska-Wasowska. SOCS5 Regulates JAK-STAT Signaling and T-ALL Development. American Society of Hematology Annual Meeting, Atlanta, GA. December 9-12, 2017
4. Wan G, **Kang H**, Ness SA, Greenbam A and Rajput A. H1047R Mutation of p110 alpha alters expression level of genes which are associated with cell migration & cancer metastasis. American Association for Cancer Research Annual Meeting, Washington, DC. April 1 – 5, 2017. Abstract: Cancer Res July 2 2017; 77(13 Supplement): LB-077-LB-077
5. **Kang H**, et al., Larson RS, Winter SS. Matlawska-Wasowska K, New insights into deregulated gene expression pathways in MLL- and AF10-rearranged T-lineage acute lymphoblastic leukemia. ASH Annual Meeting Abstracts, Dec 2, 2016; Blood:128(22)
6. **Kang H**, Luo L, Ness SA and Stidley CA. Two-step linear mixed model approach to differential alternative splicing analysis. 2015 CSHA/AACR Joint Conference on Big Data, Computation and Systems Biology in Cancer. Dec2-5, 2015. Suzhou, China.
7. Friend S, Royce M, **Kang H**, Lomo L, Barry M, Wiggins C, Prossnitz E, Hill D. Survival disparities: quality of care apparently not the answer. San Antonio Breast Cancer Symposium (SABCS) Dec. 9 2015, San Antonio, TX
8. Matlawska-Wasowska K, **Kang H**, et al. Mixed lineage leukemia rearrangements (MLL-R) are determinants of high risk disease in homeobox A (HOXA)-deregulated T-Lineage Acute Lymphoblastic leukemia: A Children's Oncology Group Study. ASH Annual Meeting Abstracts, Dec 3, 2015; Blood:126(23)
9. Harvey RC, **Kang H**, Roberts KG, Chen I-M, Atlas SR, Bedrick EJ, Gastier-Foster JM, Zhang J, Gerhard DS, Smith MA, Larsen EC, Raetz EA, Winick NJ, Carroll WL, Stonerock E, Neerema NA, Carroll AJ, Chen S-C, Song G, Becksfort J, Rusch M, Li Y, Ma J, Ell D, Reshmi SC, Loh ML, Davidas M, Hunger SP, Mullighan CG, Willman CL. Development and validation of a highly sensitive and specific gene expression classifier to prospectively screen and identify B-precursor acute lymphoblastic leukemia (ALL) patients with a Philadelphia Chromosome-like ("Ph-like" or "BCR-ABL1-like") signature for therapeutic targeting and clinical intervention. *Blood* (ASH Annual Meeting Abstracts), Oct 2013; 122(21): 826
10. Insuasti-Beltran G, Wenceslao S, **Kang H**, Gale JM, Czuchlewski DR. Pyrosequencing for MYD88 L265P mutation discriminates between lymphoplasmacytic lymphoma and marginal zone lymphoma. The 102nd USCAP Annual Meeting, March 2 – 8, 2013. Baltimore, MD. *Modern Pathology* 26(S2): Abstract 1401
11. Srividya Swaminathan, **Huining Kang**, Richard C. Harvey, Chuanxin Huang, Maike Buchner, Zhengshan Chen, Huimin Geng, Andrew Hall, Kazuhiko Igarashi, William L. Carroll, Cheryl L. Willman, Ari Melnick, and Markus Muschen. *BACH2* is required for Pre-B cell receptor checkpoint control and p53-dependent tumor surveillance. *Blood* (ASH Annual Meeting Abstracts), Nov 2012; 120: Abstract 1300
12. Yang JJ, E S, Shen S, Bhojwani D, **Kang H**, Ma Y, Chen J, Tang J, Seibel NL, Xu H, Cheng J, Ramsey LB, Crews K, Bowman WP, Borowitz MJ, Carroll WL, Willman CL, Jeha S, Pui CH,

- Hunger SP, Relling MV, Evans WE. PDE4B modulates glucocorticoid sensitivity in childhood acute lymphoblastic leukemia. *Blood* (ASH Annual Meeting Abstracts), Nov 2012; 120: Abstract 530
13. Insuasti-Beltran G, Elder F, Stokes A, **Kang H**, Reichard KK, Wilson Carla. Plasma cell enrichment in the detection of genetic abnormalities in plasma cell myeloma by fluorescence in-situ hybridization (FISH): a single center experience. American Society for Clinical Pathology (ASCP) 2012 Annual meeting. Oct. 31-Nov. 3, 2012. Boston, MA.
 14. Hill DA, Nibbe A, Axtell C, **Kang H**, Wiggins C, Toyce M. Breast cancer mortality differences by race/ethnicity: Distinct differences by decade and hormone status. AACR Conference on the Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved. Oct. 27-30, 2012, San Diego, CA.
 15. Shirley M, Johnson E, **Kang H**, Pierce J. Fall-related injury in the hospital [abstract 69]. Society of Hospital Medicine, 04/02/2012, San Diego, CA. *J Hosp Med* 2012; 7(Suppl 2):S48.
 16. Lon ML, Harvey RC, Mullighan CG, Linda SB, Devidas M, Borowitz M, Carroll AJ, Chen I-M, Gastier-Foster JM, Heerema NA, **Kang H**, Raetz EA, Roberts KG, Zhang J, Winick N, Wood BL, Larsen EC, Carroll, WL, Willman CL and Hunger SP. A BCR-ABL1-Like gene expression profile congers a poor prognosis in patients with high-risk acute lymphoblastic leukemia (HR-ALL): A report from Children's Oncology Group (COG) AALL0232. *Blood* (ASH Annual Meeting Abstracts), Dec. 2011; 118: Abstract 743
 17. Luo L, Zhu Y, **Kang H**, Stidley CA, Boerwinkle E and Xiong M. Smoothed functional principal component analysis for next-generation association studies. 12th International Congress of human genetics. October 2011, Montreal, Canada.
 18. Insuasti-Beltran G, Steidler N, **Kang H** and Reichard KK. CD34+ Megakaryocytes (>30%) are unique to megaloblastic anemia and myeloid neoplasms. 2011 ASCP Annual Meeting/WASPaLM XXVI World Congress. October 19-22, 2011; The Venetian, Las Vegas
 19. Pierce J, **Kang H**, Noronha L, Rao D. Have the types of research done by hospitalists changed over the past 5 years? [abstract 93]. Society of Hospital Medicine, 05/13/2011, Dallas, TX, *J Hosp Med* 2011; 6(Suppl 2):S58.
 20. Hettinga A, **Kang H**, Reichard KK, The "CLL" Fish panel is not specific for a diagnosis of CLL; Only Prognostic. 2011 Annual Meeting of United States and Canadian Academy of Pathology (USCAP) March 2011
 21. **Kang H**, Wilson CS, Harvey RC, Chen IM, Murphy MH, Atlas SR, Bedrick EJ, Devidas M, Carroll AJ, Robinson BW, Heerema NA, Hilden JM, Dreyer ZE, Camitta B, Winick N, Carroll WL, Felix CA, Reaman GH, Hunger SP, and Willman CL, Gene Expression Profiling Reveals Genes Predictive of Outcome In Infant Acute Lymphoblastic Leukemia (ALL) and Distinctive Age-Related Gene Expression Profiles (< 90 Days vs. > 90 Days): A Children's Oncology Group Study. *Blood* (ASH Annual Meeting Abstracts), Nov 2010; 116: Abstract 412
 22. Gonzales M, Paine S, **Kang H**, Berwick M. GEM working group. Does sun-sensitive phenotype predict self-selection for outdoor occupation in men? Poster presentation at Society for Melanoma Research, Boston, MA. Nov 1-4, 2009. *Pigment Cell Melanoma Res*; 22:871.

23. Jun H, Russell JC, Wiggins C, **Kang H**, Neoadjuvant chemotherapy for primary breast cancer: a ten year institutional experience. 90th Annual Meeting of New England Surgical Society, Sep 2009. Newport, Rhode Island
24. Garcia C, Hunt K, **Kang H**, Gale J, Vaset MA and Reichard K, Morphologic features in small lymphocytic lymphoma are predominantly not predictive of underlying prognostic FISH or immunphenotypic markers. Accepted for poster presentation in 2009 Annual Meeting of United States and Canadian Academy of Pathology, Mar 2009, Boston, Massachusetts
25. Jankowski RM, Royce ME, Lee S-J, **Kang H**, Arndt G, Rosett RL, Vagh F, Koshkin E and Wallace AM. Paravertebral block for breast surgery: a cost analysis, 31st San Antonio Breast Cancer Symposium, Dec 2008
26. Willman CL, **Kang H**, Harvey RC, Chen I-M, Mullighan C, Downing JR, Relling MV, Zhang J, Gerhard D, Smith M, Dobbin KK, Reaman G and Hunger S, Use of genomic technologies to identify novel genetic abnormalities and therapeutic targets in acute lymphoblastic leukemia. Invited scientific abstract and Mary Gibson Memorial Award. *Blood* (ASH Annual Meeting Abstract) Nov 2008; 112: sci-8
27. Czuchlewski DR, Harvey RC, Chen I-M, Bourguet-Vincent A, Rodgers B, Vestal R, Ar K, **Kang H**, Wilson CS, Larsen EC, Hunger SP, Loh M, Devidas M, Raetz E, Reaman G, Carroll WL, Winick N and Willman CL, Quantitative RT-PCR for expression of a small subset of genes identifies novel prognostic subgroups in High-risk pediatric precursor B-Cell acute lymphoblastic leukemia (HR-ALL): Clinical applicability of gene expression microarray data from Children's Oncology Group Trials. *Blood* (ASH Annual Meeting Abstracts), Nov 2008; 112: Abstract 1514
28. **Kang H**, Bedrick EJ, Chen I-M, Wilson CS, Atlas SR, Harvey RC, Hunger SP, Devidas M, Borowitz MJ, Bowman P, Carroll WL, Camitta B, Reaman GH, Willman CL, Molecular classifiers for prediction of minimal residual disease (MRD) and event free survival (EFS) improve risk assignment at diagnosis in pediatric high-risk B precursor acute lymphoblastic leukemia (ALL): A Children's Oncology Group Study. *Blood* (ASH Annual Meeting Abstracts) 2007 110:Abstract 1422
29. Havey RC, Davidson GS, Wang X, Dobbin KK, Bedrick EJ, Wilson CS, Atlas SR, **Kang H**, Chen I-M, Hunger SP, Devidas M, Carroll WL, Bowman P, Camitta B, Reaman G, Willman C, Expression profiling identifies novel genetic subgroups with distinct clinical features and outcome in high-risk pediatric precursor B acute lymphoblastic leukemia (B-ALL). A Children's Oncology Group Study. *Blood* (ASH Annual Meeting Abstracts) 2007 110:Abstract 1430
30. Zeng W, Chen I-M, Tibbitts J, **Kang H**, Kerem A, Atlas SR, Willman CL, Expression of Midkine(MDK) and sensitivity to anti-leukemic drugs in pediatric acute lymphoblastic leukemia (ALL). *Blood* (ASH Annual Meeting Abstracts) 2007 110:Abstract 1432
31. Willman, CL., **Kang H**, Potter JW, *et al.*, A gene expression classifier for improved risk classification and outcome prediction in pediatric acute lymphoblastic leukemia, *Blood* (ASH Annual Meeting Abstracts) 2005 106:Abstract 762
32. Moskowitz NP, Bhojwani D, **Kang H**, *et al.*, Gene signatures predictive of outcome in higher risk childhood acute lymphoblastic leukemia, *Blood* (ASH Annual Meeting Abstracts) 2005 106:Abstract 1449

33. Zeng, W, Chen IM, Xu Y, Potter J, Ar K, **Kang H** & Willman CL, Hematopoietic cell expression of OPAL1, an outcome predictor in pediatric acute lymphoblastic leukemia, *Blood* (ASH Annual Meeting Abstracts) 2005 106:Abstract 1457

Contributed abstracts and/or oral/poster presentations at professional meetings:

1. **Kang H**, Wang L. Survival outcome related high-throughput gene expression analysis under case-cohort design. Joint Statistical Meeting, Virtual Conference, August 2 – 6, 2020
2. **Kang H**, Li X, Luo L, Ness S. A joint modeling approach of repeated measure and time-to-event data for differentially expressed/spliced isoform transcripts. Joint Statistical Meeting, Denver, July 27 – August 1, 2019
3. Jahan N, **Kang H**, Luo L. Integrating pathway information with boosting to construct a sufficient gene set for phenotype classification. Joint Statistical Meeting, Denver, July 27 – August 1, 2019
4. **Kang H**. A cost-effective approach to high-throughput gene expression analysis under case-cohort design. The 2nd Conference on Lifetime Data Science. University of Pittsburgh, Pittsburgh, Pennsylvania. May 29 – 31, 2019
5. **Kang H**. A cost-effective approach to analyzing high-throughput gene expression features associated with survival outcome using case-cohort design and permutation test. The Western North American Region of The International Biometric Society 2018 Annual Meeting. Edmonton, Alberta, Canada. June 24 – 27, 2019
6. **Kang H**. Permutation test based on a linear mixed model for differential alternative splicing analysis. ICSA Applied Statistical Symposium, Chicago, IL, June 25-28, 2017
7. **Kang H**. and Pesko, J. Permutation-based score test for case-cohort design applied to high-throughput gene expression analysis. Joint Statistical Meeting, Baltimore, July 29 – August 3, 2017
8. Luo L, **Kang H**, Ness SA and Stidley CA. Two-step mixed model approach to analyzing differential alternative RNA splicing. Joint Statistical Meeting, Baltimore, July 29 – August 3, 2017
9. **Kang H** and Pesko JC. High throughput gene expression analysis under the case-cohort design: A comparison of different methods. The 10th ICSA International Conference: Global Growth of Modern Statistics in the 21st Century. December 19 – 22, 2016. Shanghai, China.
10. **Kang H**, Yang S, Lee J-H. Evaluation of difference in the intraclass correlation coefficient (ICC) between two measurement techniques. 2016 Joint Statistical Meeting. Jul 30 – Aug 4, 2016. Chicago, IL.
11. **Kang H**, Statistical evaluation of the difference in reliability between two measurements techniques. 2016 Annual Meeting of the Albuquerque Chapter of the American Statistical Association. Apr 22, 2016 Santa Fe, NM.

12. **Kang H**, Lee J-H, and Lin Y. A novel approach to testing for difference in agreement among multiple raters between two measurement techniques. 2015 Joint Statistical Meeting. Aug 8 – 13, 2015. Seattle, WA.
13. **Kang H**. Biomarker evaluation under Nested Case-Control Studies. 2015 Annual Meeting of the Albuquerque Chapter of the American Statistical Association. Apr 17, 2015 Santa Fe, NM.
14. **Kang H**, Lin Y, Hill D and Berwick M. Evaluating prognostic accuracy of biomarkers with semi-parametric accelerated failure models under nested case-control studies. WNAR/IMS 2013 Spring Meeting, June 16 – 19, 2013. UCLA, California.
15. **Kang H**, Bedrick EJ, A simple pseudo maximum likelihood estimate for the binormal ROC curve. 2012 Joint Statistical Meeting. July 27 – August 2, 2012, San Diego, California.
16. **Kang H**, Bedrick EJ, A modified pseudo maximum likelihood estimate for ROC curve of a generalized odds-rate model. 2011 Joint Statistical Meeting. July 30 – August 4, 2011, Mimi Beach, Florida.
17. **Kang H**, Bedrick EJ, Atals SR, Chen I-M and Willman CL, Developing and validating gene expression classifiers for relapse-free survival and minimal residual disease to improve risk assignment in acute lymphoblastic leukemia, SPECS Investigators Meeting at Vanderbilt University, Dec 2008, Nashville, Tennessee.
18. **Kang H** and Willman CL, Association of putative mutations with UNM clusters. TARGET meeting at St. Jude Children's Research Hospital. April 2008, Memphis, Tennessee.
19. **Kang H**, Bedrick EJ, Atlas SR, Willman CL, ROC curve of a generalized odds-rate model. 2007 Joint Statistical Meeting. July 30 – August 2, 2007, Salt Lake City, Utah.
20. **Kang H**, Bedrick EJ, Atlas SR, Willman CL, Semiparametric estimation for the ROC curve of a generalized odds-rate model. WNAR/IMS 2007, June 24 – 27, 2007. Irvine, California.
21. Tsao L, Reichard K, **Kang H**, Wilson C, Foucar K, Diagnostic utility of flow cytometric enumeration of hematogones in MDS bone marrows, USCAP 2007 annual meeting, March 25, 2007 Pittsburgh Pennsylvania
22. Wenner DE, Degani JM, Whitwam PR, Turner DM, Rosser JC, **Kang H**, LCBDE less risky to pancreas than ERCP, SAGES 2007 Annual Meeting, April 18 – 22, 2007. Las Vegas, Nevada.
23. Myers O, **Kang H**, Hubbard G, Flowers L, Cui X, Berwick M, Toth B, Stidley CA. Association between ozone and hospital admissions for asthma in northwestern New Mexico. Meeting of the International Society of Exposure Analysis, Tucson, AZ Oct-Nov, 2005

Invited Lectures:

1. High-dimensional data analysis and methods of statistical computing. 2016 Beijing Forestry University
2. Developing and validating gene expression classifiers for outcome and minimal residual disease to improve risk assignment in pediatric B-precursor acute lymphoblastic leukemia. 2014 The Mind Research Network's MIALab & IEEE Engineering in Medicine & Biology Society.
3. ROC Curve of a Generalized Odds-Rate Model. 2012 University of New Mexico Mathematics and Statistics Department

Research Funding

Current Grant and Contract Funding:

- P30CA118100
UNM Cancer Center Support Grant
PI: Alan Tomkinson, PhD
Role: Investigator
Effort: 10%
Funding: NIH/NCI
Project Period: 9/1/2021 – 8/31/2026
This project provides infrastructure support for the University of New Mexico Cancer Center, including a facility core in biostatistics.
- 1U2CCA252973
Engagement of American Indians of Southwestern Tribal Nations in Cancer Genome Sequencing / Subproject: Genome Characterization.
PI: Cheryl Willman, MD
Role: Investigator
Effort: 10%
Funding: NIH/NCI
Project Period: 8/1/2020 – 7/31/2025
This project provides infrastructure support for the University of New Mexico Cancer Center, including a facility core in biostatistics.
- 3K12GM088021-13S1
FAIR Data Competency and Machine Learning Readiness for Biomedical Scientists.
PI: Angela Wandinger-Ness, PhD
Role: Investigator
Effort: 10%
Funding: NIH/NCI
Project Period: 9/1/2021 – 8/31/2022
The goal is to expand the professional development of ASERT fellows and interested associate members in Findable, Accessible, Interoperable and Reusable (FAIR) data management and data analyses using machine learning.
- BDS-USHPVPC
BD HPV PreservCyt Retrospective Study for the FDA
PI: Cosette Wheeler,
Role: Co-Investigator
Effort: 20%
Funding: Becton, Dickinson and Company

Project Period: 7/15/2019 – 6/30/2023

The major goal of this study is to approve a new HPV diagnostic indication for population use in the United States using Preservcyt cervical cytology media.

- FP10440/Wheeler
HPV test utilization and Outcomes: A study from New Mexico HPV Pap Registry
PI: Cosette Wheeler,
Role: Co-Investigator
Effort: 20%
Funding: Hologic
Project Period: 03/01/2019 – 8/31/2022
The major goal of this study is to obtain the summary for the utilization of the Aptima HPV assays and the Cobas HPV assay.
- 117442(U10CA180821)
Biomarker, Imaging and Quality of Life Studies Funding Program (BIQSFP)
PI: Richard Harvey
Role: Co-Investigator
Effort: 5%
Funding: Brigham and Women's Hospital
Project Period: 3/1/2017 – 2/28/2023
- R01 CA237165-01A1
The roles of SOCS5 in T-ALL migration and tissue infiltration
PI: Ksenia Matlawska-Wasowska
Role: Co-Investigator
Effort: 3%
Funding: NIH/NCI
Project Period: 07/01/2019-06/30/2024
Direct costs: \$228,953
The goal of this project is to investigate how SOCS5 regulates T-cell leukemia migration and dissemination to secondary organs

Past Grant and Contract Funding:

- P30CA118100
UNM Cancer Center Support Grant
PI: Cheryl Willman, MD
Role: Investigator
Effort: 10%
Funding: NIH/NCI
Project Period: 9/1/2016 – 8/31/2021
Direct costs: \$1,298,382
Total costs: \$1,934,104

This project provides infrastructure support for the University of New Mexico Cancer Center, including a facility core in biostatistics.

- 1R01DE023222
Mutations and target genes in Adenoid Cystic Carcinoma
Pi:Ness
Role: Investigator
Effort: 10%
Funding: NIH/ NIDCR
Project Period: 09/01/2017-08/31/2022
Direct costs: \$366,390
- U19 AI113187, NIH/NIAID
Epidemiology and Prevention Interdisciplinary Center (EPIC) for Sexually Transmitted Infections (EPIC-STI)
PI: Cosette Wheeler,
Role: Key personnel
Effort: 20%
Funding: NIH/NIAID
Project Period: 7/1/2014 – 6/30/2021
The major goals of this application are to establish an integrated, interdisciplinary STI Cooperative Research Center (STI-CRC) uniquely positioned to adopt a synergistic approach bridging gaps to (1) understand basic epidemiologic data on STI burden, (2) understand STI natural history and burden of disease, (3) advance basic science research for STI vaccines including development of appropriate animal models, high throughput antigen discovery and novel antigen delivery systems, (4) conduct basic studies in clinical settings to expand the overall knowledge base on mucosal immunity in the genital tract; and (5) evaluate the effectiveness of real-world STIs prevention and associated outcomes.
- PA# 21533
Grant: 3RN12
Statistical Methods for Evaluating Cancer Biomarkers
PI: H Kang
Effort: No salary support
Funding: Gabrielle's Angel Foundation
Project Period: 5/15/2015 – 5/15/2017
Direct cost: \$47,500
- U01CA157937
Molecular Signature for Outcome Prediction in Therapeutic Targeting in ALL
PI: Cheryl Willman, MD
Role: Investigator
Effort: 20%

Funding: NIH/NCI
Project Period: 8/1/2011 – 7/31/2016
Direct cost: \$405,764
Total cost: \$600,000

- K01 CA-12-050
EGF receptor, DNA methylation and platinum resistance in ovarian cancer
PI: Sabrina Samudio-Ruiz, PhD
Role: Consultant
Effort: 4%
Funding: NIH/NCI
Project Period: 10/1/2012 – 9/31/2017
Direct cost: \$603,285
Total cost: \$650,958
- R01DE023222-01
Mutations and target genes in Adenoid Cystic Carcinoma
PI: Scott Ness, PhD
Role: investigator
Effort: 5%
Funding: NIH/NIDCR
Project Period: 09/10/2012 – 08/31/2016
Direct cost: \$303,651
Total cost: \$450,117
- R01CA170250
Alternative RNA splicing and protein products in leukemia outcome (PQ11)
PI: Scott Ness, PhD
Role: Investigator
Effort: 25%
Funding: NIH/NCI
Project Period: 08/08/2012 – 5/31/2016
Direct cost: \$407,617
Total cost: \$594,337
- P30CA118100
UNM Cancer Center Support Grant
PI: Cheryl Willman, MD
Role: Investigator
Effort: 10%
Funding: NIH/NCI
Project Period: 9/1/2010 – 8/31/2015
Direct costs: \$1,298,382
Total costs: \$1,934,104

- P50 CA14813-01
 Understanding and Preventing Breast Cancer Disparities in Latinas: Project 4
 PI: Beti Thompson, PhD. (Project 4 PI: Linda Cook)
 Role: investigator
 Effort: 5%
 Funding: NIH
 Project Period: 4/1/2010 – 3/31/2015
 Direct costs: \$103,760
 Total costs: \$156,678
- 3P30 CA118100-10S3
 UNM CCSG: Administrative Supplement to Expand NCI-supported Community Outreach Capacity through Community Health Educators of the National Outreach Network
 PI: Willman/Supplement PI: Damron
 Role: Investigator
 Effort: 5%
 Funding: NIH/NCI
 Project Period: 9/1/2014 – 08/31/2015
 Direct costs: \$82,781
- R01 CA132877
 Towards a Transdisciplinary Understanding of Breast Cancer Survival Disparities
 PI: Deirdra Hill, PhD
 Role: Investigator
 Effort: 10%
 Funding: NCI
 Project Period: 10/1/2009 – 12/31/14
 Direct costs: \$315,015
 Total costs: \$484,373
- P30CA118100-08S1
 P30 Supplement: Expand NCI-supported community outreach capacity through community health educators of the national outreach network
 PI: Barbara Damron, PhD
 Role: Investigator
 Funding: NIH/NCI
 Direct: \$92,715
 Total: \$140,000
 Effort: 0.5%
 Project Period: 9/1/12-8/31/13

- 17372-07
 LLS Specialized Center of Research (SCOR) in Targeted Therapies for Infant Leukemia.
 Project 1: Development of Gene Expression Classifiers for Improved Outcome Prediction in ALL
 PI: Carolyn Felix MD. (Project 1 PI: Cheryl Willman, MD)
 Role: investigator
 Effort: 5%
 Funding: Leukemia and Lymphoma Society
 Project Period: 10/1/2006 – 9/30/2012
 Direct costs: \$197,917
 Total costs: \$237,500
- U01 CA114762-05
 Strategic Partnerships to Evaluate Cancer Signatures: Leukemia Signatures for Risk Classification and Targeting.
 PI: Cheryl Willman, MD
 Role: investigator
 Effort: 40%
 Funding: NIH/NCI
 Project Period: 4/1/2005 - 12/31/2010
 Direct costs: \$1,106,167
 Total costs: \$1,421,829
- 7388-06
 LLS Specialized Center of Research (SCOR) in Leukemia: Comprehensive Molecular Technologies for improved Risk Classification and Therapy
 PI: Cheryl Willman, MD
 Role: Investigator
 Effort: 10%
 Funding: Leukemia and Lymphoma Society
 Project Period: 10/1/2005 – 9/30/2011
 Direct costs: \$1,035,000
 Total costs: \$1,242,000
- K01 ES014003-03
 Gene-Environment Cancer Risks in Melanoma
 PI: Melissa Gonzales
 Role: investigator
 Effort: 5%
 Funding: NIH/HIEHS
 Project Period: 09/01/2005 – 07/31/2010
 Direct costs: \$519,691

Teaching

- BIOM 505 Introduction to FAIR Data, Bioinformatics, and Machine Learning
- CBE 515, BME 598, BIOL 519, CBE 515, CS 491 Introduction to Bioinformatics, 2020
- BIOM 559 CCTS/MSCR Biostatistics, 2020 – 2021
- CCTS/MSCR STAT Workshop 2020
- BIOM 505-009 Introduction to Genomic Data Analysis, 2018 – 2019
- STAT 495 – Individual Study, Statistical Program, 2014 – 2022
- Biomedical Sciences 501, Fundamentals for graduate research (10 out of 16 hours are introduction to Biostatistics), 2013, 2014
- Biomedical Sciences 522, Experimental design and methods in molecular and cellular biosciences (2 out of 16 weeks are biostatistics), 2007, 2008, 2009, 2010, 2011
- BIOM 559, Biostatistics for Master of Science in Clinical Research (MSCR) program (Level I, 16 hours, Level II, 32 hours) 2008, 2009
- Biomedical Sciences 505-013, Statistical Methods for Analyzing Gene Expression Microarray Data. (16 hours) Role: Course developer and sole instructor (2011)
- From 1985 – 2000, Teaching advanced mathematics including calculus, linear algebra, probability and statistics, methods in mathematical physics, numerical analysis, Mathematical modeling, and multivariate analysis.

Student Advisement

PhD Student Mentoring (as Advisor or Co-advisor):

- Lidong Wang, PhD Candidate (Statistics), in progress.
- Xichen Li, PhD Candidate (Statistics), in progress.
- Yang Shi, PhD (Biostatistics, University of Michigan), 2016, Statistical and Computational Methods for Differential Expression Analysis in High-throughput Gene Expression Data.

PhD Student Mentoring (as a Dissertation Committed Member):

- Xin Gao, PhD (Statistics) 2021. Decompositions of total causal effect: A natural counterfactual framework assessing mediation and interaction.
- Yoda Shimada, MD, PhD (BIOM) 2021. DNA Tiling Array for Detection, Whole Genome Sequencing, Variant Identification, and Phylogenetic Analysis of SARS-CoV-2
- Elizabeth Harding, PhD (Health, Exercise and Sports Sciences) 2019. Are steps per day enough? Quality versus quantity of ambulatory behavior after a light-intensity physical activity intervention for older cancer survivors.

- John Pesko, PhD (Statistics), 2016, Dissertation title: Contributions to Statistical Testing, Prediction, and Modeling.
- Fares Qeadan, PhD (Statistics), 2014, Dissertation title: On the equivalence between the LRT, RLRT and F-test for testing variance components in the generalized split-plot models (Dr. Qeadan passed the dissertation with distinction)
- Mohammad Wasef Hattab, PhD (Statistics), 2013, Dissertation title: A survey lack-of-fit tests based on sums of ordered residuals (Dr. Hattab passed the dissertation with distinction)
- Yizhou Jiang, PhD (Statistics), 2009, Dissertation title: Contributions to partial least square regression and supervised principal component analysis modeling.
- Huiping Sheng, PhD (Health, Exercise and Sports Sciences). 2009, Dissertation title: The effects of multiple contribution factors on middle school age girls' physical activity levels, social ecological model. (Dr. Sheng passed the dissertation with distinction)

Supervision of Pre- and Post-Doctoral Researchers

- Lidong Wang, 2017 (Statistics)
Topic: Clinical Prediction with High-Throughput Gene Expression Data.
- John Pesko, 2016 – 2017 (Statistics)
Topic: High-Through Gene Expression Analysis under the Case-Cohort Design
Currently a statistician scientist in AbbVie Inc.
- Yong Lin, 2012 – 2013 (Statistics)
Topic: Statistical methods for biomarker evaluation under the case-control study design.
Currently a statistician scientist in Eli Lilly and Company.

Honors Undergraduate Student Advisement:

- Mo Li, B.S. (Statistics), 2015, Honors thesis title: Statistical Modeling of Genomics Data to Improve Cancer Risk Classification and Outcome Prediction. Mr. Mo Li was graduated with Cum Laude Honors. He is currently a graduate student in the Department of Statistical Sciences & Operations Research at Virginia Commonwealth University.