

Curriculum Vitae
Zhigang Li
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PRIMARY WORKING AFFILIATION

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MAILING ADDRESS

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PERMANENT RESIDENT: USA

METHODOLOGICAL RESEARCH INTERESTS: (1) Microbiome data analysis which involves high-dimensional data analysis, compositional data analysis, zero-inflated data analysis and hierarchical data analysis. (2) Joint modeling of longitudinal data and survival data in palliative care clinical trials. (3) I am open to develop other research interests.

COLLABORATIVE RESEARCH INTERESTS: I am and have collaborated with investigators from many subject areas including Epidemiology, Children's Health Research, Environmental Health Research, Clinical Trials, Palliative Care Research, Cancer Research, Nursing Research, End-of-Life Research, Pediatrics, Bioengineering, etc. It is important to stay connected with collaborators since inspiration for new methods could be motivated by new data and study design.

EDUCATION

Columbia University, Mailman School of Public Health, New York, NY
Ph.D. in Biostatistics, Department of Biostatistics, 09/2010
Supervisor: Dr. Ian W. McKeague

Auburn University, College of Sciences and Mathematics, Auburn, AL
M.P.S. in Statistics, Department of Mathematics and Statistics, 06/2006

Nankai University, School of Mathematical Sciences, Tianjin, China
M.S. in Probability Theory, 06/2004
B.S. in Mathematics (gifted class in mathematics), 06/2001

PROFESSIONAL POSITIONS

Associate professor, 08/2018-present
Department of Biostatistics, University of Florida, FL

Adjunct associate professor, 02/2018-present
Department of Biomedical Data Science, Geisel School of Medicine at Dartmouth, NH
Department of Epidemiology, Geisel School of Medicine at Dartmouth, NH
Department of Community and Family Medicine, Geisel School of Medicine at Dartmouth, NH

Assistant professor, 01/2015-01/2018
Department of Biomedical Data Science (established in 01/2015), Geisel School of Medicine at Dartmouth, NH
Assistant professor, 07/2017-01/2018
Department of Epidemiology, Geisel School of Medicine at Dartmouth, NH

Assistant professor, 09/2010-01/2018

Department of Community and Family Medicine, Geisel School of Medicine at Dartmouth, NH

Biostatistician, 09/2010-present

Children's Environmental Health and Disease Prevention Research Center at Dartmouth, Hanover, NH

Member, 09/2011-present

Norris Cotton Cancer Center, Geisel School of Medicine at Dartmouth, NH

Biostatistician, 05/2007-06/2010

Columbia Center for Children's Environmental Health, Columbia University, NY

Teaching assistant, 09/2006-09/2007

Department of Biostatistics, Columbia University, NY

Teaching assistant, 08/2004-05/2005, Instructor, 06/2005-06/2006

Department of Mathematics and Statistics, Auburn University, AL

COMMITTEE AND EDITORIAL BOARD

Clinical Cancer Review Committee, Norris Cotton Cancer Center, NH	11/2011- present
Vice Chair of Health Data Science master program admission committee, Dartmouth,	10/2017-present
Associate editor for <i>BioData Mining</i>	02/2013-present
Associate editor for <i>Frontiers in Public Health</i>	05/2013-present
Associate editor for <i>Palliative Medicine & Care: Open Access</i>	11/2013-present

GRANT REVIEW

Cancer Center Developmental Funds, Norris Cotton Cancer Center, NH	08/2015, 2016
The PRESTIGE post-doc fellowship program, Campus France	04/2017
Laura and John Arnold Foundation, Houston, Texas	08/2016, 05/2017
NIH ECHO Opportunities and Infrastructure Fund review panel	02/2018

HONORS

First Prize, Chinese National Mathematical Olympiad, 1996

PROFESSIONAL COMMITTEES

NIH Environmental Influences on Child Health Outcomes (ECHO) Program data analysis working group webinar topic committee	2017 – present
NIH ECHO Program data analysis working group Data Analysis Dispute Resolution Committee	2017 – present
NIH ECHO Opportunities and Infrastructure Fund (OIF) Review Committee	2017 – present
2018 ICSCA China conference program committee	

GRANT SUPPORT

Active grants

1. Mediation analysis methods to model human microbiome mediating disease-leading causal pathways in children
Role: PI (45%)
Agency: NIH R01GM123014

Period: 2017-2022
Total cost: \$2,323,306

Pending grants

2. Grant title: Randomized Trial of a Multimodal Sexual Dysfunction Intervention for Hematopoietic Stem Cell Transplant Survivors
Role: Biostatistician (10%)
Agency: NIH R01
PI: Areej El-Jawahri
Total cost: \$3,0547,000
3. Grant title: Randomized Trial of a Multimodal Sexual Dysfunction Intervention for Hematopoietic Stem Cell Transplant Survivors
Role: Biostatistician (10%)
Agency: American Cancer Society – Research Scholar Grant
PI: Areej El-Jawahri
Total cost: \$792,000
4. Grant title: Randomized Trial of Inpatient Palliative Care for Patients with Hematologic Malignancies Undergoing Hematopoietic Stem Cell Transplantation
Role: Biostatistician (5%)
Agency: NIH R01
PI: Areej El-Jawahri
Total cost: \$2,739,000
5. Grant title: Autism Spectrum Disorder-related behaviors and microbiome and metabolites in children
Role: co-I (10%)
Agency: NIH R21
PIs: Juliette Madan, Susan Korrick
Total cost: \$374,000
6. Grant title: Cystic Fibrosis and microbiome and metabolomics
Role: co-I (10%)
Agency: NIH R01
PI: Juliette Madan
Total cost: \$3,239,000
7. Optimizing Functional Recovery for Cancer Survivors: The Behavioral Activation-Rehabilitation Program
Role: Biostatistician (10%)
PI: Lyons, Kathleen
Agency: NIH R01
Total cost: \$3,606,800
8. Prospective study of food advertising exposure and its relation to food requests, eating behaviors and adiposity gain during early childhood
Role: Co-I (10%)
PI: Diane Gilbert-Diamond
Agency: NIH R01

Total cost: \$2,025,000

9. Grant title: Advance Care Planning Video to Optimize End of Life Care for Patients with High-Risk Hematologic Malignancies
Role: Biostatistician (10%)
Agency: NIH R01
PI: Areej El-Jawahri
Total cost: \$2,527,000

Completed grants

10. Centers for Biomedical Research Excellence (COBRE): Center for Molecular Epidemiology
Project 4: Evaluating mediation effects of the microbiome and epigenetics using high dimensional assays
Role: Project PI (50%)
Agency: NIH 1P20GM104416
Period: 02/01/2018 – 07/31/18
Total cost: \$1,312,785
11. Design and Analysis of Palliative Care Trials Evaluating Early Interventions
Role: PI (23%)
Agency: NIH R03NR014915
Period: 06/2014 - 05/2016
Total cost: \$159,570
Goal: The major goal is to study randomized clinical trial designs and more general “stepped wedge” designs in the context of terminal decline model for delayed-start palliative care trials. Specifically, by joint modeling modelling survival and quality of life, it will address methods for estimating treatment effects and for choosing optimal design features such as overall sample size and the optimal timing of interventions.
12. Statistical methods for joint survival and longitudinal quality of life analysis in palliative care studies
Role: Contact-PI
PIs: Zhigang Li, T Testern and Marie Bakitas
Agency: Norris Cotton Cancer Center
Period: 02/2012 – 04/2015
Total cost: \$48,000
Goal: this project was to 1) develop new computationally efficient statistical algorithms for “terminal decline” models focused on quality of life during the last months of life; and 2) apply these methods to the analysis of data from the ENABLE II trial to estimate intervention effects on alternative measures of the joint distribution of quality of life and survival. These analyses will serve as preliminary data for future NIH applications targeted towards the study of special statistical issues raised by ENABLE II and other palliative care clinical trials.
13. ECHO – Environmental Influences on Child Health Outcomes Pediatric Cohorts
Role: co-I (5%)
PI: Margaret Karagas
Agency: NIH
Period: 2016-2018

14. Environment, Imprinting, and Neurodevelopment

Role: Co-I (5%)
PI: Carmen Marsit
Agency: NIH R01 ES022223
Period: 2013-2016
Total cost: \$3,998,630

15. Non-Melanoma Skin Cancer in New Hampshire

Role: Co-I (7%)
PI: Margaret Karagas
Agency: NIH/NCI 2 R01 CA57494
Period: 2010 – 2015
Total cost: \$2,920,547

16. Arsenic and T cell Function: an Environment Maternal/child Immunity Study

Role: Co-I (7.5%)
PI: Margaret Karagas
Agency: NIH/NIEHS 1R21ES020936
Period: 2012 – 2014
Total cost: \$449,940

17. Children's Genetic Predisposition to Eat Without Hunger After Food Advertisements

Role: Co-I (10%)
PI: Diane Gilbert-Diamond
Agency: NIH 1R21HD076097-01
Period: 2013 – 2015
Total cost: \$438,384

18. Family Smoking Prevention and Tobacco Control Act National Longitudinal Study

Role: Co-investigator (on Dartmouth sub-contract) (10%)
PI: Hyland, [Dartmouth sub-contract PI] Sargent
Agency: FDA NOIDA-11-5568
Period: 2013 – 2016

19. Alcohol Marketing and Underage Drinking

Role: Biostatistician (10%)
PI: Sargent/Heatherton
Agency: NIH 1R01AA021347
Period: 2012 – 2017
Total cost:

20. Model-based Investigation of Repetitive Head Impacts on the Risk of Sports Concussion

Role: Biostatistician (5.6%)
PI: Songbai Ji
Agency: NIH R01NS092853
Period: 2015 – 2017
Total cost: \$1,943,883

21. Cancer Center Support (CORE) Grant

Role: Biostatistician (10%)
PI: Mark Israel
Agency: NIH/NCI P30CA023108
Period: 2014 – 2017
Total cost:

22. SYNERGY: The Dartmouth Center for Clinical and Translational Science

Role: Biostatistician (10%)
PI: Alan Green
Agency: NIH/NCATS UL1TR001086
Period: 2013 – 2017
Total cost:

23. Neural Mechanisms Underlying Categorical Perception in the Processing of Faces

Role: Biostatistician (2.5%)
PI: Ming Meng
Agency: NSF 1157121
Period: 2012 – 2015
Total cost: \$400,000

24. Developmental effects of early-life exposure to airborne PAHs

Role: Biostatistician (50%)
PI: Frederica Perera
Agency: 5R01ES015282
Period: 2009 – 2010
Total cost: \$1,657,824

25. Incentives, Cognitive Training, and Internet Therapy for Teens with Poorly Controlled Type 1 Diabetes

Role: Biostatistician (10%)
PI: Cathy Stanger
Agency: NIH/NICHHD DP3 HD076602-01
Period: 2012 – 2013
Total cost: \$2,455,757

26. Family Based Contingency-Management for Adolescent Alcohol Abuse

Role: Biostatistician (5%)
PI: Cathy Stanger
Agency: NIH/NIAAA R01 AA016917
Period: 2012 – 2013
Total cost: \$2,192,340

27. Behavioral Treatment of Adolescent Marijuana Use

Role: Co-I (5%)
PI: Alan Budney
Agency: NIH/NIDA 2R01 DA015186
Period: 2013 – 2013
Total cost: \$1,795,252

28. Comparative Effectiveness of Advanced Imaging in Cancer

Role: Biostatistician (50%)
PIs: A.Tosteson, Black, Hillner
Agency: NCI RC2CA148259
Period: 2012 – 2012
Total cost: \$3,962,575

29. A social-cognitive model of adolescent substance use

Role: Biostatistician (20%)
PI: Frederick Gibbons
Agency: R01 DA018871
Period: 2010 – 2011
Total cost: \$1,439,871

CLINICAL TRIAL PROTOCOLS

DH-funded clinical trial protocol: D15113 (PI: Max Vergo) 2015-2017

Title: Feasibility of a creative writing intervention in an advanced cancer population: a single arm, consecutive cohort study.

Role: Biostatistician

DH-funded clinical trial protocol: (PI: Lyons) 2018-2019

Title: A remotely supervised exercise program for lung cancer patients undergoing chemotherapy

Role: Biostatistician

DH-funded clinical trial protocol: D14122 (PI: Peter Kaufman) 2018-2019

Title: Phase II study of Oscillation of ER activity levels through sequential estradiol/anti-estrogen therapies in ER+/HER2- advanced breast cancer (POLLY)

Role: Biostatistician

PUBLICATIONS

Published or in press journal articles (* indicates co-first author)

1. Anne Hoen, Juliette C. Madan, **Zhigang Li**, Modupe Coker, Sara N. Lundgren, Hilary G. Morrison, Thomas Palys, Brian Jackson, Mitchell L. Sogin, Kathryn L. Cottingham, Margaret R. Karagas (In press) Sex-specific gut microbiome impacts of infant arsenic exposure in a US population. *Scientific Reports*
2. Areej El-Jawahri MD^{1,2}, Margaret Nelson-Low PhD¹, Harry VanDusen BS¹, Lara Traeger PhD^{1,2}, Gregory Abel MD^{2,3}, Joseph Greer PhD^{1,2}, Amir Fathi MD^{1,2}, David Steensma MD^{2,3}, Thomas LeBlanc MD⁴, **Zhigang Li** PhD⁵, Daniel DeAngelo MD^{2,3}, Martha Wadleigh MD^{2,3}, Gabriela Hobbs MD^{1,2}, Julia Foster NP¹, Andrew Brunner MD^{1,2}, Philip Amrein MD^{1,2}, Richard M. Stone, Jennifer S. Temel MD¹² (In press) Patient-Clinician Discordance in Perceptions of Treatment Risks and Benefits in Older Patients with AML. *The Oncologist*
3. **Zhigang Li**, Katherine Lee, Margaret Karagas, Juliette Madan, Anne Hoen, James O'Malley and Hongzhe Li (In press) Conditional regression based on a multivariate zero-inflated logistic normal model for modeling microbiome data. *Statistics in Biosciences*

4. Cai Y, Wu S, Zhao W, **Li Z**, Ji S (In press) Concussion classification via deep learning using whole-brain white matter fiber strains. *PLoS one*
5. Shohreh F Farzan, Caitlin G Howe, Michael S Zens, Thomas Palys, Jacqueline Y Channon, **Zhigang Li**, Yu Chen, Margaret R Karagas (2017) [Urine Arsenic and Arsenic Metabolites in US Adults and Biomarkers of Inflammation, Oxidative Stress, and Endothelial Dysfunction: A Cross-Sectional Study](#). *Environmental Health Perspectives*
6. Olofson AM, Biernacka A, **Li Z**, Boonipat T, Gutmann EJ, Smith KD, Gardner TB, Gordon SR, Padmanabhan V, Marotti JD, Liu X (In press) Indeterminate Cytologic Diagnoses in EUS-guided FNA of the Pancreas: Analysis of Cytologist and Clinician Perception, Clinical Outcomes, and Cytologic Features. *Journal of the American Society of Cytopathology*
7. El-Jawahri A, Fishman SR, Vanderklisch J, Dizon D, Pensak N, Traeger L, Greer JA, Park E, Markovitz N, Waldman L, Hunnewell C, Saylor M, Driscoll J, **Li Z**, Spitzer T, McAfee S, Chen Y-B, Temel JS. (In press) Pilot Study of a Multimodal Intervention to Enhance Sexual Function in Hematopoietic Stem Cell Transplant (HCT) Survivors. *Cancer*
8. Howe C, Karagas M, Chen Y, Zens M, **Li Z**, Palys T, Smith J and Farzan S (In press) Dietary B Vitamin Intake is Associated with Lower Urinary Monomethyl Arsenic and Oxidative Stress Marker 15-F2t-Isoprostane among New Hampshire Adults. *Journal of Nutrition*
9. El-Jawahri A, Greer JA, Pirl WF, Park ER, Jackson VA, Back AL, Kamdar M, Jacobsen J, Chittenden EH, Rinaldi SP, Gallagher ER, Eusebio JR, Fishman S, VanDusen H, **Li Z**, Muzikansky A, Temel JS (2017) Effects of Early Integrated Palliative Care on Caregivers of Patients with Lung and Gastrointestinal Cancer: A Randomized Clinical Trial. *The Oncologist* doi: 10.1634/theoncologist.2017-0227
10. **Li Z**, H. R. Frost, Tor Tosteson, Lihui Zhao, Lei Liu, Kathleen Lyons, Huaihou Chen, Bernard Cole, David Currow, Marie Bakitas (2017) A Semiparametric Joint Model for Terminal Trend of Quality of Life and Survival in Palliative Care Research. *Statistics in Medicine* 1 36(29):4692-4704
11. Emond JA, Tovar A, **Li Z**, Lansigan RK, Brand J, Gilbert-Diamond D (2017) *FTO* genotype and weight status among preadolescents: assessing mediating effects of appetite drive and regulation. *Appetite* 117:321-329
12. El-Jawahri A, Traeger L, Greer JA, Vandusen H, Fishman SR, LeBlanc TW, Pirl WF, Jackson VA, Telles J, Rhodes A, **Li Z**, Spitzer TR, McAfee S, Chen YA and Temel JS (In press) Effect of Inpatient Palliative Care during Hematopoietic Stem Cell Transplant (HCT) on Psychological Distress Six Months Post-Transplant: Results of a Randomized Clinical Trial. *Journal of Clinical Oncology* 35(32):3714-3721
13. Prescott A, Hull J, Dionne-Odom J, Tosteson T, Lyons K, **Li Z**, Li Zho, Dragnev K, Hegel M, Ahles T and Bakitas M (2017) The role of a palliative care intervention in moderating the relationship between depression and survival among individuals with advanced cancer. *Health Psychology* 36(12), 1140-1146
14. Nygaard UC*, **Li Z***, Palys T, Jackson B, Subbiah M, Malipatlolla M, Sampath V, Maecker H, Karagas MR, Nadeau KC (2017) Cord blood T cell subpopulations and associations with maternal cadmium and arsenic exposures. *PLoS One* 12(6):e0179606. doi: 10.1371/journal.pone.0179606. eCollection 2017.
15. Taylor VF, **Li Z**, Scholtz-Bright RA, Karagas MR (2017) Exposure risk, bioaccessibility and metabolism of arsenic compounds found in seaweed. *Scientific Reports* 7:3920 doi: 10.1038/s41598-017-03883-7
16. Zhao W, Cai Y, **Li Z**, Ji S (2017) Injury Prediction and Vulnerability Assessment Using Strain and Susceptibility Measures of the Deep White Matter. *Biomechanics and Modeling in Mechanobiology* doi: 10.1007/s10237-017-0915-5
17. Farzan SF, Brickley EB, **Li Z**, Gossai A, Chen Y, Howe CG, Palys T, Karagas MR (2017) Maternal and Infant Inflammatory Markers in Relation to Prenatal Arsenic Exposure in a U.S. Pregnancy Cohort. *Environmental Research* 156:426-433
18. Scherer E, Ben-Zeev D, **Li Z**, Kane J (2017) Analyzing mHealth Engagement: Joint Models for Intensively Collected User Engagement Data. *Journal of Medical Internet Research- mhealth and uhealth*. 5(1): e1 doi: 10.2196/mhealth.6474

19. Temel JS, Greer JA, El-Jawahri A, Pirl WF, Park ER, Jackson VA, Back AL, Kamdar M, Jacobsen J, Chittenden EH, Rinaldi SP, Gallagher ER, Eusebio JR, Li Z, Muzikansky A, Ryan DP (2017) Effects of Early Integrated Palliative Care in Patients with Lung and Gastrointestinal Cancer: A Randomized Clinical Trial. *Journal of Clinical Oncology* 35(8):834-841
20. Vergo M, Whyman J, Li Z, Kestel J, James SL, Rector C, Salsman J (2017) Assessing preparatory grief in advanced cancer patients as an independent predictor of distress in an American population. *Journal of Palliative Medicine* 20(1):48-52.
21. Morgenstern M, Li Zho, Li Z and Sargent JD (2017) The party effect: prediction of future alcohol use based on exposure to specific alcohol advertising content. *Addiction* 112(1):63-70
22. Punshon T, Li Z, Marsit C, Jackson BP and Karagas MR. (2016) Placental metal concentrations in relation to maternal and infant biomarkers of exposure in a US cohort. *Environ. Sci. Technol* 50 (3), pp 1587–1594 PMID: PMC4873612
23. McClure A, Tanski S, Li Z, Jackson K, Morgenstern M, Li Zho and Sargent JD (2016) Internet Alcohol Advertising and Underage Alcohol Use. *Pediatrics* 137(2) 2015-2149 PMID: 26738886
24. Emond J, Bernhardt A, Gilbert-Diamond D, Li Z and Sargent J (2016) Commercial TV exposure, fast-food toy collecting, and family visits to fast food restaurants among families living in rural communities. *The Journal of Pediatrics* 168:158-163 PMID: [PMC4698028](#)
25. Farzan S, Li Z, Korrick S, Spiegelman D, Enelow R, Nadeau K, Baker E and Karagas MR (2016) Infant Infections and Respiratory Symptoms in Relation to in utero Arsenic Exposure in a USA Cohort. *Environmental Health Perspectives* 124 (6):840-7 PMID:[PMC4892909](#)
26. Frost R, Li Z and Moore J (2015) Principal component gene set enrichment (PCGSE). *BioData Mining* 8:25 doi:10.1186/s13040-015-0059-z
27. Schifferdecker KE, Adachi-Mejia AM, Butcher RL, O'Connor S, Li Z and Bazos DA (2016) Translation of an Action Learning Collaborative Model into a community-based intervention to promote physical activity and healthy eating. *Health Promotion Practice* 17(1):70-9
28. Frost R, Li Z, Asselbergs F and Moore J (2015) An independent filter for gene set testing based on spectral enrichment. *IEEE/ACM Transactions on Computational Biology and Bioinformatics* 12(5): 1076–1086.
29. Budney AJ, Stanger C, Tilford JM, Scherer E, Brown PC, Li Zho, Li Z and Walker D (2015) Computer-assisted Behavioral Therapy and Contingency Management for Cannabis Use Disorder. *Psychology of Addictive Behaviors* 29(3):501-11
30. Frost R, Li Z and Moore J (2015) Spectral gene set enrichment (SGSE). *BMC Bioinformatics* 16:70. doi: 10.1186/s12859-015-0490-7
31. Dionne-Odom JN, Azuero A, Lyons K, Hull J, Tosteson TD, Li Z, Li Zho, Frost J, Dragnev K, Akyar I, Hegel M and Bakitas M (2015) Benefits of Immediate versus Delayed Palliative Care to Informal Family Caregivers of Persons with Advanced Cancer: Outcomes from the ENABLE III Randomized Clinical Trial. *Journal of Clinical Oncology* 33(13):1446-52
32. Bakitas MA, Tosteson TD, Li Z, Lyons K, Hull J, Li Zho, Dionne-Odom JN, Frost J, Dragnev K, Hegel M, Azuero A and Ahles T (2015) Early Versus Delayed Initiation of Concurrent Palliative Oncology Care: Patient Outcomes in the ENABLE III Randomized Controlled Trial. *Journal of Clinical Oncology* 33(13):1438-45
33. Davis MA, Li Z, Gilbert-Diamond D, MacKenzie T, Cottingham KL, Jackson BP, Lee JS, Baker ER, Marsit CJ and Karagas MR (2014) Infant Toenails as a Biomarker of *In Utero* Arsenic Exposure. *Journal of Exposure Science and Environmental Epidemiology* 24(5): 467–473 PMID: [PMC4141012](#)
34. Tanski S, McClure AC, Li Z, Jackson K, Morgenstern M, Li Zho and Sargent JD (2015) Cued-Recall of Alcohol Advertising on Television and Underage Drinking Behavior. *JAMA Pediatrics* 169(3):264-71
35. Nadeau K*, Li Z*, Farzan S, Koestler D, Robbins D, Fei DL, Malipatlolla M, Maecker H, Enelow R, Korrick S and Karagas MR (2014) In utero arsenic exposure and fetal immune repertoire in a US pregnancy cohort. *Clinical Immunology* 155(2):188-97 PMID: PMC4309995

36. Davis M, Gilbert-Diamond D, Karagas MR, **Li Z**, Moore JH, Williams SM, Frost HR (2014) A Dietary-wide Association Study (DWAS) of Environmental Metal Exposures in US Children and Adults. *PLOS ONE* 9(9):e104768. doi: 10.1371/journal.pone.0104768
37. **Li Z**, McKeague IW and Lumey LH (2014) Optimal Design Strategies for Sibling Studies with Binary Exposures. *The International Journal of Biostatistics* 10:185-96 PMID: [PMC4412035](#)
38. Lesseur C, Armstrong DA, Paquette AG, **Li Z**, Padbury JF and Marsit CJ (2014) Maternal Obesity and Gestational Diabetes are Associated with Placental Leptin DNA Methylation. *The American Journal of Obstetrics & Gynecology* 211(6):654.e1-9 PMID:PMC4254188
39. Karagas MR, Zens MS, **Li Z**, Stukel TA, Perry AE, Gilbert-Diamond D, Sayarath V, Stephenson R, Torti D, Joffe M, Spencer S and Nelson H (2014) Early-onset basal cell carcinoma and indoor tanning: a population-based study. *Pediatrics* 134 e4-e12
40. Ji S, Zhao W, **Li Z**, McAllister TW (2014) Head impact accelerations for brain strain-related responses in contact sports: a model-based investigation. *Biomechanics and Modeling in Mechanobiology*. 13: 1121-1136
41. Jenson EG, Baker M, Paydarfar JA, Gosselin BJ, **Li Z** and Black CC (2014) MCM2/TOP2A (ProExC) Immunohistochemistry as a Predictive Marker in Head and Neck Mucosal Biopsies. *Pathology - Research and Practice*. 210: 346-350
42. Adachi-Mejia A, Gibson J, **Li Z** and Sargent J (2014) The relative roles of types of extracurricular activity on smoking and drinking initiation among tweens. *Academic Pediatrics*. 14: 271-278
43. Primack B, McClure A, **Li Z** and Sargent JD (2014) Receptivity to and Recall of Alcohol Brand Appearances in U.S. Popular Music and Alcohol-Related Behaviors. *Alcoholism: Clinical and Experimental Research*. 38:1737-1744
44. Gifford A, Alexandru D, **Li Z**, Dorman D, Moulton L, Zuckerman J, Parker HW, Stanton B, and O'Toole G (2014) Iron Supplementation Does Not Worsen Respiratory Health or Alter the Sputum Microbiome in Cystic Fibrosis. *Journal of Cystic Fibrosis* 13: 311-8
45. Gilbert-Diamond D, **Li Z**, Adachi-Mejia A, McClure A, Sargent J (2014) Television in the Bedroom is Associated with Increased Adiposity Gain in a Nationally Representative Sample of Adolescents. *JAMA pediatrics*. 168: 427-434
46. O'Hara, R. E., Gibbons, F. X., **Li, Z.**, Gerrard, M., & Sargent, J. D. (2013). Specificity of early movie effects on adolescent sexual behavior and alcohol use. *Social Science & Medicine*. 96: 200-207 PMID: PMC3804111
47. Fei DL, Koestler DC, **Li Z**, Giambelli C, Sanchez-Mejias A, Gosse JA, Marsit CJ, Karagas MR, Robbins DJ (2013) Association between In Utero arsenic exposure, placental gene expression, and infant birth weight: a US birth cohort study. *Environmental Health* 12:58 PMID: PMC3733767 PMID:PMC3733767
48. McClure AC, Tanski SE, Gilbert-Diamond D, Adachi-Mejia AM, **Li Z**, Li Zho, Sargent JD. (2013) Receptivity to TV Fast Food Restaurant Marketing and Obesity Among U.S. Youth. *American Journal of Preventive Medicine*. 45: 560-568
49. Gilbert-Diamond D, **Li Z**, Perry A, Spencer S, Gandolfi AJ and Karagas MR (2013) A Population-based Case–Control Study of Urinary Arsenic Species and Squamous Cell Carcinoma in New Hampshire, USA. *Environmental Health Perspectives*. 121:1154-1260 PMID: PMC3801199
50. Stanger C, Ryan SR, Delhey LM, Thrailkill K, **Li Z**, Li Zho, Budney AJ (2013) A Multicomponent Motivational Intervention to Improve Adherence Among Adolescents With Poorly Controlled Type 1 Diabetes: A Pilot Study. *J Pediatr Psychol*. 38: 629-637 PMID: 23699750
51. Farzan SF, Korrick S, **Li Z**, Enelow R, Gandolfi AJ, Madan J, Nadeau K and Karagas MR (2013) In utero arsenic exposure and infant infection in a United States cohort: A prospective study. *Environmental Research* 126: 24-30 PMID: PMC3808159
52. Dionne-Odom J, Karita E, Kilembe W, Henderson F, Vwalika B, Bayingana R, **Li Z**, Mulenga J, Chomba E, Del Rio C, Khu NH, Tichacek A, Allen S. (2013) Reply to Yang et al. *Clin Infect Dis*. PMID: 23709651.

53. Dionne-Odom J, Karita E, Kilembe W, Henderson F, Vwalika B, Bayingana R, **Li Z**, Mulenga J, Chomba E, del-Rio C, Htee-Khu N, Tichacek A, Allen S (2013) Syphilis Treatment Response among HIV Discordant Couples in Zambia and Rwanda. *Clinical Infectious Diseases* 56:1829-37 PMID: 23487377
54. Adachi-Mejia A, Longacre M, Skatrud-Mickelson M, **Li Z**, Purvis L, Titus-Ernstoff L, Beach M and Dalton M (2013) Variation in access to sugar-sweetened beverages in vending machines across rural, town, and urban high schools. *Public Health* 127: 485-91 PMID: 23498924
55. Cambron SC, McIntyre J, Guerin S, **Li Z** and Pastel D (2013) Lumbar Facet Joint Synovial Cysts: Does T2 Signal Intensity Predict Outcomes Following Percutaneous Rupture? *American Journal of Neuroradiology* 34: 1661-1664 PMID: 23449657
56. **Li Z**, Tosteson TD and Bakitas M (2013) Joint Modeling Quality of Life and Survival Using a Terminal Decline Model in Palliative Care Studies. *Statistics in Medicine* 32(8):1394-406 PMCID:PMC3623280
57. **Li Z** and McKeague IW (2013) Power and sample size calculations for generalized estimating equations via local asymptotics. *Statistica Sinica* 23, 231-250 PMCID: PMC3903421
58. O'Hara R, Gibbons F, Gerrard M, **Li Z** and Sargent J (2012) Greater exposure to sexual content in popular movies predicts earlier sexual debut and increased sexual risk taking. *Psychological Science* 23(9):984-93 PMCID: PMC3779897
59. Gibbons F, Roberts M, Gerrard M, **Li Z**, Beach S, Simons R, Weng C-Y and Philibert R (2012) The Impact of Stress on the Life History Strategies of African American Adolescents: Cognitions, Genetic Moderation, and the Role of Discrimination. *Developmental psychology* 48 722-739. PMCID: PMC4324554
60. Edwards SC, Jedrychowski W, Butscher M, Camann D, Kieltyka A, Mroz E, Flak E, **Li Z**, Wang S and Perera FP (2010) Prenatal Exposure to Airborne Polycyclic Aromatic Hydrocarbons and Children's Intelligence at 5 Years of Age in a Prospective Cohort Study in Poland. *Environmental Health Perspectives* 118 1326-1331. PMID: 20406721
61. Wang S, Chanock S, Tang D, **Li Z**, Edwards SC, Jedrychowski W and Perera FP (2010) Effect of gene-environment Interactions on mental development in African American, Dominican, and Caucasian mothers and newborns. *Annals of Human Genetics* 74 46-56. PMID: 19860743
62. Perera FP, **Li Z**, Whyatt R, Hoepner L, Wang S, Camann D and Rauh V (2009) Prenatal Airborne Polycyclic Aromatic Hydrocarbon Exposure and Child IQ at Age 5. *Pediatrics* 124 e195-e202. PMID: 19620194
63. Wang S, Chanock S, Tang D, **Li Z**, Jedrychowski W and Perera FP (2008) Assessment of Interactions between PAH Exposure and Genetic Polymorphisms on PAH-DNA Adducts in African American, Dominican, and Caucasian Mothers and Newborns. *Cancer Epidemiology, Biomarkers & Prevention* 17 405-413. PMID: 18268125
64. **Li Z**, Wu R and Du Y (2007) The distribution of the first β point in the classical risk model with interest. *Statistics & Probability Letters* 77 873-880. [doi:10.1016/j.spl.2006.12.015](https://doi.org/10.1016/j.spl.2006.12.015)
65. He S, Johnson P, **Li Z** et al. (2007) An example in elementary probability. *Alabama Journal of Mathematics* 31 23-25.

Book Review

1. **Li, Z** (2013). Review of Newsom J, Jones R and Hofer S (eds.). *Longitudinal data analysis*. Routledge, New York, NY. *Journal of American Statistical Association* Vol 108, Issue 504, 1550--1551
2. **Li, Z** (2014). Review of Alexander R. de Leon, and Keumhee Carriere Chough (eds.). *Analysis of Mixed Data: Methods & Application*. Chapman and Hall/CRC, Boca Raton, FL. *Journal of Biopharmaceutical Statistics* Vol 24, Issue 5.

Conference Proceedings

1. **Li Z** and McKeague IW (2011) Power under Local Alternatives for Generalized Estimating Equations. *Statistics and Information Forum* 26 81-82.

Incomplete list of manuscripts (provisionally Accepted/Revision/Under Review/In preparation)

1. **Zhigang Li**, Margaret Karagas, Juliette Madan, Anne Hoen, James O'Malley and Hongzhe Li (In preparation) Normalization-free approach for modeling microbiome data.
2. **Zhigang Li**, Margaret Karagas, Juliette Madan, Anne Hoen, James O'Malley, Todd MacKenzie and Hongzhe Li (In preparation) Mediation model for mediators with zero-inflated distributions.
3. **Zhigang Li** et al. (In preparation) Joint modeling longitudinal data and survival under informative censoring in palliative care research.
4. Modupe O. Coker, BDS, MPH, PhD^a, Anne G. Hoen, PhD^{a,b,c}, Sara Lundgren^a, **Zhigang Li**, PhD^b, Michael S Zens, PhD^a, Erika Dade, PhD^a, Thomas Palys, PhD^c, Hilary G. Morrison, PhD^d, Mitchell L. Sogin, PhD^d, Emily Baker, MD^e, Margaret R. Karagas, PhD^{a,b,c}, Juliette C. Madan, MD (In preparation) Maternal peripartum antibiotics persistently impact keystone taxa in the developing infant microbiota.
5. Diana Chernikova, Anne G. Hoen, Kathryn L. Ruoff, Mary M. Griffin, Molly A. Williams, Michelle D. Tyler, Devin E. Harbin, Molly L. Housman, Sara N. Lundgren, **Zhigang Li**, Hilary G. Morrison, Mitchell L. Sogin, Scott M. Williams, George A. O'Toole, Margaret R. Karagas, Juliette C. Madan (Under review) The aberrant cystic fibrosis gut microbiome begins at birth.
6. Tracy Punshon, **Zhigang Li**, Brian P. Jackson, W. Tony Parks, Megan Romano, David Conway, Emily R. Baker and Margaret R. Karagas (In preparation) Placental growth and efficiency in relation to placental metal concentrations and as mediators of birth weight impacts.

TEACHING EXPERIENCE

Graduate courses:

Institute of Quantitative Biomedical Sciences, the Geisel School of Medicine at Dartmouth, NH
QBS110: Integrative Biomedical Sciences I (teach a 1-hour lecture as guest lecturer) Fall 2014-present
QBS120: Foundations of Biostatistics I (primary instructor teaching 21 hours of 30 hours) Fall 2012-present

Department of Community and Family Medicine, the Geisel School of Medicine at Dartmouth, NH
CFM104: Intro to Biostatistics and Epidemiology (taught small group recitation sessions) Spring 2011- 2013

The Geisel School of Medicine at Dartmouth, NH
Bio1: The Clinical Biomedical Research (taught a 3-hour lecture as guest lecturer) Fall 2011 - 2012

Department of Biostatistics, Columbia University, NY
P6103: Introduction to biostatistics (taught small group recitation sessions) Fall 2006

Undergraduate courses (I was the sole instructor for all listed courses):

Department of Mathematics and Statistics, Auburn University, AL
MATH 1610: Calculus I Summer 2006
STAT 2510: Statistics for Biological and Health Sciences Fall 2005 & Spring 2006
MATH 1130: Pre-Calculus Trigonometry Summer 2005

DOCTORAL STUDENT

Hildreth Rob frost (dissertation committee member), Quantitative Biomedical Sciences Program (QBS), Geisel School of Medicine at Dartmouth, (graduated in) Fall 2014

David Qian (dissertation committee member), QBS, Geisel School of Medicine at Dartmouth, (graduated in) Spring 2016

Qian Yang (Qualify exam committee chair, dissertation committee member), QBS, Geisel School of Medicine at Dartmouth, (graduation expected in) 2017

Sara N. Lundgren (dissertation committee member), QBS, Geisel School of Medicine at Dartmouth, (graduation expected in) 2018

Monica Espinoza (dissertation committee member), QBS, Geisel School of Medicine at Dartmouth, (graduation expected in) 2020

Jai Woo Lee (dissertation committee member), QBS, Geisel School of Medicine at Dartmouth, (graduation expected in) 2020

Xingyu Zheng (dissertation committee member), QBS, Geisel School of Medicine at Dartmouth, (graduation expected in) 2020

Guanqing Chen (Qualify exam committee chair, dissertation committee member), QBS, Geisel School of Medicine at Dartmouth, (graduation expected in) 2020

POST-DOCTORAL EMPLOYEES

Hildreth Rob Frost (40% FTE under my mentorship), Department of Biomedical Data Science, Geisel School of Medicine at Dartmouth, 08/2015-05/2016

PRESENTATIONS

Invited talks

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *QBS symposium, Hanover, NH, 03/2018*

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *Department of Biostatistics, Vanderbilt University Medical Center, Nashville, TN, 03/2018*

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *Department of Biostatistics, University of Florida, Gainesville, FL, 02/2018*

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *Department of Health Sciences, Northeastern University, Boston, MA, 02/2018*

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *Northeastern University, Boston, MA, 02/2018*

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *Department of Mathematical Sciences, Worcester Polytechnic Institute, Worcester, MA, 11/2017*

Terminal trend model in palliative care research. *Norris Cotton Cancer Center Grand Rounds, Lebanon, NH 09/2017*

A semiparametric joint model for terminal trend of quality of life and survival in palliative care research. *Department of Quantitative Health Sciences, University of Massachusetts Medical School, Worcester, MA, 09/2017*

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *NIH Environmental Influences on Child Health Outcomes Program data analysis working group webinar, 08/2017*

A Semiparametric Joint Model for Longitudinal and Survival Data in End-of-Life Research Studies. *Department of Biomedical Data Science, Geisel School of Medicine, Dartmouth College, NH, 11/2015*

A Semiparametric Joint Model for Longitudinal and Survival Data in End-of-Life Research Studies. *Department of Statistics and Applied Probability, National University of Singapore, Singapore, 06/2015*

Designing Palliative Care Research Studies. *Department of Medicine, Palliative Care Tuesday Educational Conference, Geisel School of Medicine, Dartmouth College, NH, 10/2014*

Joint Modeling Quality of Life and Survival Using a Terminal Decline Model in Palliative Care Studies. *Department of Preventive Medicine, Northwestern University, Chicago, IL, 03/2014*

Power under local alternatives for generalized estimation equations. *Department of Health Studies, University of Chicago, Chicago, IL, 07/2010*

Power under local alternatives for generalized estimation equations. *Department of Environmental Health, University of Cincinnati, Cincinnati, OH, 07/2010*

Power under local alternatives for generalized estimation equations. *Department of Community and Family Medicine, Dartmouth Medical School, NH, 06/2010*

Structural equation modeling and its application in health sciences. *Children's Environmental Health and Disease Prevention Research center, Dartmouth College, NH. 12/2013*

Efficiency for sibling study designs. *Department of Biostatistics, Columbia University, NY, 05/2009*

A multivariate zero-inflated logistic normal model for analyzing human microbiome data. *Conference on Frontiers of Big Data and Statistical Sciences, Vancouver, British Columbia, Canada, 08/2017*

A multivariate zero-inflated logistic normal model for analyzing human microbiome data. *The 26th ICSA Applied Statistics Symposium, Chicago, IL, USA, 06/2017*

Conditional regression based on a zero-inflated logistic normal model for analyzing human microbiome data. *Workshop on complex data, Qingdao, China, 12/2016*

A Semiparametric Joint Model for Terminal Trend of Quality of Life and Survival in Palliative Care Research. *The 10th ICSA Annual conference, Shanghai, China, 12/2016*

A Semiparametric Joint Model for Terminal Trend of Quality of Life and Survival in Palliative Care Research. *The 25th ICSA Applied Statistics Symposium, Atlanta, GA, USA, 06/2016*

Surplus, ruin and absolute ruin in the classical risk model under interest. *The 12th International Conference on Statistics, Combinatorics, Mathematics and Applications, Auburn University, AL, 12/2005*

Confirmed incoming (invited) talks

A terminal trend model under informative censoring. *The fourth International Workshop on the Statistical Analysis of Multi-outcome Data (SAM 2018), Washington University in St. Louis, Missouri, 06/2018*

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *ICSA 2018 Applied Statistics Symposium, New Brunswick, New Jersey, 06/2018*

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *2018 IMS Asia Pacific Rim Meeting, Singapore, 06/2018*

A terminal trend model under informative censoring. *2018 ICSA China conference, Qingdao, Shandong province, China, 07/2018*

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *2018 IBS-China Symposium, Guangzhou, Guangdong province, China, 07/2018*

Conditional regression based on a multivariate zero-inflated logistic normal model for analyzing human microbiome data. *The 2018 Joint Statistical Meetings, Vancouver, British Columbia, Canada, 08/2018*

Other contributed talks

A Semiparametric Joint Model for Terminal Decline of Quality of Life and Survival in Palliative Care Research. *The 2016 ENAR conference, Austin, TX, USA, 03/2016*

Joint Modeling Quality of Life and Survival Using a Terminal Decline Model in Palliative Care Studies. *The 2012 Joint Statistical Meetings, San Diego, USA, 08/2012*

Power under local alternatives for generalized estimation equations. *The 2010 Joint Statistical Meetings, Vancouver, Canada, 08/2010*

ORGANIZED INVITED CONFERENCE SESSIONS

Recent development in microbiome research. *The 26th ICSA Applied Statistics Symposium, Piscataway, NJ, USA, 06/2018*

High dimensional modeling in medicine. *The 25th ICSA Applied Statistics Symposium, Chicago, USA, 06/2017*

Joint modeling in clinical trials. *The 10th ICSA Annual conference, Shanghai, China, 12/2016*

Selected Posters and Abstracts

Emond J, Bernhardt A, Gilbert-Diamond D, **Li Z** and Sargent J (2015) *Commercial TV exposure, fast-food toy collecting and family visits to fast food restaurants*. APHA Annual Meeting and Exposition, Chicago, IL, 11/2015

Bauer RN, **Li Z**, Nygaard UC, Subbiah M, Farzan S, Malipatlolla M, Maecker H, Karagas MR and Nadeau KC (2014) *In Utero Arsenic and Cadmium Exposure is Associated With Altered T Lymphocyte Populations in Infant Cord Blood*. PPTOX, Boston, MA 10/2014

Corina Lesseur, David A. Armstrong, Alison G. Paquette, **Zhigang Li**, James F. Padbury, Carmen J. Marsit (5/2014) *Maternal Obesity and Gestational Diabetes are Associated with Leptin Promoter DNA Methylation in Human Placenta*. The Pediatric Academic Societies (PAS) Annual Meeting, Vancouver, Canada

Songbai Ji, Wei Zhao, **Zhigang Li**, Richard M. Greenwald, Jonathan G. Beckwith, Richard P. Bolander, and Thomas W. McAllister (03/2014) *Head impact accelerations for brain strain-related responses in contact sports: a model-based investigation*. Tenth World Congress on Brain Injury, San Francisco, CA

Schifferdecker KE, Adachi-Mejia AM, Butcher RL, O'Connor S, Imset I, **Li Z**, Bazos DA. (11/2013) *InSHAPE® Together: A community-based program to promote physical activity, healthy eating, and reduced sedentary behavior*. American Public Health Association's 141st Annual Meeting and Exposition, Boston, MA.

AH Gifford, DM Alexandru, **Z Li**, DB Dorman, LA Moulton, KE Price, TH Hampton, ML Sogin, JB Zuckerman, HW Parker, BA Stanton and GA O'Toole (10/2013) *Iron Supplementation Does Not Worsen Respiratory Health In Cystic Fibrosis*. North American Cystic Fibrosis Conference, Salt lake city, UT

Humblet O, Korrick SA, **Li Z**, Karagas MR and Nadeau KC (2011) *Arsenic and T cell function in an environment-maternal interaction study (artemis)*. The 23rd International ISEE conference, Barcelona, Spain

PROFESSIONAL SERVICES and AFFILIATIONS

Reviewed journals in the past two years: *Biostatistics, BioData Mining, Statistics in Medicine, Pediatrics, Journal of Biopharmaceutical Statistics, Complementary Therapies in Medicine, Health and Quality of Life Outcomes, PLOS one*

Reviewed Journals: *Biostatistics, Complementary Therapies in Medicine, BioData Mining, Pediatrics, Health and Quality of Life Outcomes, Journal of American Statistical Associations, PLOS ONE, Statistics in Medicine, Bioinformatics, Journal of Biopharmaceutical Statistics, International Journal of Environmental Research and Public Health, International Journal of Biostatistics, Model Assisted Statistics and Applications*

Member, American Statistical Associations	2008-present
Member, Eastern North American Region/International Biometric Society	2010-present
Member, International Chinese Statistical Association	2011- present
Member, American Public Health Association	2017- present
Member, Association for the Advancement of Artificial Intelligence	2017- present

STATISTICAL SOFTWARE

R, SAS, Mplus, SPSS