

CURRICULUM VITAE

Ying Ding, Ph.D.
Department of Biostatistics
University of Pittsburgh

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130 DeSoto Street
Pittsburgh, PA 15261
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EDUCATION and TRAINING

Undergraduate

2003 Nanjing University
Nanjing, China BS
Mathematics

Graduate

2010 University of Michigan
Ann Arbor, MI PhD
Advisor: Bin Nan
Biostatistics

2007 University of Michigan
Ann Arbor, MI MS
Biostatistics

2005 Indiana University Bloomington
Bloomington, IN MA
Mathematics

APPOINTMENTS and POSITIONS

Academic

09/2003 - 05/2005 Indiana University
Bloomington, IN Assistant Instructor
Department of Mathematics

09/2005 - 04/2006 University of Michigan
Ann Arbor, MI Graduate Student Instructor
Department of Biostatistics

05/2006 - 11/2009 University of Michigan
Ann Arbor, MI Graduate Student Research Assistant
Department of Biostatistics

01/2013 - Present Graduate School of Public Health
University of Pittsburgh
Pittsburgh, PA Assistant Professor
Biostatistics

Non-Academic

05/2008 - 08/2008 Eli Lilly and Company
Indianapolis, IN Statistics Summer Intern

11/2009 - 09/2012 Eli Lilly and Company
Indianapolis, IN Research Scientist

10/2012 - 01/2013 Eli Lilly and Company
Indianapolis, IN Senior Research Scientist

MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES

2003 - 2005	Fellow, Women in Science, Indiana University Bloomington
2003 - 2005	Member, American Mathematical Society
2005 - 2007	Fellow, Public Health Genetics Interdepartmental Concentration
2013 - 2017	Member, PLOS ONE Statistical Advisory Board
2007 - Present	Member, American Statistical Association
2007 - Present	Member, International Biometric Society, Eastern North American Region (ENAR)

HONORS and AWARDS

2000 - 2003	People's Scholarship, Nanjing University, China
2003	Outstanding Student Award, Nanjing University, China
2003 - 2005	Women in Science Fellowship Indiana University Bloomington
2006	Best First-Year Masters Student, University of Michigan
2007	Best Performance on the PhD Qualifying Exams, University of Michigan
2008	Midwest SAS User Group (MWSUG) Student Scholarship
2009	Rackham Predoctoral Fellowship, University of Michigan
2010	ENAR Distinguished Student Paper Award
2013	ENAR Junior Researcher Travel Award
06/2013	Nominated for 2013 Craig Teaching Award, University of Pittsburgh
05/2014	Women in Statistics Conference Travel Award

PUBLICATIONS

*: corresponding/senior author

+: co-first author

_: PhD advisee

Statistical Papers (from independent methodological research)

1. Sun Z, Chen L, Xin H, Huang Q, Cillo AR, Tabib T, Kolls JK, Bruno TC, Lafyatis R, Vignali DAA, Chen K, **Ding Y***, Hu M*, Chen W*. (2019) A Bayesian mixture model for clustering droplet-based single cell transcriptomic data from population studies. (***The earlier version won the ENAR Distinguished Student Paper Award.***) *Nature Communication*. 10(1):1649 Doi: 10.1038/s41467-019-09639-3. PMID: 30967541
2. Sun T+, Liu Y+, Cook RJ, Chen W, **Ding Y***. (2019). Copula-based Score Test for Bivariate Time-to-event Data, with Application to a Genetic Study of AMD Progression. (***The earlier version won the Best Poster Award in ASA Pittsburgh Chapter 2017 Meeting.***) *Lifetime Data Analysis*. DOI: 10.1007/s10985-018-09459-5. PMID: 30560439
3. Lin HM, Xu H, **Ding Y**, Hsu JC. (2019). Correct and Logical Inference on Efficacy in Subgroups and Their Mixture for Binary Outcomes. *Biometrical Journal*. 61(2): 8-26. PMID: 30353566
4. **Ding Y***, Li GY, Liu Y, Ruberg SJ, Hsu JC. (2018). Confident Inference For SNP Effects On Treatment Efficacy. *Annals of Applied Statistics*. 12(3): 1727-1748.
5. **Ding Y***+, Kong S+, Kang S, Chen W. (2018). A Semiparametric Imputation Approach for Regression with Censored Covariate, with Application to an AMD Progression Study. *Statistics in Medicine*. 37(23): 3293-3308. PMID: 39845616
6. Yan Q+, **Ding Y+**, Liu Y, Sun T, Fritsche LG, Clemons T, Ratnapriya R, Klein ML, Cook RJ, Liu Y, Fan R, Wei L, Abecasis GR, Swaroop A, Chew EY, Weeks DE, Chen W. (2018). Genome-wide Analysis of Disease Progression in Age-related Macular Degeneration. *Human Molecular Genetics*. 27(5):929-940. PMID: 29346644

7. [Sun Z](#), Wang T, Deng K, Wang X-F, Lafyatis R, **Ding Y**, Hu M, Chen W. (2018). DIMM-SC: A Dirichlet mixture model for clustering droplet-based single cell transcriptomic data. *Bioinformatics*. 34(1):139-146. PMID: 29036318
8. **Ding Y**, [Liu Y](#), Yan Q, Fritsche LG, Cook RJ, Clemons T, Ratnapriya R, Klein ML, Abecasis GR, Swaroop A, Chew EY, Weeks DE, Chen W. (2017). Bivariate Analysis of Age-Related Macular Degeneration Progression Using Genetic Risk Scores. *Genetics*. 206(1):119-133. PMID: 28341650 (Received editorial highlight and media reports.)
9. Wang T, Ren Z, **Ding Y**, Zhou F, [Sun Z](#), MacDonald ML, Sweet RA, Wang J, Chen W. (2016). FastGGM: An efficient algorithm for the inference of Gaussian graphical model in biological networks. *PLoS Computational Biology*. 12(2):e1004755. PMID: 26872036
10. Fan R, Wang Y, Yan Q, **Ding Y**, Weeks DE, Lu Z, Ren H, Cook R J, Xiong M, Swaroop A, Chew E Y, Chen W. (2016). Gene-based Association Analysis for Censored Traits Via Fixed Effect Functional Regressions. *Genetic Epidemiology*. 40(2):133-43. PMID: 26782979
11. **Ding Y**, Lin HM, Hsu JC. (2016). Subgroup Mixable Inference on Treatment Efficacy in Mixture Populations, with an Application to Time-to-Event Outcomes. *Statistics in Medicine*. 35(10):1580-94. PMID: 26646305
12. **Ding Y**, Nan B. (2015). Estimating Mean Survival Time: When is it Possible? *Scandinavian Journal of Statistics*. 42(2):397-413. PMID: 26019387 PMCID: PMC4442028
13. **Ding Y**, Fu H. (2013). Bayesian Indirect and Mixed Treatment Comparisons Across Longitudinal Time Points. *Statistics in Medicine*. 32 (15):2613-28. PMID: 23229717
14. Banerjee M, **Ding Y**, Noone A. (2012). Identifying Representative Trees from Ensembles. *Statistics in Medicine*. 31(15):1601-16. PMID: 22302520
15. **Ding Y**, Nan B. (2011). A Sieve M-theorem for Bundled Parameters in Semiparametric Models, with Application to the Efficient Estimation in a Linear Model for Censored Data. *Annals of Statistics*. 39(6):3032-3061. PMID: 24436500 PMCID: PMC3890689
16. **Ding Y**, Choi H, Nesvizhskii AI. (2008). Adaptive Discriminant Function Analysis and Reranking of MS/MS Database Search Results for Improved Peptide Identification in Shotgun Proteomics. *Journal of Proteome Research*. 7(11):4878-89. PMID: 18788775 PMCID: PMC3744223

Collaborative Papers (from interdisciplinary collaborative research)

17. Bokvist KB, **Ding Y**, Landschulz WH, Sinha V, Pastrak A, Belin RM. (2019) Gastrin Analogue Administration Adds No Significant Glycaemic Benefit to a GLP-1 Receptor Agonist Acutely or After Washout of Both Analogues. *Diabetes, Obesity and Metabolism*. DOI: 10.1111/dom.13695 PMID: 30848033
18. MacDonald ML, Favo D, Garver M, [Sun Z](#), Arion D, **Ding Y**, Yates NA, Sweet RA, Lewis D. (2019). Laser Capture Microdissection – Targeted Mass Spectrometry: A Method for Multiplexed Protein Quantification Within Individual Layers of The Cerebral Cortex. *Neuropsychopharmacology*. 44(4):743-748. PMID: 30390066
19. Krivinko JM, Erickson SL, **Ding Y**, [Sun Z](#), Penzes P, MacDonald ML, Jones-Laughner J, Yates NA, Ikonovic MD, Lopez OL, Sweet RA, Kofler J. (2018). Synaptic Proteome Compensation and Resilience to Psychosis in Alzheimer's Diseases. *The American Journal of Psychiatry*. 175(10):999-1009 PMID: 30021459
20. Liu A, Chen M, Kumar R, Stefanovic-Racic M, O'Doherty RM, **Ding Y**, Jahnen-Dechent W, Borghesi L. (2018). Bone marrow lympho-myeloid malfunction in obesity requires precursor cell-autonomous TLR4.

21. McKinney B, Lin H, **Ding Y**, Lewis DA, Sweet RA. (2017). DNA methylation age is not accelerated in brain or blood of subjects with schizophrenia. *Schizophrenia Research*. doi: 10.1016/j.schres.2017.09.025. PMID: 28988914
22. McKinney B, **Ding Y**, Lewis DA, Sweet RA. (2017). DNA methylation as a putative mechanism for reduced dendritic spine density in the superior temporal gyrus of subjects with schizophrenia. *Translational Psychiatry*. 7(2):e1032. PMID: 28195572
23. McKinney B, Lin H, **Ding Y**, Lewis DA, Sweet RA. (2017). Molecular Evidence Against the Accelerated Aging Hypothesis of Schizophrenia. *NPJ Schizophrenia*. 3(13) PMID: PMC5441537
24. Kazda CM, **Ding Y**, Kelly RP, Garhyan P, Shi C, Lim CN, Fu H, Watson DE, Lewin AJ, Landschulz WH, Deeg MA, Moller DE, Hardy TA. (2016). Evaluation of Efficacy and Safety of the Glucagon Receptor Antagonist LY2409021 in Patients with Type 2 Diabetes: 12- and 24-Week Phase 2 Studies. *Diabetes Care*. 39(7):1241-1249. PMID: 26681715
25. Kazda CM, **Ding Y**, Kelly RP, Garhyan P, Shi C, Lim CN, Fu H, Watson DE, Lewin AJ, Landschulz WH, Deeg MA, Moller DE, Hardy TA. (2016). Response to Comment on Kazda et al. Evaluation of Efficacy and Safety of the Glucagon Receptor Antagonist LY2409021 in Patients with Type 2 Diabetes: 12- and 24-Week Phase 2 Studies. *Diabetes Care*. 39(11): e199-e200.
26. Sweet RA, MacDonald ML, Kirkwood CM, **Ding Y**, Schempf T, Kofler J, Ikonovic M, Lopez OL, and Yates NA. (2016). APOE*4 genotype is associated with altered levels of glutamate signaling proteins and synaptic co-expression networks in the prefrontal cortex in mild to moderate Alzheimer disease. *Journal of Molecular and Cellular Proteomics*. 15(7):2252-62 PMID: 27103636
27. Edmunds LR, Otero PA, Sharma L, D'Souza S, Dolezal JM, David S, Lu J, Lamm L, Basantani M, Sipula IJ, Zeng X, **Ding Y**, Ding F, Beck ME, Vockley J, Kershaw EE, O'Doherty RM, Kratz LE, Yates NA, Goetzman EP, Scott D, Duncan AW, Prochownik WV. (2016). Abnormal Lipid Processing but Normal Long-Term Re-population Potential of myc-/- Hepatocytes. *Oncotarget*. 7(21):30379-95 PMID: 27105497
28. Liu Y, Wang R, **Ding Y**, Tu S, Liu Y, Qian Y, Xu L, Tong T, Cai S, and Peng J. (2016). A predictive nomogram improved diagnostic accuracy and interobserver agreement of perirectal lymph nodes metastases in rectal cancer. *Oncotarget*. 7(12):14755-64. PMID: 26910373
29. Kirkwood CM, MacDonald ML, Schempf T, Vatsavayi A, Ikonovic M, Koppel J, **Ding Y**, Sun M, Kofler J, Lopez O, Yates NA, Sweet RA. (2016). Altered VILIP-1 Levels Correspond to Regional Neuronal Loss in Alzheimer's Disease and Frontotemporal Lobar Degeneration. *Journal of Neuropathology and Experimental Neurology*. 75(2):175-82. PMID: 26769253
30. Polanco PM, **Ding Y**, Knox JM, Ramalingam L, Jones H, Hogg ME, Zureikat AH, Hotzman MP, Pingpank J, Ahrendt S, Zeh H, Bartlett DL, Choudry HA. (2015). Outcomes of Cytoreductive Surgery and Hyperthermic Intraperitoneal Chemoperfusion in Patients with High-grade, High-volume Disseminated Mucinous Appendiceal Neoplasms. *Annals of Surgical Oncology*. 23(2):382-90. PMID: 26429720
31. Liu A, Wang Y, **Ding Y**, Baez I, Payne KJ, Borghesi L. (2015). Cutting Edge: Hematopoietic Stem Cell Expansion and Common Lymphoid Progenitor Depletion Require Hematopoietic-Derived, Cell-Autonomous TLR4 in a Model of Chronic Endotoxin. *Journal of Immunology*. 195(6):2524-8. PMID: 26276875
32. Edmunds LR, Sharma L, Wang H, Kang A, d'Souza S, Lu J, McLaughlin M, Dolezal JM, Gao X, Weintraub ST, **Ding Y**, Zeng X, Yates N, Prochownik EV. (2015). c-Myc and AMPK Control Cellular Energy Levels by Cooperatively Regulating Mitochondrial Structure and Function. *PLoS One*. 10(7):e0134049. PMID: 26230505

33. Banik A, Brown R E, Bamburg J, Lahiri D K, Khurana D, Friedland R P, Chen W, **Ding Y**, Mudher A, Padjen A, Mukaetova-Ladinska E, Ihara M, Srivastava S, Srivastava MVP, Masters CL, Kalaria R N, and Anand A. (2015). Translation of Pre-clinical Studies into Successful Clinical Trials for Alzheimer's disease: What are the Roadblocks and How Can They Be Overcome? *Journal of Alzheimer's Disease*. 47(4):815-843. PMID: 26401762
34. Ling X, Zhang S, Shao P, Li W, Yang L, **Ding Y**, Xu C, Stella N, Bai M. (2015). A novel near-infrared fluorescence imaging probe that preferentially binds to cannabinoid receptors CB2R over CB1R. *Biomaterials*. 57:169-178. PMID: 25916505 PMCID: PMC4426855
35. Ma X, Li X, Xu L, Shi D, Tong T, Huang D, **Ding Y**, Cai S, Peng J. (2015). Characteristics and Prognostic Significance of Preoperative Magnetic Resonance Imaging-Assessed Circumferential Margin in Rectal Cancer. *Gastroenterology Research and Practice*: 410150. PMID: 26089866 PMCID: PMC4452312
36. Zhang S, Shao P, Ling X, Yang L, Hou W, Thorne SH, Beaino W, Anderson CJ, **Ding Y**, Bai M. (2015). In Vivo Inflammation Imaging Using a CB2R-targeted Near Infrared Fluorescent Probe. *American Journal of Nuclear Medicine and Molecular Imaging*. 5(3):246-58. PMID: 26069858 PMCID: PMC4446393
37. Downs-Canner S, **Ding Y**, Magge DR, Jones H, Ramalingam L, Zureikat A, Holtzman M, Ahrendt S, Pingpank J, Zeh HJ, Bartlett DL, Choudry HA. (2015). A comparative analysis of postoperative pancreatic fistulas after surgery with and without hyperthermic intraperitoneal chemoperfusion. *Annals of Surgical Oncology*. 22(5):1651-7. PMID: 25348781
38. Polanco PM, **Ding Y**, Knox JM, Ramalingam L, Jones H, Hogg ME, Zureikat AH, Hotzman MP, Pingpank J, Ahrendt S, Zeh H, Bartlett DL, Choudry HA. (2015). Institutional Learning Curve of Cytoreductive Surgery and Hyperthermic Intraperitoneal Chemoperfusion for Peritoneal Malignancies. *Annals of Surgical Oncology*. 22(5):1673-9. PMID: 25377640
39. MacDonald ML, **Ding Y**, Newman J, Hemby S, Penzese P, Lewis DA, Yates N, Sweet RA. (2015). Altered Glutamate Protein Co-Expression Network Topology Linked to Spine Loss in the Auditory Cortex of Schizophrenia. *Biological Psychiatry*. 77(11):959-68. PMID: 25433904
40. Peng J⁺, **Ding Y**⁺, Tu S, Lu JJ, Shi D., Chen W, Li X, Wu H, Cai S. (2014). Prognostic nomograms for predicting survival and distant metastases in locally advanced rectal cancers without neoadjuvant treatment. *PLoS One*. 9(8):e106344 PMID: 25171093
41. Jia N, Zhang S, Shao P, Bagia C, Janjic J, **Ding Y**, Bai M. (2014). Cannabinoid CB2 Receptor as a New Phototherapy Target for Inhibition of Tumor Growth. *Molecular Pharmaceutics*. 11(6):1919-1929. PMID: 24779700
42. Santos PM, **Ding Y**, Borghesi L. (2014). Cell-intrinsic in vivo Requirement for the E47-p21 Pathway in Long-term Hematopoietic Stem Cells. *Journal of Immunology*. 192(1):160-8. PMID: 24259504 PMCID: PMC3893818
43. Peng J, Li X, **Ding Y**, Shi D, Wu H, Cai S. (2013). Is Adjuvant Radiotherapy Warranted in Curatively Resected T1- 2 Node-positive Rectal Cancer? *Radiation Oncology*. 8:290 PMID: 24350579 PMCID: PMC3907146
44. Chen F, Ding X, **Ding Y**, Xiang Z, Li X, Ghosh D, Schurig GG, Sriranganathan N, Boyle SM, He Y. (2011). Proinflammatory caspase-2 mediated macrophage cell death induced by a rough 2 attenuated *Brucella suis*. *Infection and Immunity*. 79(6):2460-69. PMID: 21464087 PMCID: PMC3125819
45. Peng J, Wang Z, Chen W, **Ding Y**, Wang H, Huang H, Huang W, Cai S. (2010). Integration of genetic signature and TNM staging system for predicting the relapse of locally advanced colorectal cancer. *International Journal of Colorectal Disease*. 25(11):1277-85. PMID: 20706727

46. Zhou M, Liu Z, Wei Z, Liu C, Qiao T, Ran F, Bai Y, Jiang X, **Ding Y**. (2009). Development and Validation of a Small Diameter Vascular Tissue from a Decellularized Scaffold Coated with Heparin and Vascular Endothelial Growth Factor. *Artificial Organs*. 33(3):230-239. PMID: 19245522
47. Kunju L, **Ding Y**, and Kleer CG. (2008) Convergence between Breast Flat Epithelial Atypia and Atypical Ductal Hyperplasia: Validity and Limitations. *Human Pathology*. Sept 15, 2008.
48. Kunju L, **Ding Y**, Kleer CG. (2008). Tubular Carcinoma and Grade 1 (Well- Differentiated) Invasive Ductal Carcinoma: Comparison of Flat Epithelial Atypia and other Intra-epithelial Lesions. *Pathology International*. 58:620-625. PMID: 18801081

Manuscripts under Revision/Review

49. MacDonald ML, Garver M, Newman J, Sun Z, Kannarkat J, Salisbury R, Glausier J, Ding Y, Lewis DA, Yates NA, Sweet RA. (2019+) Synaptic Proteome Alterations in the Primary Auditory Cortex of Schizophrenia. doi: <https://doi.org/10.1101/639914>. *Revision submitted to JAMA Psychiatry*.
50. Wei Y, Liu Y, Chen W, **Ding Y***. (2019+) Gene-based Association Analysis for Bivariate Time-to-event Data through Functional Regression with Copula Models. (**The earlier version won the LiDS Conference Student Paper Award.**) arXiv:1904.01116. *Under revision of Biometrics*.
51. Sun T, **Ding Y***. (2019+) Copula-based semiparametric transformation model for bivariate data under general interval censoring. (**The earlier version won the ENAR Distinguished Student Paper Award.**) arXiv:1901.01918. *Under review*.
52. Yan Q, Jiang Y, Huang H, Xin H, Swaroop A, Chew EY, Weeks DE, Chen W, **Ding Y***. (2019+) GWAS-based Machine Learning for Prediction of Age-Related Macular Degeneration Risk. *Under review*.
53. Chen L-W, Cheng Y, **Ding Y**, Li R. (2019+) Quantile Association Regression on Bivariate Survival Data. *Under review*.
54. Sun T, **Ding Y***. (2019+) CopulaCenR: Copula-based Regression Models for Bivariate Censored Data in R. *Under review*.

Books and Book Chapters

1. **Ding Y***, Lin HM. Data Analysis of in vivo Fluorescence Imaging Studies. In: Bai M, editors. In Vivo Fluorescence Imaging: *Methods and Protocols*. New York: Springer, 2016.
2. Shen L, **Ding Y**, Battioui CA. A Framework of Statistical Methods for Identification of Subgroups with Differential Treatment Effects in Randomized Trials. In: Chen Z, Liu A, Qu Y, Tang L, Ting N, Tsong Y, editors. *Applied Statistics in Biomedicine and Clinical Trials Design: Selected Papers from 2013 ICSA/ISBS Joint Statistical Meetings*. (pp. 411-425). New York: Springer, 2015.
3. **Ding Y***, Wei Y, Wang X. Logical Inference on Treatment Efficacy When Subgroups Exist. *Book Chapter* In: Ting N, Cappelleri JC, Ho S, Chen DG. *Design and Analysis of Subgroups with Biopharmaceutical Applications*. New York: Springer, 2019 Forthcoming

Complete List of Published Work in My Bibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/1f510URSbxjQh/bibliography/47222780/public/?sort=date&direction=ascending>

Google Scholar:

<https://scholar.google.com/citations?user=g1oszqIAAAAJ&hl=en>

RESEARCH

Current research support

Funding Agency: Clinical and Translational Science Institute, University of Pittsburgh
Title of Grant: Deep Learning with GWAS to Predict AMD Progression
Principal Investigator: Ding, Y.
Ding Role on Grant: Principal Investigator
Years Inclusive: 1/1/2019 – 12/31/2019
Total Direct Costs: \$10,000

Funding Agency: UPMC Immune Transplant and Therapy Center (ITTC)
Title of Grant: Discovering the Protein Signature of Synapse Loss and Cognitive Decline During Aging
Principal Investigator: MacDonald, M.
Ding Role on Grant: Co-Investigator
Years Inclusive: 11/1/2018 – 10/31/2021
Percent Effort: 50% Graduate Student Researcher (under supervision of Ding)

Funding Agency: NIH/NINS
Grant Number: R01NS092618
Title of Grant: Immunomodulation of White Matter Integrity After Stroke
Principal Investigator: Hu, X.
Ding Role on Grant: Co-Investigator
Years Inclusive: 5/1/2015 - 3/31/2020
Percent Effort: 5.0 %

Funding Agency: NIH/NIMH
Grant Number: R01MH116046
Title of Grant: Synaptic Resilience to Psychosis in Alzheimer Disease
Principal Investigator: Sweet, R.A.; Kofler, J.K; Wang, L
Ding Role on Grant: Co-Investigator
Years Inclusive: 9/25/2018 - 6/30/2023
Percent Effort: 15.0 %

Funding Agency: NIH/NIA
Grant Number: R01AG027224
Title of Grant: Prediction of Psychosis in Alzheimer Disease
Principal Investigator: Sweet, R.A.
Ding Role on Grant: Co-Investigator
Years Inclusive: 5/1/2018 - 4/30/2022
Percent Effort: 10.0 %

Funding Agency: Alzheimer Disease Research Center
Grant Number: ADRC/Project III
Title of Grant: Neuropathology of Psychosis in Alzheimer's disease
Principal Investigator: Sweet, R.A.
Ding Role on Grant: Co-Investigator
Years Inclusive: 4/1/2015 - 3/31/2020
Percent Effort: 5.0 %

Funding Agency: NIH/NIMH
Grant Number: R01MH071533
Title of Grant: Plasticity of Auditory Cortical Circuits in Schizophrenia
Principal Investigator: Sweet, R.A.
Ding Role on Grant: Co-Investigator
Years Inclusive: 4/1/2014 - 3/31/2019
Percent Effort: 12.0 %

Funding Agency: NIH/NCI
Grant Number: P30CA4790413
Title of Grant: Cancer Center Support Grant (Biostatistics Facility)
Principal Investigator: Ferris, R.
Ding Role on Grant: Biostatistician
Years Inclusive: 8/1/2013 - 7/31/2020
Percent Effort: 8.5 %

Funding Agency: NIH/NIAID
Grant Number: R21AI126440
Title of Grant: TLR4 Shapes BM HSCs and Lymphopoiesis
Principal Investigator: Borghesi, L.
Ding Role on Grant: Co-Investigator
Years Inclusive: 02/06/2017 – 01/31/2019
Percent Effort: 10.0 %

Funding Agency: Baxalta US Inc.
Title of Grant: Preventing Asparaginase-associated Pancreatitis Using the Novel Dimension of Metabolomics
Principal Investigator: Husain, S.Z.
Ding Role on Grant: Co-Investigator
Years Inclusive: 11/27/2017 – 10/26/2019
Percent Effort: 4.0 %

Pending research support

Funding Agency: NIH/NIMH
Title of Grant: Synaptic Protein Networks, Genetic Risk, and Spine Loss in Schizophrenia
Principal Investigator: MacDonald, M
Ding Role on Grant: Co-Investigator
Years Inclusive: 7/1/2019 – 6/30/24
Percent Effort: 10.0 % + 50% Graduate Student Researcher

Completed research support

Funding Agency: American Hematological Society
Title of Grant: Cellular and Molecular Mechanisms of HSC Dysfunction in Chronic Inflammation
Principal Investigator: Borghesi, L.
Ding Role on Grant: Co-Investigator
Years Inclusive: 9/15/2014 – 9/15/2015
Percent Effort: 3.0 %

Funding Agency: NIH/NAI
Grant Number: R56AI079047
Title of Grant: Cellular and Molecular Mechanisms of HSC Dysfunction in Chronic Inflammation
Principal Investigator: Borghesi, L.
Ding Role on Grant: Co-Investigator
Years Inclusive: 08/01/2015 – 07/31/2016
Percent Effort: 8.5 %

Funding Agency: UPMC Competitive Medical Research Fund
Title of Grant: Novel and Robust Methods for Protein Network Analysis of Proteomics Data in Psychiatric Disorders
Principal Investigator: Ding, Y.

Ding Role on Grant:	Principal Investigator
Years Inclusive:	7/1/2015 - 12/31/2017
Total Direct Costs:	\$25,000
Funding Agency:	NIH/NEI
Grant Number:	R01EY024226
Title of Grant:	AMD Genetics: Methods and Analysis for Progression, Prediction and Association
Principal Investigator:	Chen, W.
Ding Role on Grant:	Co-Investigator
Years Inclusive:	4/1/2014 - 3/31/2018
Percent Effort:	15.0 %
Funding Agency:	NIH/NIMH
Grant Number:	R03MH108849
Title of Grant:	Novel and Robust Methods for Differential Protein Network Analysis of Proteomics Data in Schizophrenia Research
Principal Investigator:	Ding, Y.
Ding Role on Grant:	Principal Investigator
Years Inclusive:	7/1/2016 – 6/30/2018
Percent Effort:	15.0 %

INVITED PRESENTATIONS

1. Logical Inference on Treatment Efficacy When Subgroups Exist. Joint Statistical Meeting (JSM), 2019.
2. Bivariate Sieve Transformation Model for Interval-Censored Data. International Chinese Statistical Association (ICSA) Conference, China, 2019.
3. GWAS-based Deep-Learning for Age-Related Macular Degeneration (AMD) Progression. Department of Statistics, Jilin University, China, 2019.
4. A Novel Bivariate GWAS of AMD Progression. ICSA Symposium, 2019.
5. A Copula-Based Semiparametric Model for Progression Prediction of AMD using GWAS Data. 2nd Lifetime Data Science (LiDS) Conference, 2019.
6. Copula-based Semiparametric Method for Modeling Bivariate Data Under General Interval Censoring. Department of Biostatistics and Data Science, George Mason University, 2019.
7. Copula-based Sieve Semiparametric Transformation Model for Bivariate Interval-Censored Data. Department of Biostatistics and Data Science, University of Texas Health Science Center at Houston, 2018.
8. A Bayesian Hierarchical Mixture Model for Clustering Droplet-based Single Cell Transcriptomic Data from Population Studies. ICSA Symposium, 2018.
9. Network Analysis of Proteomics Data, with Applications in Psychiatry Research. Critical Care BDMC Speaker Series, University of Pittsburgh, 2017.
10. Copula-based Semiparametric Sieve Models for Bivariate Interval-Censored Data. Department of Biostatistics, Epidemiology, Informatics, University of Pennsylvania, 2017.
11. Progression Risk Prediction with Copula Model in Age-related Macular Degeneration (AMD) Patients. JSM, 2017.
12. Confident Inference for SNP Effects on Treatment Efficacy. ICSA Symposium, 2017.
13. Confident Inference for SNP Effects on Treatment Efficacy. Multiple Comparison Procedures (MCP) Conference, 2017.
14. Progression risk estimation with Copula Model in Age-related Macular Degeneration (AMD) patients. Lifetime Data Analysis Conference (LIDA), 2017.
15. Logical Inference on Treatment Efficacy in Subgroups and Their Mixture. Presented at: The 10th ICSA International Conference, 2016.
16. A General Semiparametric AFT Model Imputation Approach for Censored Covariate. ICSA Symposium, 2016.
17. Simultaneous Confidence Intervals for Assessing SNP effects on Treatment Efficacy. Department of Statistics, Purdue University, 2015.

18. Logical Inference on Treatment Efficacy in Subgroups and Their Mixture, with an Application to Time-to-event Outcomes. ASA FDA/Industry Statistical Workshop, 2015.
19. Statistical Design and Analysis of Quantitative Proteomic Experiments. Proteomic Core, University of Pittsburgh Cancer Institute (UPCI), 2013.
20. Biostatistics for In Vivo Imaging Experiment and Analysis. Department of Radiology, University of Pittsburgh, 2014.
21. Confident Effect Method for Assessing the Effects of a SNP on Clinical Efficacy. ASA FDA/Industry Statistical Workshop, 2013.
22. Emerging Methods for Biomarker and Subgroup Identification – Review and Compare. ICASA Symposium, 2013.
23. A Sieve M-Theorem for Bundled Parameters in Semiparametric Models. Department of Biostatistics, University of Pittsburgh, 2013.
24. A Sieve M-Theorem for Bundled Parameters in Semiparametric Models. Department of Statistics, University of Pittsburgh, 2013.
25. Identifying Representative Trees in Random Forest. Department of Biostatistics, University of Pittsburgh, 2012.

OTHER PRESENTATIONS

26. Logical Inference on Treatment Efficacy in Subgroups and Their Mixture, with an Application to Time-to-event Outcomes. Eastern North American Region (ENAR) International Biometric Society Spring Meeting; 2016.
27. Bivariate Analysis and Prediction of AMD Progression Using Genetic Scores. Poster presented at: The American Society of Human Genetics (AHS) Annual Meeting; 2015.
28. Subgroup Mixable Inference with Time-to-Event Outcomes for Mixture Treatment Efficacy. JSM; 2015.
29. Subgroup Mixable Inference for Time-to-Event Outcomes in Personalized Medicine Development. Women in Statistics Conference, 2014.
30. Simultaneous Confidence Intervals for Assessing the Effects of a SNP on Treatment Efficacy in Personalized Medicine Development. ENAR, 2014.
31. Estimating Mean Survival Time: When is it Possible? IMS China International Conference on Statistics and Probability; 2013.
32. Bayesian Indirect and Mixed Treatment Comparisons Across Longitudinal Time Points. ENAR, 2012
33. Combining Multiple Biomarkers using U-Scores to Assess Treatment Effects in Early Phase Clinical Studies. ENAR, 2011.
34. Sieve Maximum Likelihood Estimation Using B-Splines for the AFT Model. ENAR, 2010.
35. Efficient Estimation Method for the AFT Model. JSM, 2009.
36. Asymptotics of Intercept Estimator in the Semiparametric Linear Model for Censored Data. ENAR, 2009.
37. Strong Consistency of the Intercept Estimator in the Semiparametric Accelerated Failure Time Model. JSM, 2008.
38. Identifying Representative Trees in Random Forest for Survival Data. ENAR, 2008.

TEACHING

Graduate Courses

Year(s)	Course Number & Title	Role	Credit & Class Size
2013 Spring	BIOST 2086, Applied Mixed Model Analysis	Primary Instructor	3 credits, 26 enrolled
2014 Spring	BIOST 2025, Biostatistics Seminar	Primary Coordinator	1 credit, 15 enrolled
2014 Spring	BIOST 2086, Applied Mixed Model Analysis	Primary Instructor	3 credits, 17 enrolled
2014 Fall	BIOST 2025, Biostatistics Seminar	Primary Coordinator	1 credit, 14 enrolled
2016 Spring	BIOST 2086, Applied Mixed Model Analysis	Primary Instructor	3 credits, 17 enrolled
2016 Fall	BIOST 2046, Analysis of Cohort Studies	Guest Lecturer (2 lectures)	3 credits, 35 enrolled
2017 Spring	BIOST 2086, Applied Mixed Model Analysis	Primary Instructor	3 credits, 8 enrolled

2017 Fall	BIOST 2046, Analysis of Cohort Studies	Guest Lecturer (2 lectures)	3 credits, 31 enrolled
2018 Spring	BIOST 2054 / STAT 2261, Survival Analysis	Primary Instructor	3 credits, 5 enrolled
2019 Spring	BIOST 2054 / STAT 2261, Survival Analysis	Primary Instructor	3 credits, 19 enrolled

Continuing Education

11/7/2013	Biostatistics for Clinical Research (2.0 hrs). Department of Surgical Oncology, University of Pittsburgh.		
6/7/2016	Statistics in Basic Science (2.0 hrs). "Research Skills and Career Advancement" Workshop, Pittsburgh Institute of Brain Disorders and Recovery (PIBDR), University of Pittsburgh.		

MENTORING AND ADVISING

Master's Students

Year(s)	Student's Name (Department), Thesis	Role
1/2013 - 8/2013	Yimeng Liu (Biostatistics), "A Comparison of Regression Methods in Data Subject to Non-detect: An Application to Lung Fiber Analysis Among Brake Workers"	Thesis Committee Member
5/2013 - 12/2013	Shanshan Tu (Statistics)	Summer Research Advisor
4/2018 - 8/2018	Yuanyuan Jiao (Biostatistics), "Causal Effects of Baseline Sleep Disturbance on Cognitive Decline Among the Elderly"	Thesis Committee Member

Doctoral Students

Part A: as Primary PhD Dissertation (co-)Advisor

Year(s)	Student's Name (Department), Dissertation	Role
6/2013 – 12/2015	Kidane Ghebrehawariat (Biostatistics), "Parametric methods in quantile residual life time analysis"	Dissertation Co-advisor
09/2014 – 08/2017	Yi Liu (Biostatistics), "Novel Single and Gene-based Test Procedures for Large-scale Bivariate Time-to-event Data, with Application to a Genetic Study of AMD Progression" (Now senior biostatistician at Boehringer Ingelheim)	Dissertation Advisor
09/2015 – 8/2019 (Expected)	Zhe Sun (Biostatistics), "Novel Statistical Methods in Analyzing Single Cell RNA Sequencing Data"	Dissertation Co-advisor
09/2016 – Present	Tao Sun (Biostatistics)	Dissertation Advisor
09/2017 – Present	Yue Wei (Biostatistics)	Dissertation Advisor
09/2018 – Present	Xinjun Wang (Biostatistics)	Dissertation Advisor

Part B: as PhD Dissertation Committee Member

Year(s)	Student's Name (Department), Dissertation	Role
06/2013 - 06/2015	Hui-Min Lin (Biostatistics), "Behavior of Statistics for Genetic Association in Genome-Wide Scan Context"	Dissertation Committee Member
01/2014 - 04/2015	Beth Zamboni (Biostatistics), "Twisted Survival: Identifying Surrogate Endpoints for Mortality Using QTWIST and Conditional Disease Free Survival"	Dissertation Committee Member

06/2014 - 12/2014	Samia Lopa (Biostatistics), "Inference on Quantile Residual Life for Length-biased Survival Data"	Dissertation Committee Member
09/2014 - 05/2016	Jia-Yuh Chen (Biostatistics), "Joint Modeling of Bivariate Longitudinal and Bivariate Survival Data in Spouse Pairs"	Dissertation Committee Member
07/2015 - 12/2016	Andrew Potter (Biostatistics), "Functional Mixed Models for Vector Valued Physiological Signals"	Dissertation Committee Member
10/2015 - 04/2017	Yuvika Paliwal (Biostatistics), "Generalized linear mixed models for analysis of cross-correlated binary response in multi-reader studies in diagnostic radiology"	Dissertation Committee Member
05/2016 - 05/2017	Qiyao Wang (Statistics), "Two-Sample Inference For Functional Data"	Dissertation Committee Member
06/2016 - 07/2017	Judah Abberbock (Biostatistics), "Surrogate Endpoints in the Design and Analysis of Clinical Trials"	Dissertation Committee Member
03/2017 - 12/2017	Yongli Shuai (Biostatistics), "Multinomial Logistic Regression and Prediction Accuracy for Interval-Censored Competing Risks Data"	Dissertation Committee Member
09/2017 - 04/2018	Tianzhou (Charles) Ma (Biostatistics), "Differential Expression and Feature Selection in the Analysis of Multiple Omics Studies"	Dissertation Committee Member
11/2017 - 05/2018	Zhou (Ark) Fang (Biostatistics), "Integration and Missing Data Handling in Multiple Omics Studies"	Dissertation Committee Member
11/2018 – 04/2019	Di Zhang (Biostatistics), "Inference on Win Ratio for Clustered Semi-competing Risk Data"	Dissertation Committee Member
10/2018 – 06/2019	Md Tanbin Rahman (Biostatistics), "Clustering and Classification for RNA-seq Data with Variable Selection"	Dissertation Committee Member
10/2018 - Present	Victor Talisa (Biostatistics), "Post-hoc Responder Subgroup Identification in Clinical Trials: Variations on the Subgroup Identification based on Differential Effect Search (SIDES) Procedure, and a New Model Extension for Missing Covariate Data"	Dissertation Committee Member

Part C: as PhD Academic Advisor

Year(s)	Student's Name (Department)	Role
09/2013 – 09/2015	Joanne Beer (Biostatistics)	Academic Advisor
09/2015 – 08/2016	Tao Sun (Biostatistics)	Academic Advisor
08/2017 – 08/2018	Yichen Jia (Biostatistics)	Academic Advisor

Awards Obtained by PhD Advisees

Student's Name	Time	Award
Zhe Sun	01/2017–12/2018	Awarded a two-year RAC fellowship by Children's Hospital of UPMC for her research proposal: "Statistical method for biological network analysis of omics data"
Yi Liu	04/2017	Mihaela Serban Best Poster Award in ASA Pittsburgh Chapter 2017 Spring Meeting

Yue Wei	07/2017	Best Performance in PhD Qualifying Exams, Biostatistics
Yue Wei	03/2018	Outstanding Research Presentation Award, Biostatistics Student Research Day
Tao Sun	03/2018	Honorable Mention, Biostatistics Student Research Day
Tao Sun	12/2018	ENAR Distinguished Student Paper Award
Zhe Sun	12/2018	ENAR Distinguished Student Paper Award
Tao Sun	01/2019-12/2019	Award a CTSI QuMP grant (co-PI) for the research proposal "Deep Learning with GWAS to Predict AMD Progression"
Yue Wei	03/2019	LiDS (Lifetime Data Science) Conference Student Paper Award
Tao Sun	04/2019	American Statistical Association (ASA) Pittsburgh Chapter Student of the Year Award
Tao Sun	04/2019	Outstanding Teaching Assistant Award, Department of Biostatistics, University of Pittsburgh
Yue Wei	04/2019	Mihaela Serban Best Poster Award in ASA Pittsburgh Chapter 2019 Spring Meeting
Tao Sun	04/2019	ICSA (International Chinese Statistical Association) Student Paper Award
Tao Sun	05/2019	LiDS Conference Student Poster Award

SERVICE

Department Committees

05/2013 – 07/2014	Applied Exam Committee Member, PhD Qualifying Exam
01/2014 – 07/2018	Member, PhD Admission Committee
05/2015 – 07/2018	Applied Exam Committee Chair, PhD Qualify Exam
03/2017 – Present	Member, Student Award Committee
01/2018 – Present	Member, Faculty Award Nomination Committee
09/2013 – Present	Member, Doctoral Monitoring Committee

School/University Committees

09/2014 - Present	Department Representative, EPCC (Educational Policies and Curriculum Committee)
05/2016 - 04/2017	Member, Biostatistics Department Chair Search Committee
10/2018 - Present	Member, Biostatistics Department Faculty Search Committee

Manuscript Reviewer/Journal Editorial Board

2019 – Present	Associate Editor	Journal of Statistical Research
2013 - 2017	Statistical Advisory Board Member	PloS ONE
2009 - Present	Reviewer	Biostatistics, Statistics and Its Interface, Lifetime Data Analysis, Biometrics, Statistics in Biosciences, Electronic Journal of Statistics, Journal of Biopharmaceutical Statistics, Statistica Sinica, Bioinformatics, Biometrical Journal, Scandinavian Journal of Statistics, Statistics in Medicine, Journal of American Statistical Association, Annals of Statistics, Annals of Applied Statistics

International Organizations

09/2016 - 10/2016	Department of Defense (DoD) grant review panel: for Clinical Research Intramural Initiative Program, Precision Medicine Research Award
1/2017 - 12/2019	Member, The Statistical Partnerships Among Academe, Industry & Government Committee (SPAIG), American Statistical Association
12/2017 - 5/2019	(co-)Chair, Lifetime Data Science 2019 Conference Local Organization Committee

