

**University of Pittsburgh
School of Medicine
BIOGRAPHICAL**

Name: Wei Chen
Business Phone: 412-692-6241
Website: www.pitt.edu/~wec47

Business Address: Rangos 9125
4401 Penn Ave, Pittsburgh, PA 15143
Email: wei.chen@chp.edu; wec47@pitt.edu

EDUCATION and TRAINING

UNDERGRADUATE

1999-2003	Nanjing University, Nanjing, China	B.S., 2003	Mathematics
-----------	---------------------------------------	------------	-------------

GRADUATE

2003-2006	Michigan State University, East Lansing, MI	M.S., 2006	Mathematics
2006-2011	University of Michigan, Ann Arbor, MI	Ph.D., 2011	Biostatistics

APPOINTMENTS and POSITIONS

2011-2016	Department of Pediatrics, School of Medicine, University of Pittsburgh, Pittsburgh, PA, USA	Assistant Professor
2013-2016	Department of Biostatistics	Assistant Professor Secondary
2013-2016	Department of Human Genetics	Assistant Professor Secondary
2014-Present	University of Pittsburgh	Graduate Faculty
2017-Present	Department of Pediatrics	Associate Professor with Tenure <i>In the process of early promotion to Professor with Tenure</i>

2017-Present	Department of Biostatistics	Associate Professor Secondary
2017-Present	Department of Human Genetics	Associate Professor Secondary
2017-Present	Department of Pediatrics	Director of Statistical Genetics Core

MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES

Mathematical Association of America	2005
American Society of Human Genetics	2007-Present
American Statistical Association	2009-Present
Eastern North American Region Biometric Society	2009-Present
American Thoracic Society	2017-Present

HONORS

Rackham Conference Travel Grant, University of Michigan	2007-2011
ENAR Diversity Travel Grant	2009
ASHG Trainee Research Semifinalist Award	2010
Eminent Scholar Talk, International Conference on Intelligent Biology and Medicine, Philadelphia, Pennsylvania, USA	2021

PUBLICATIONS

1. ORIGINAL PEER REVIEWED ARTICLES

* indicates co-first author;

indicates (co-)senior/corresponding author;

1. Dixon AL, Liang L, Moffatt MF, **Chen W**, Heath S, Wong KC, Taylor J, Burnett E, Gut I, Farrall M, Lathrop GM, Abecasis GR, Cookson WO. A genome-wide association study of global gene expression. *Nature Genetics*. 2007;39(10):1202-7. PubMed PMID: 17873877.
2. Kanda A, **Chen W**, Othman M, Branham KE, Brooks M, Khanna R, He S, Lyons R, Abecasis GR, Swaroop A. A variant of mitochondrial protein LOC387715/ARMS2, not HTRA1, is strongly associated with age-related macular degeneration. *Proceedings of the National Academy of Sciences of the United States of America* 2007;104(41):16227-32. PubMed PMID: 17884985; PMCID: PMC1987388.

3. Swaroop A, Branham KE, **Chen W**, Abecasis G. Genetic susceptibility to age-related macular degeneration: a paradigm for dissecting complex disease traits. *Human Molecular Genetics*. 2007;16 Spec No. 2(Spec No. 2):R174-82. PubMed PMID: 17911160.
4. **Chen W**[#], Liang L, Abecasis GR. GWAS GUI: graphical browser for the results of whole-genome association studies with high-dimensional phenotypes. *Bioinformatics (Oxford, England)*. 2009;25(2):284-5. PubMed PMID: 19028721; PMCID: PMC2732294.
5. Baratz KH, Tosakulwong N, Ryu E, Brown WL, Branham K, **Chen W**, Tran KD, Schmid-Kubista KE, Heckenlively JR, Swaroop A, Abecasis G, Bailey KR, Edwards AO. E2-2 protein and Fuchs's corneal dystrophy. *The New England Journal of Medicine*. 2010;363(11):1016-24. PubMed PMID: 20825314.
6. **Chen W**, Stambolian D, Edwards AO, Branham KE, Othman M, Jakobsdottir J, Tosakulwong N, Pericak-Vance MA, Campochiaro PA, Klein ML, Tan PL, Conley YP, Kanda A, Kopplin L, Li Y, Augustaitis KJ, Karoukis AJ, Scott WK, Agarwal A, Kovach JL, Schwartz SG, Postel EA, Brooks M, Baratz KH, Brown WL, Complications of Age-Related Macular Degeneration Prevention Trial Research G, Brucker AJ, Orlin A, Brown G, Ho A, Regillo C, Donoso L, Tian L, Kaderli B, Hadley D, Hagstrom SA, Peachey NS, Klein R, Klein BE, Gotoh N, Yamashiro K, Ferris Iii F, Fagerness JA, Reynolds R, Farrer LA, Kim IK, Miller JW, Corton M, Carracedo A, Sanchez-Salorio M, Pugh EW, Doheny KF, Brion M, Deangelis MM, Weeks DE, Zack DJ, Chew EY, Heckenlively JR, Yoshimura N, Iyengar SK, Francis PJ, Katsanis N, Seddon JM, Haines JL, Gorin MB, Abecasis GR, Swaroop A. Genetic variants near TIMP3 and high-density lipoprotein-associated loci influence susceptibility to age-related macular degeneration. *Proceedings of the National Academy of Sciences of the United States of America*. 2010;107(16):7401-6. PubMed PMID: 20385819; PMCID: PMC2867722.
7. Ding J, Gudjonsson JE, Liang L, Stuart PE, Li Y, **Chen W**, Weichenthal M, Ellinghaus E, Franke A, Cookson W, Nair RP, Elder JT, Abecasis GR. Gene expression in skin and lymphoblastoid cells: Refined statistical method reveals extensive overlap in cis-eQTL signals. *American Journal of Human Genetics*. 2010;87(6):779-89. PubMed PMID: 21129726; PMCID: PMC2997368.
8. **1000 Genomes Project**, Abecasis GR, Altshuler D, Auton A, Brooks LD, Durbin RM, Gibbs RA, Hurles ME, McVean GA. A map of human genome variation from population-scale sequencing. *Nature*. 2010;467(7319):1061-73. PubMed PMID: 20981092; PMCID: PMC3042601.
9. Kanda A, Stambolian D, **Chen W**, Curcio CA, Abecasis GR, Swaroop A. Age-related macular degeneration-associated variants at chromosome 10q26 do not significantly alter ARMS2 and HTRA1 transcript levels in the human retina. *Molecular Vision*. 2010;16:1317-23. PubMed PMID: 20664794; PubMed Central PMCID: PMC2905635.
10. Peng J, Wang Z, **Chen W**, Ding Y, Wang H, Huang H, Huang W, Cai S. Integration of genetic signature and TNM staging system for predicting the relapse of locally advanced colorectal cancer. *International Journal of Colorectal Disease*. 2010;25(11):1277-85. PubMed PMID: 20706727.
11. Sudmant PH, Kitzman JO, Antonacci F, Alkan C, Malig M, Tsalenko A, Sampas N, Bruhn L, Shendure J, **1000 Genomes Project**, Eichler EE. Diversity of human copy number variation and multicopy genes. *Science (New York, NY)*. 2010;330(6004):641-6. PubMed PMID: 21030649; PMCID: PMC3020103.

12. Danecek P, Auton A, Abecasis G, Albers CA, Banks E, DePristo MA, Handsaker RE, Lunter G, Marth GT, Sherry ST, McVean G, Durbin R, **Genomes Project Analysis Group**. The variant call format and VCFtools. *Bioinformatics (Oxford, England)*. 2011;27(15):2156-8. PubMed PMID: 21653522; PMCID: PMC3137218.
13. Gravel S, Henn BM, Gutenkunst RN, Indap AR, Marth GT, Clark AG, Yu F, Gibbs RA, Bustamante CD, **The 1000 Genomes Project**. Demographic history and rare allele sharing among human populations. *Proceedings of the National Academy of Sciences of the United States of America*. 2011;108(29):11983-8. doi: 10.1073/pnas.1019276108. Epub 2011 Jul 5. PubMed PMID: 21730125; PubMed Central PMCID: PMC3142009.
14. Kunju LP, Cookingham C, Toy KA, **Chen W**, Sabel MS, Kleer CG. EZH2 and ALDH-1 mark breast epithelium at risk for breast cancer development. *Modern Pathology*. 2011;24(6):786-93. doi: 10.1038/modpathol.2011.8. Epub 2011 Mar 11.- PubMed PMID: 21399615; PubMed Central PMCID: PMC3106137.
15. Marth GT, Yu F, Indap AR, Garimella K, Gravel S, Leong WF, Tyler-Smith C, Bainbridge M, Blackwell T, Zheng-Bradley X, Chen Y, Challis D, Clarke L, Ball EV, Cibulskis K, Cooper DN, Fulton B, Hartl C, Koboldt D, Muzny D, Smith R, Sougnez C, Stewart C, Ward A, Yu J, Xue Y, Altshuler D, Bustamante CD, Clark AG, Daly M, DePristo M, Flicek P, Gabriel S, Mardis E, Palotie A, Gibbs R, **1000 Genomes Project**. The functional spectrum of low-frequency coding variation. *Genome Biology*. 2011;12(9):R84. PubMed PMID: 21917140; PMCID: PMC3308047.
16. McKay GJ, Patterson CC, Chakravarthy U, Dasari S, Klaver CC, Vingerling JR, Ho L, de Jong PT, Fletcher AE, Young IS, Seland JH, Rahu M, Soubrane G, Tomazzoli L, Topouzis F, Vioque J, Hingorani AD, Sofat R, Dean M, Sawitzke J, Seddon JM, Peter I, Webster AR, Moore AT, Yates JR, Cipriani V, Fritsche LG, Weber BH, Keilhauer CN, Lotery AJ, Ennis S, Klein ML, Francis PJ, Stambolian D, Orlin A, Gorin MB, Weeks DE, Kuo CL, Swaroop A, Othman M, Kanda A, **Chen W**, Abecasis GR, Wright AF, Hayward C, Baird PN, Guymer RH, Attia J, Thakkeinstian A, Silvestri G. Evidence of association of APOE with age-related macular degeneration: a pooled analysis of 15 studies. *Human Mutation*. 2011;32(12):1407-16. PubMed PMID: 21882290; PMCID: PMC3217135.
17. McKay GJ, Silvestri G, Chakravarthy U, Dasari S, Fritsche LG, Weber BH, Keilhauer CN, Klein ML, Francis PJ, Klaver CC, Vingerling JR, Ho L, De Jong PT, Dean M, Sawitzke J, Baird PN, Guymer RH, Stambolian D, Orlin A, Seddon JM, Peter I, Wright AF, Hayward C, Lotery AJ, Ennis S, Gorin MB, Weeks DE, Kuo CL, Hingorani AD, Sofat R, Cipriani V, Swaroop A, Othman M, Kanda A, **Chen W**, Abecasis GR, Yates JR, Webster AR, Moore AT, Seland JH, Rahu M, Soubrane G, Tomazzoli L, Topouzis F, Vioque J, Young IS, Fletcher AE, Patterson CC. Variations in apolipoprotein E frequency with age in a pooled analysis of a large group of older people. *American Journal of Epidemiology*. 2011;173(12):1357-64. PubMed PMID: 21498624; PMCID: PMC3145394.
18. Mills RE, Walter K, Stewart C, Handsaker RE, Chen K, Alkan C, Abyzov A, Yoon SC, Ye K, Cheetham RK, Chinwalla A, Conrad DF, Fu Y, Grubert F, Hajirasouliha I, Hormozdiari F, Iakoucheva LM, Iqbal Z, Kang S, Kidd JM, Konkel MK, Korn J, Khurana E, Kural D, Lam HY, Leng J, Li R, Li Y, Lin CY, Luo R, Mu XJ, Nemesh J, Peckham HE, Rausch T, Scally A, Shi X, Stromberg MP, Stutz AM, Urban AE, Walker JA, Wu J, Zhang Y, Zhang ZD, Batzer MA, Ding L, Marth GT, McVean G, Sebat J, Snyder M, Wang J, Ye K, Eichler EE, Gerstein MB, Hurles

- ME, Lee C, McCarroll SA, Korb J, **1000 Genomes Project**. Mapping copy number variation by population-scale genome sequencing. *Nature*. 2011;470(7332):59-65. PubMed PMID: 21293372; PMCID: PMC3077050.
19. Peng J, **Chen W**, Sheng W, Xu Y, Cai G, Huang D, Cai S. Oncological outcome of T1 rectal cancer undergoing standard resection and local excision. *Colorectal Disease: the Official Journal of the Association of Coloproctology of Great Britain and Ireland*. 2011;13(2):e14-9. PubMed PMID: 20860716.
 20. Peng J, **Chen W**, Venook AP, Sheng W, Xu Y, Guan Z, Cai G, Cai S. Long-term outcome of early-stage rectal cancer undergoing standard resection and local excision. *Clinical Colorectal Cancer*. 2011;10(1):37-41. PubMed PMID: 21609934.
 21. Sivakumaran TA, Igo RP, Jr., Kidd JM, Itsara A, Kopplin LJ, **Chen W**, Hagstrom SA, Peachey NS, Francis PJ, Klein ML, Chew EY, Ramprasad VL, Tay WT, Mitchell P, Seielstad M, Stambolian DE, Edwards AO, Lee KE, Leontiev DV, Jun G, Wang Y, Tian L, Qiu F, Henning AK, LaFramboise T, Sen P, Aarthi M, George R, Raman R, Das MK, Vijaya L, Kumaramanickavel G, Wong TY, Swaroop A, Abecasis GR, Klein R, Klein BE, Nickerson DA, Eichler EE, Iyengar SK. A 32 kb critical region excluding Y402H in CFH mediates risk for age-related macular degeneration. *PloS One*. 2011;6(10):e25598. PubMed PMID: 22022419; PMCID: PMC3192039.
 22. Stanton CM, Yates JR, den Hollander AI, Seddon JM, Swaroop A, Stambolian D, Fauser S, Hoyng C, Yu Y, Atsuhiko K, Branham K, Othman M, **Chen W**, Kortvely E, Chalmers K, Hayward C, Moore AT, Dhillon B, Ueffing M, Wright AF. Complement factor D in age-related macular degeneration. *Investigative Ophthalmology & Visual Science*. 2011;52(12):8828-34. PubMed PMID: 22003108; PMCID: PMC3230905.
 23. Wang M, Peng J, Yang W, **Chen W**, Mo S, Cai S. Prognostic analysis for carcinoid tumours of the rectum: a single institutional analysis of 106 patients. *Colorectal disease: the Official Journal of the Association of Coloproctology of Great Britain and Ireland*. 2011;13(2):150-3. PubMed PMID: 19863599.
 24. Clarke L, Zheng-Bradley X, Smith R, Kulesha E, Xiao C, Toneva I, Vaughan B, Preuss D, Leinonen R, Shumway M, Sherry S, Flicek P, **The 1000 Genomes Project**. The 1000 Genomes Project: data management and community access. *Nature Methods*. 2012;9(5):459-62. PubMed PMID: 22543379; PMCID: PMC3340611.
 25. Li B, **Chen W**, Zhan X, Busonero F, Sanna S, Sidore C, Cucca F, Kang HM, Abecasis GR. A likelihood-based framework for variant calling and de novo mutation detection in families. *PLoS Genetics*. 2012;8(10):e1002944. PubMed PMID: 23055937; PMCID: PMC3464213.
 26. **Chen W**, Boutaoui N, Brehm JM, Han YY, Schmitz C, Cressley A, Acosta-Perez E, Alvarez M, Colon-Semidey A, Baccarelli AA, Weeks DE, Kolls JK, Canino G, Celedon JC. ADCYAP1R1 and asthma in Puerto Rican children. *American Journal of Respiratory and Critical Care Medicine*. 2013;187(6):584-8. PubMed PMID: 23328528; PMCID: PMC3733434.
 27. **Chen W**[#], Li B, Zeng Z, Sanna S, Sidore C, Busonero F, Kang HM, Li Y, Abecasis GR. Genotype calling and haplotyping in parent-offspring trios. *Genome Research*. 2013;23(1):142-51. PubMed PMID: 23064751; PMCID: PMC3530674.
 28. Fritsche LG^{*}, **Chen W**^{*}, Schu M, Yaspan BL, Yu Y, Thorleifsson G, Zack DJ, Arakawa S, Cipriani V, Ripke S, Igo RP, Jr., Buitendijk GH, Sim X, Weeks DE, Guymer RH, Merriam JE, Francis PJ, Hannum G, Agarwal A, Ambrecht AM, Audo I, Aung T, Barile GR, Benchaboune

- M, Bird AC, Bishop PN, Branham KE, Brooks M, Brucker AJ, Cade WH, Cain MS, Campochiaro PA, Chan CC, Cheng CY, Chew EY, Chin KA, Chowers I, Clayton DG, Cojocar R, Conley YP, Cornes BK, Daly MJ, Dhillon B, Edwards AO, Evangelou E, Fagerness J, Ferreyra HA, Friedman JS, Geirsdottir A, George RJ, Gieger C, Gupta N, Hagstrom SA, Harding SP, ..., Gorin MB, Wang JJ, Klaver CC, Seddon JM, Pericak-Vance MA, Iyengar SK, Yates JR, Swaroop A, Weber BH, Kubo M, Deangelis MM, Leveillard T, Thorsteinsdottir U, Haines JL, Farrer LA, Heid IM, Abecasis GR, Consortium AMDG. Seven new loci associated with age-related macular degeneration. *Nature Genetics*. 2013;45(4):433-9. 9e1-2. PubMed PMID: 23455636; PMCID: PMC3739472.
29. Li Y, **Chen W**, Liu EY, Zhou YH. Single Nucleotide Polymorphism (SNP) Detection and Genotype Calling from Massively Parallel Sequencing (MPS) Data. *Statistics in Biosciences*. 2013;5(1):3-25. PubMed PMID: 24489615; PMCID: PMC3905464.
 30. Sharma NK, Gupta A, Prabhakar S, Singh R, Sharma SK, **Chen W**, Anand A. Association between CFH Y402H polymorphism and age related macular degeneration in North Indian cohort. *PLoS One*. 2013;8(7):e70193. doi: 10.1371/journal.pone.0070193. Print 2013. PubMed PMID: 23922956; PubMed Central PMCID: PMC3726372.
 31. Anand A, Sharma K, **Chen W**, Sharma NK. Using current data to define new approach in age related macular degeneration: need to accelerate translational research. *Current Genomics*. 2014;15(4):266-77. doi: 10.2174/1389202915666140516204512.
 32. **Chen W**, Brehm JM, Boutaoui N, Soto-Quiros M, Avila L, Celli BR, Bruse S, Tesfaigzi Y, Celedon JC. Native American ancestry, lung function, and COPD in Costa Ricans. *Chest*. 2014;145(4):704-10. PubMed PMID: 24306962; PMCID: PMC3971968.
 33. Ozel AB, Moroi SE, Reed DM, Nika M, Schmidt CM, Akbari S, Scott K, Rozsa F, Pawar H, Musch DC, Lichter PR, Gaasterland D, Branham K, Gilbert J, Garnai SJ, **Chen W**, Othman M, Heckenlively J, Swaroop A, Abecasis G, Friedman DS, Zack D, Ashley-Koch A, Ulmer M, Kang JH, Consortium N, Liu Y, Yaspan BL, Haines J, Allingham RR, Hauser MA, Pasquale L, Wiggs J, Richards JE, Li JZ. Genome-wide association study and meta-analysis of intraocular pressure. *Human Genetics*. 2014;133(1):41-57. PubMed PMID: 24002674; PMCID: PMC3982323.
 34. Banik A, Brown RE, Bamburg J, Lahiri DK, Khurana D, Friedland RP, **Chen W**, Ding Y, Mudher A, Padjen AL, Mukaetova-Ladinska E, Ihara M, Srivastava S, Padma Srivastava MV, Masters CL, Kalaria RN, Anand A. 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: JAD*. 2015;47(4):815-43. doi: 10.3233/JAD-150136. PubMed PMID: 26401762.
 35. Brehm JM, Man Tse S, Croteau-Chonka DC, Forno E, Litonjua AA, Raby BA, **Chen W**, Yan Q, Boutaoui N, Acosta-Perez E, Avila L, Weiss ST, Soto-Quiros M, Cloutier MM, Hu D, Pino-Yanes M, Wenzel SE, Spear ML, Kolls JK, Burchard EG, Canino G, Celedon JC. A Genome-Wide Association Study of Post-bronchodilator Lung Function in Children with Asthma. *American Journal of Respiratory and Critical Care Medicine*. 2015;192(5):634-7. PubMed PMID: 26325155; PMCID: PMC4595689.
 36. Brehm JM, Ramratnam SK, Tse SM, Croteau-Chonka DC, Pino-Yanes M, Rosas-Salazar C, Litonjua AA, Raby BA, Boutaoui N, Han YY, **Chen W**, Forno E, Marsland AL, Nugent NR, Eng C, Colon-Semidey A, Alvarez M, Acosta-Perez E, Spear ML, Martinez FD, Avila L, Weiss ST,

- Soto-Quiros M, Ober C, Nicolae DL, Barnes KC, Lemanske RF, Jr., Strunk RC, Liu A, London SJ, Gilliland F, Sleiman P, March M, Hakonarson H, Duan QL, Kolls JK, Fritz GK, Hu D, Fani N, Stevens JS, Almli LM, Burchard EG, Shin J, McQuaid EL, Ressler K, Canino G, Celedon JC. Stress and Bronchodilator Response in Children with Asthma. *American Journal of Respiratory and Critical Care Medicine*. 2015;192(1):47-56. PubMed PMID: 25918834; PMCID: PMC4511425.
37. Chen R, Wei Q, Zhan X, Zhong X, Sutcliffe JS, Cox NJ, Cook EH, Li C, **Chen W**[#], Li B[#]. A haplotype-based framework for group-wise transmission/disequilibrium tests for rare variant association analysis. *Bioinformatics (Oxford, England)*. 2015;31(9):1452-9. PubMed PMID: 25568282; PMCID: PMC4410665.
 38. **Chen W**, Brehm JM, Lin J, Wang T, Forno E, Acosta-Perez E, Boutaoui N, Canino G, Celedon JC. Expression quantitative trait loci (eQTL) mapping in Puerto Rican children. *PLoS One*. 2015;10(3):e0122464. PubMed PMID: 25816334; PMCID: PMC4376710.
 39. **Chen W**, Brehm JM, Manichaikul A, Cho MH, Boutaoui N, Yan Q, Burkart KM, Enright PL, Rotter JI, Petersen H, Leng S, Obeidat M, Bosse Y, Brandsma CA, Hao K, Rich SS, Powell R, Avila L, Soto-Quiros M, Silverman EK, Tesfaigzi Y, Barr RG, Celedon JC. A genome-wide association study of chronic obstructive pulmonary disease in Hispanics. *Annals of the American Thoracic Society*. 2015;12(3):340-8. PubMed PMID: 25584925; PMCID: PMC4418314.
 40. Fan R, Wang Y, Boehnke M, **Chen W**, Li Y, Ren H, Lobach I, Xiong M. Gene Level Meta-Analysis of Quantitative Traits by Functional Linear Models. *Genetics*. 2015;200(4):1089-104. PubMed PMID: 26058849; PMCID: PMC4574252.
 41. **1000 Genomes Project**, Auton A, Brooks LD, Durbin RM, Garrison EP, Kang HM, Korbel JO, Marchini JL, McCarthy S, McVean GA, Abecasis GR. A global reference for human genetic variation. *Nature*. 2015;526(7571):68-74. PubMed PMID: 26432245; PMCID: PMC4750478.
 42. Li B, Wei Q, Zhan X, Zhong X, **Chen W**, Li C, Haines J. Leveraging Identity-by-Descent for Accurate Genotype Inference in Family Sequencing Data. *PLoS Genetics*. 2015;11(6):e1005271. PubMed PMID: 26043085; PMCID: PMC4456389.
 43. Ray M, Horne W, McAleer JP, Ricks DM, Kreindler JL, Fitzsimons MS, Chan PP, Trevejo-Nunez G, Chen K, Fajt M, **Chen W**, Ray A, Wenzel S, Kolls JK. RNA-seq in Pulmonary Medicine: How Much Is Enough? *American Journal of Respiratory and Critical Care Medicine*. 2015;192(3):389-91. doi: 10.1164/rccm.201403-0475LE. PubMed PMID: 26230238; PubMed Central PMCID: PMC4584249.
 44. Wang T, Guan W, Lin J, Boutaoui N, Canino G, Luo J, Celedon JC, **Chen W**[#]. A systematic study of normalization methods for Infinium 450K methylation data using whole-genome bisulfite sequencing data. *Epigenetics*. 2015;10(7):662-9. doi: 10.1080/15592294.2015.1057384. PubMed PMID: 26036609; PubMed Central PMCID: PMC4623491.
 45. Wei Q, Zhan X, Zhong X, Liu Y, Han Y, **Chen W**, Li B. A Bayesian framework for de novo mutation calling in parents-offspring trios. *Bioinformatics (Oxford, England)*. 2015;31(9):1375-81. PubMed PMID: 25535243; PMCID: PMC4410659.

46. Xu Z, Duan Q, Yan S, **Chen W**, Li M, Lange E, Li Y. DISSCO: direct imputation of summary statistics allowing covariates. *Bioinformatics* (Oxford, England). 2015;31(15):2434-42. PubMed PMID: 25810429; PMCID: PMC4514926.
47. Yan Q, Weeks DE, Celedon JC, Tiwari HK, Li B, Wang X, Lin WY, Lou XY, Gao G, **Chen W**, Liu N. Associating Multivariate Quantitative Phenotypes with Genetic Variants in Family Samples with a Novel Kernel Machine Regression Method. *Genetics*. 2015;201(4):1329-39. PubMed PMID: 26482791; PMCID: PMC4676518.
48. Yan Q, Weeks DE, Tiwari HK, Yi N, Zhang K, Gao G, Lin WY, Lou XY, **Chen W**[#], Liu N[#]. Rare-Variant Kernel Machine Test for Longitudinal Data from Population and Family Samples. *Human Heredity*. 2015;80(3):126-38. PubMed PMID: 27161037; PMCID: PMC4940283.
49. Cao W, Guo J, Wen X, Miao L, Lin F, Xu G, Ma R, Yin S, Hui Z, Chen T, Guo S, **Chen W**, Huang Y, Liu Y, Wang J, Wei L, Wang L. CXXC finger protein 1 is critical for T-cell intrathymic development through regulating H3K4 trimethylation. *Nature Communications* 2016;7:11687.(doi):10.1038/ncomms11687. PubMed PMID: 27210293; PubMed Central PMCID: PMC4879243.
50. Chang LC, Li B, Fang Z, Vrieze S, McGue M, Iacono WG, Tseng GC, **Chen W**[#]. A computational method for genotype calling in family-based sequencing data. *BMC Bioinformatics*. 2016;17(1):37. PubMed PMID: 26772743; PMCID: PMC4715317.
51. Chen H, Wang C, Conomos MP, Stilp AM, Li Z, Sofer T, Szpiro AA, **Chen W**, Brehm JM, Celedon JC, Redline S, Papanicolaou GJ, Thornton TA, Laurie CC, Rice K, Lin X. Control for Population Structure and Relatedness for Binary Traits in Genetic Association Studies via Logistic Mixed Models. *American Journal of Human Genetics*. 2016;98(4):653-66. PubMed PMID: 27018471; PMCID: PMC4833218.
52. Chen K, Campfield BT, Wenzel SE, McAleer JP, Kreindler JL, Kurland G, Gopal R, Wang T, **Chen W**, Eddens T, Quinn KM, Myerburg MM, Horne WT, Lora JM, Albrecht BK, Pilewski JM, Kolls JK. Antiinflammatory effects of bromodomain and extraterminal domain inhibition in cystic fibrosis lung inflammation. *JCI Insight*. 2016;1(11):10.1172/jci.insight.87168. PubMed PMID: 27517095; PMCID: PMC4978187.
53. Chen K, Eddens T, Trevejo-Nunez G, Way EE, Elsegeiny W, Ricks DM, Garg AV, Erb CJ, Bo M, Wang T, **Chen W**, Lee JS, Gaffen SL, Kolls JK. IL-17 Receptor Signaling in the Lung Epithelium Is Required for Mucosal Chemokine Gradients and Pulmonary Host Defense against K. pneumoniae. *Cell Host Microbe*. 2016;20(5):596-605. doi: 10.1016/j.chom.2016.10.003. Epub 2016 Oct 27. PubMed PMID: 27923703; PubMed Central PMCID: PMC5149406.
54. Fan R, Wang Y, Chiu CY, **Chen W**, Ren H, Li Y, Boehnke M, Amos CI, Moore JH, Xiong M. Meta-analysis of Complex Diseases at Gene Level with Generalized Functional Linear Models. *Genetics*. 2016;202(2):457-70. doi: 10.1534/genetics.115.180869. Epub 2015 Dec 29. PubMed PMID: 26715663; PubMed Central PMCID: PMC4788228.
55. Fan R, Wang Y, Yan Q, Ding Y, Weeks DE, Lu Z, Ren H, Cook RJ, Xiong M, Swaroop A, Chew EY, **Chen W**. Gene-Based Association Analysis for Censored Traits Via Fixed Effect Functional Regressions. *Genetic Epidemiology*. 2016;40(2):133-43. PubMed PMID: 26782979; PMCID: PMC4724326.
56. Wang T, Ren Z, Ding Y, Fang Z, Sun Z, MacDonald ML, Sweet RA, Wang J, **Chen W**[#]. FastGGM: An Efficient Algorithm for the Inference of Gaussian Graphical Model in

- Biological Networks. *PLoS Computational Biology*. 2016;12(2):e1004755. PubMed PMID: 26872036; PMCID: PMC4752261.
57. Wu C, Demerath EW, Pankow JS, Bressler J, Fornage M, Grove ML, **Chen W**[#], Guan W[#]. Imputation of missing covariate values in epigenome-wide analysis of DNA methylation data. *Epigenetics*. 2016;11(2):132-9. PubMed PMID: 26890800; PMCID: PMC4846117.
 58. Yan Q, Chen R, Sutcliffe JS, Cook EH, Weeks DE, Li B, **Chen W**[#]. The impact of genotype calling errors on family-based studies. *Scientific Reports*. 2016;6(doi):28323. PubMed PMID: 27328765; PMCID: PMC4916415.
 59. Zeng Z, Weeks DE, **Chen W**, Mukhopadhyay N, Feingold E. A Pipeline for Classifying Relationships Using Dense SNP/SNV Data and Putative Pedigree Information. *Genetic Epidemiology*. 2016;40(2):161-71. doi: 10.1002/gepi.21948. Epub 2015 Dec 28. PubMed PMID: 26709242; PubMed Central PMCID: PMC5146993.
 60. **Chen W**, Wang T, Pino-Yanes M, Forno E, Liang L, Yan Q, Hu D, Weeks DE, Baccarelli A, Acosta-Perez E, Eng C, Han YY, Boutaoui N, Laprise C, Davies GA, Hopkin JM, Moffatt MF, Cookson W, Canino G, Burchard EG, Celedon JC. An epigenome-wide association study of total serum IgE in Hispanic children. *The Journal of Allergy and Clinical Immunology*. 2017;140(2):571-7. PubMed PMID: 28069425; PMCID: PMC5500449.
 61. Chiu CY, Jung J, **Chen W**, Weeks DE, Ren H, Boehnke M, Amos CI, Liu A, Mills JL, Ting Lee ML, Xiong M, Fan R. Meta-analysis of quantitative pleiotropic traits for next-generation sequencing with multivariate functional linear models. *European Journal of Human Genetics : EJHG*. 2017;25(3):350-9. PubMed PMID: 28000696; PMCID: PMC5315507.
 62. 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**[#]. Bivariate Analysis of Age-Related Macular Degeneration Progression Using Genetic Risk Scores. *Genetics*. 2017;206(1):119-33. doi: 10.1534/genetics.116.196998. Epub 2017 Mar 24. PubMed PMID: 28341650; PubMed Central PMCID: PMC5419464.
 63. Forno E, Sordillo J, Brehm J, **Chen W**, Benos T, Yan Q, Avila L, Soto-Quiros M, Cloutier MM, Colon-Semidey A, Alvarez M, Acosta-Perez E, Weiss ST, Litonjua AA, Canino G, Celedon JC. Genome-wide interaction study of dust mite allergen on lung function in children with asthma. *The Journal of Allergy and Clinical Immunology*. 2017;140(4):996-1003 e7. PubMed PMID: 28167095; PMCID: PMC5544591.
 64. Forno E, Wang T, Yan Q, Brehm J, Acosta-Perez E, Colon-Semidey A, Alvarez M, Boutaoui N, Cloutier MM, Alcorn JF, Canino G, **Chen W**[#], Celedon JC[#]. A Multiomics Approach to Identify Genes Associated with Childhood Asthma Risk and Morbidity. *American Journal of Respiratory Cell and Molecular Biology*. 2017;57(4):439-47. PubMed PMID: 28574721; PMCID: PMC5650086.
 65. Hui D, Fang Z, Lin J, Duan Q, Li Y, Hu M, **Chen W**[#]. LAIT: a local ancestry inference toolkit. *BMC Genetics*. 2017;18(1):83. PubMed PMID: 28877673; PMCID: PMC5585928.
 66. Wen X, Miao L, Deng Y, Bible PW, Hu X, Zou Y, Liu Y, Guo S, Liang J, Chen T, Peng GH, **Chen W**, Liang L, Wei L. The Influence of Age and Sex on Ocular Surface Microbiota in Healthy Adults. *Investigative Ophthalmology & Visual science*. 2017;58(14):6030-7. PubMed PMID: 29196767.
 67. Yan Q, Brehm J, Pino-Yanes M, Forno E, Lin J, Oh SS, Acosta-Perez E, Laurie CC, Cloutier MM, Raby BA, Stilp AM, Sofer T, Hu D, Huntsman S, Eng CS, Conomos MP, Rastogi D, Rice

- K, Canino G, **Chen W**, Barr RG, Burchard EG, Celedon JC. A meta-analysis of genome-wide association studies of asthma in Puerto Ricans. *The European Respiratory Journal*. 2017;49(5):49/5/1601505. doi: 10.1183/13993003.01505-2016. Print 2017 May. PubMed PMID: 28461288; PMCID: PMC5527708.
68. Zhang H, Luo J, Alcorn JF, Chen K, Fan S, Pilewski J, Liu A, **Chen W**, Kolls JK, Wang J. AIM2 Inflammasome Is Critical for Influenza-Induced Lung Injury and Mortality. *Journal of Immunology*. 2017;198(11):4383-93. doi: 10.049/jimmunol.1600714. Epub 2017 Apr 19. PubMed PMID: 28424239; PubMed Central PMCID: PMC5439025.
 69. Boggs K, Wang T, Orabi AI, Mukherjee A, Eisses JF, Sun T, Wen L, Javed TA, Esni F, **Chen W**, Husain SZ. Pancreatic gene expression during recovery after pancreatitis reveals unique transcriptome profiles. *Scientific Reports*. 2018;8(1):1406. PubMed PMID: 29362419; PMCID: PMC5780441.
 70. Burkart KM, Sofer T, London SJ, Manichaikul A, Hartwig FP, Yan Q, Soler Artigas M, Avila L, **Chen W**, Davis Thomas S, Diaz AA, Hall IP, Horta BL, Kaplan RC, Laurie CC, Menezes AM, Morrison JV, Oelsner EC, Rastogi D, Rich SS, Soto-Quiros M, Stilp AM, Tobin MD, Wain LV, Celedon JC, Barr RG. A Genome-Wide Association Study in Hispanics/Latinos Identifies Novel Signals for Lung Function. The Hispanic Community Health Study/Study of Latinos. *American Journal of Respiratory and Critical Care Medicine*. 2018;198(2):208-19. PubMed PMID: 29394082; PMCID: PMC6058984.
 71. Ding Y, Kong S, Kang S, **Chen W**. A semiparametric imputation approach for regression with censored covariate with application to an AMD progression study. *Statistics in Medicine*. 2018;37(23):3293-308. PubMed PMID: 29845616.
 72. Fang Z, Ma T, Tang G, Zhu L, Yan Q, Wang T, Celedon JC, **Chen W**[#], Tseng GC[#]. Bayesian integrative model for multi-omics data with missingness. *Bioinformatics (Oxford, England)*. 2018;34(22):3801-8. PubMed PMID: 30184058; PMCID: PMC6223369.
 73. Ozbek U, Lin HM, Lin Y, Weeks DE, **Chen W**, Shaffer JR, Purcell SM, Feingold E. Statistics for X-chromosome associations. *Genetic Epidemiology*. 2018;42(6):539-50. PubMed PMID: 29900581; PMCID: PMC6394852.
 74. Sun Z, Wang T, Deng K, Wang XF, Lafyatis R, Ding Y, Hu M, **Chen W**[#]. DIMM-SC: a Dirichlet mixture model for clustering droplet-based single cell transcriptomic data. *Bioinformatics (Oxford, England)*. 2018;34(1):139-46. PubMed PMID: 29036318; PMCID: PMC6454475.
 75. Tabib T, Morse C, Wang T, **Chen W**, Lafyatis R. SFRP2/DPP4 and FMO1/LSP1 Define Major Fibroblast Populations in Human Skin. *The Journal of Investigative Dermatology*. 2018;138(4):802-10. Epub 2017 Dec 6. PubMed PMID: 29080679; PubMed Central PMCID: PMC7444611.
 76. Wen X, Liu Y, Yan Q, Liang M, Tang M, Liu R, Pan J, Liu Q, Chen T, Guo S, Liang J, Lu L, Ding X, **Chen W**, Wei L. Association of IGFN1 variant with polypoidal choroidal vasculopathy. *The Journal of Gene Medicine*. 2018;20(2-3):e3007. Epub 2018 Feb 12. PubMed PMID: 29323771.
 77. 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, Group AR, Weeks DE, **Chen W**[#]. Genome-wide analysis of disease progression in age-related macular degeneration. *Human Molecular Genetics*. 2018;27(5):929-40. PubMed PMID: 29346644; PMCID: PMC6059197.

78. Yan Q, Fang Z, **Chen W[#]**. KMgene: a unified R package for gene-based association analysis for complex traits. *Bioinformatics (Oxford, England)*. 2018;34(12):2144-6. PubMed PMID: 29438558; PMCID: PMC6246171.
79. Zhang R, Ren Z, **Chen W[#]**. SILGGM: An extensive R package for efficient statistical inference in large-scale gene networks. *PLoS Computational Biology*. 2018;14(8):e1006369. PubMed PMID: 30102702; PMCID: PMC6107288.
80. Boutaoui N, Puranik S, Zhang R, Wang T, Hui DH, Brehm J, Forno E, **Chen W[#]**, Celedon JC[#]. Epigenome-wide effects of vitamin D on asthma bronchial epithelial cells. *Epigenetics*. 2019;14(9):844-9. PubMed PMID: 31122150; PMCID: PMC6691985.
81. Forno E, Wang T, Qi C, Yan Q, Xu CJ, Boutaoui N, Han YY, Weeks DE, Jiang Y, Rosser F, Vonk JM, Brouwer S, Acosta-Perez E, Colon-Semidey A, Alvarez M, Canino G, Koppelman GH, **Chen W[#]**, Celedon JC[#]. DNA methylation in nasal epithelium, atopy, and atopic asthma in children: a genome-wide study. *The Lancet Respiratory medicine*. 2019;7(4):336-46. PubMed PMID: 30584054; PMCID: PMC6441380.
82. Jiang Y, Gruzieva O, Wang T, Forno E, Boutaoui N, Sun T, Merid SK, Acosta-Perez E, Kull I, Canino G, Anto JM, Bousquet J, Melen E, **Chen W[#]**, Celedon JC[#]. Transcriptomics of atopy and atopic asthma in white blood cells from children and adolescents. *The European Respiratory Journal*. 2019;53(5):13993003.00102-2019. doi: 10.1183/.00102-2019. Print 2019 May. PubMed PMID: 30923181.
83. Liu C, Chikina M, Deshpande R, Menk AV, Wang T, Tabib T, Brunazzi EA, Vignali KM, Sun M, Stolz DB, Lafyatis RA, **Chen W**, Delgoffe GM, Workman CJ, Wendell SG, Vignali DAA. Treg Cells Promote the SREBP1-Dependent Metabolic Fitness of Tumor-Promoting Macrophages via Repression of CD8(+) T Cell-Derived Interferon-gamma. *Immunity*. 2019;51(2):381-97 e6. PubMed PMID: 31350177; PMCID: PMC6703933.
84. Liu J, Xu R, Zhan C, Luo W, Lai K, Zhong N, **Chen W**, Chen R. Clinical utility of ultrahigh fractional exhaled nitric oxide in predicting bronchial hyperresponsiveness in patients with suspected asthma. *Postgraduate Medical Journal*. 2019;95(1128):541-6. PubMed PMID: 31296792.
85. Mandel J, Wang H, Normolle DP, **Chen W**, Yan Q, Lucas PC, Benos PV, Prochownik EV. Expression patterns of small numbers of transcripts from functionally-related pathways predict survival in multiple cancers. *BMC Cancer*. 2019;19(1):686. PubMed PMID: 31299925; PMCID: PMC6626418.
86. Morse C, Tabib T, Sembrat J, Buschur KL, Bittar HT, Valenzi E, Jiang Y, Kass DJ, Gibson K, **Chen W**, Mora A, Benos PV, Rojas M, Lafyatis R. Proliferating SPP1/MERTK-expressing macrophages in idiopathic pulmonary fibrosis. *The European Respiratory Journal*. 2019;54(2):13993003.02441-2018. doi: 10.1183/.02441-2018. Print 2019 Aug. PubMed PMID: 31221805.
87. Sawant DV, Yano H, Chikina M, Zhang Q, Liao M, Liu C, Callahan DJ, Sun Z, Sun T, Tabib T, Pennathur A, Corry DB, Luketich JD, Lafyatis R, **Chen W**, Poholek AC, Bruno TC, Workman CJ, Vignali DAA. Adaptive plasticity of IL-10(+) and IL-35(+) Treg cells cooperatively promotes tumor T cell exhaustion. *Nature Immunology*. 2019;20(6):724-35. PubMed PMID: 30936494; PMCID: PMC6531353.

88. Sun T, Liu Y, Cook RJ, **Chen W**, Ding Y. Copula-based score test for bivariate time-to-event data, with application to a genetic study of AMD progression. *Lifetime Data Analysis*. 2019;25(3):546-68. PubMed PMID: 30560439; PMCID: PMC6559827.
89. Sun T, Sun Z, Jiang Y, Ferguson AA, Pilewski JM, Kolls JK, **Chen W**[#], Chen K[#]. Transcriptomic Responses to Ivacaftor and Prediction of Ivacaftor Clinical Responsiveness. *American Journal of Respiratory Cell and Molecular Biology*. 2019;61(5):643-52. PubMed PMID: 30995102; PMCID: PMC6827069.
90. Sun Z, Chen L, Xin H, Jiang Y, Huang Q, Cillo AR, Tabib T, Kolls JK, Bruno TC, Lafyatis R, Vignali DAA, Chen K, Ding Y, Hu M[#], **Chen W**[#]. A Bayesian mixture model for clustering droplet-based single-cell transcriptomic data from population studies. *Nature Communications*. 2019;10(1):1649. PubMed PMID: 30967541; PMCID: PMC6456731.
91. Yan Q, Liu N, Forno E, Canino G, Celedon JC, **Chen W**[#]. An integrative association method for omics data based on a modified Fisher's method with application to childhood asthma. *PLoS Genetics*. 2019;15(5):e1008142. PubMed PMID: 31063461; PMCID: PMC6524814
92. Yang G, Han YY, Forno E, Acosta-Perez E, Colon-Semidey A, Alvarez M, Canino G, **Chen W**[#], Celedon JC[#]. Under-diagnosis of atopic dermatitis in Puerto Rican children. *World Allergy Organization Journal*. 2019;12(1):100003. PubMed PMID: 30937128; PMCID: PMC6439410.
93. Yang G, Han YY, Sun T, Li L, Rosser F, Forno E, Patel SR, **Chen W**[#], Celedon JC[#]. Sleep Duration, Current Asthma, and Lung Function in a Nationwide Study of U.S. Adults. *American journal of respiratory and critical care medicine*. 2019;200(7):926-9. PubMed PMID: 31225970; PMCID: PMC6812440.
94. Yang G, Sun T, Han YY, Rosser F, Forno E, **Chen W**[#], Celedon JC[#]. Serum Cadmium and Lead, Current Wheeze, and Lung Function in a Nationwide Study of Adults in the United States. *The Journal of Allergy and Clinical Immunology: In Practice*. 2019;7(8):2653-60 e3. PubMed PMID: 31146018; PMCID: PMC6842689.
95. Chen X, Hill M, Vander Lugt M, Escolar M, Fang Z, **Chen W**, Szabolcs P. Rapid reconstitution of regulatory T-cell subsets is associated with reduced rates of acute graft-versus-host disease and absence of viremia after cord blood transplantation in children with reduced-intensity conditioning using alemtuzumab. *Cytotherapy*. 2020;22(3):149-57. doi: 10.1016/j.jcyt.2020.01.005. Epub 2020 Feb 21. PubMed PMID: 32089448; PubMed Central PMCID: PMC7263741.
96. Lemonnier N, Melén E, Jiang Y, Joly S, Ménard C, Aguilar D, Acosta-Perez E, Bergström A, Boutaoui N, Bustamante M, Canino G, Forno E, Ramon González J, Garcia-Aymerich J, Gruziova O, Guerra S, Heinrich J, Kull I, Ibarluzea Maurologoitia J, Santa-Marina Rodriguez L, Thiering E, Wickman M, Akdis C, Akdis M, **Chen W**, Keil T, Koppelman GH, Siroux V, Xu CJ, Hainaut P, Standl M, Sunyer J, Celedón JC, Maria Antó J, Bousquet J. A novel whole blood gene expression signature for asthma, dermatitis, and rhinitis multimorbidity in children and adolescents. *Allergy*. 2020 Apr 11; PubMed PMID: 32277847.
97. Wei Y, Liu Y, Sun T, **Chen W**, Ding Y. Gene-based association analysis for bivariate time-to-event data through functional regression with copula models. *Biometrics*. 2020 Jun;76(2):619-629. doi: 10.1111/biom.13165. Epub 2019 Nov 14. PubMed PMID: 31625595; PubMed Central PMCID: PMC7165069.

98. Dai H, Lan P, Zhao D, Abou-Daya K, Liu W, Chen W, Friday AJ, Williams AL, Sun T, Chen J, **Chen W**, Mortin-Toth S, Danska JS, Wiebe C, Nickerson P, Li T, Mathews LR, Turnquist HR, Nicotra ML, Gingras S, Takayama E, Kubagawa H, Shlomchik MJ, Oberbarnscheidt MH, Li XC, Lakkis FG. PIRs mediate innate myeloid cell memory to nonself MHC molecules. *Science (New York, NY)*. 2020. PubMed PMID: 32381589.
99. Forno E, Zhang R, Jiang Y, Kim S, Yan Q, Ren Z, Han YY, Boutaoui N, Rosser F, Weeks DE, Acosta-Perez E, Colon-Semidey A, Alvarez M, Canino G, **Chen W**[#], Celedon JC[#]. Transcriptome-wide and differential expression network analyses of childhood asthma in nasal epithelium. *The Journal of Allergy and Clinical Immunology*. 2020;20(20):30197-4. PubMed PMID: 32088307.
100. Qi C, Jiang Y, Yang IV, Forno E, Wang T, Vonk JM, Gehring U, Smit HA, Milanzi EB, Carpaij OA, Berg M, Hesse L, Brouwer S, Cardwell J, Vermeulen CJ, Acosta-Pérez E, Canino G, Boutaoui N, van den Berge M, Teichmann SA, Nawijn MC, **Chen W**, Celedón JC, Xu CJ, Koppelman GH. Nasal DNA methylation profiling of asthma and rhinitis. *Journal of Allergy and Clinical Immunology*. 2020 Jun;145(6):1655-1663. PubMed PMID: 31953105; PubMed Central PMCID: PMC7282965.
101. Kim S, Forno E, Yan Q, Jiang Y, Zhang R, Boutaoui N, Acosta-Perez E, Canino G, **Chen W**[#], Celedon JC[#]. SNPs identified by GWAS affect asthma risk through DNA methylation and expression of cis-genes in airway epithelium. *European Respiratory Journal*. 2020;55(4).(pii):13993003.02079-2019. PMID: 31831581
102. Liu Y, Bible PW, Zou B, Liang Q, Dong C, Wen X, Li Y, Ge X, Li X, Deng X, Ma R, Guo S, Liang J, Chen T, Pan W, Liu L, **Chen W**, Wang X, Wei L. CSMD: a computational subtraction-based microbiome discovery pipeline for species-level characterization of clinical metagenomic samples. *Bioinformatics (Oxford, England)*. 2020;36(5):1577-83. PubMed PMID: 31626280.
103. Wang X, Sun Z, Zhang Y, Xu Z, Xin H, Huang H, Duerr RH, Chen K, Ding Y, **Chen W**[#]. BREM-SC: a bayesian random effects mixture model for joint clustering single cell multi-omics data. *Nucleic Acids Research*. 2020. PubMed PMID: 32379315; PubMed Central PMCID: PMC7293045.
104. Yan Q, Weeks DE, Xin H, Swaroop A, Chew EY, Huang H, Ding Y, **Chen W**[#]. Deep-learning-based Prediction of Late Age-Related Macular Degeneration Progression. *Nature Machine Intelligence*. 2020;2(2):141-50. PubMed PMID: 32285025; PMCID: PMC7153739.
105. Yang G, Han YY, Forno E, Yan Q, Rosser F, **Chen W**[#], Celedón JC[#]. Glycated Hemoglobin A1c, Lung Function, and Hospitalizations Among Adults with Asthma. *The Journal of Allergy and Clinical Immunology: In Practice*. 2020 Jun 20; PubMed PMID: 32569755.
106. Lian Q, Xin H, Ma J, Konnikova L, **Chen W**[#], Gu J[#], Chen K[#]. Artificial-Cell-Type Aware Cell Type Classification in CITE-seq. *Bioinformatics*. 2020 Jul 1;36(Supplement_1):i542-i550. doi: 10.1093/bioinformatics/btaa467. PubMed PMID: 32657383; PubMed Central PMCID: PMC7355304. Selected as ICSM oral talk.
107. Jiang Y, Rosborough BR, Chen J, Kitsios GD, McVerry BJ, Lee JS, Ray A, **Chen W**[#], Ray P[#]. Single Cell RNA Sequencing Identifies an Early Monocyte Gene Signature in Acute Respiratory Distress Syndrome. *JCI Insight*. 2020 Jul 9;5(13). PubMed PMID: 32554932; PubMed Central PMCID: PMC7406263.

108. Kim S, Forno E, Zhang R, Park HJ, Xu Z, Yan Q, Boutaoui N, Acosta-Pérez E, Canino G, **Chen W[#]**, Celedón JC[#]. Expression quantitative trait methylation analysis reveals methylomic associations with gene expression in childhood asthma. *Chest*. 2020 Jun 20; doi: 10.1016/j.chest.2020.05.601. PubMed PMID: 32569636.
109. Xin H, Yan Q, Jiang Y, Lian Q, Wang X, Luo J, Erb C, Duerr R, Chen K[#], **Chen W[#]**. Sample demultiplexing, multiplet detection, experiment planning and novel cell type verification in single cell sequencing. *Genome Biology*. 21, Article number: 188 (2020).
110. Jiang Y, Forno E, Han YY, Xu Z, Hu D, Boutaoui N, Eng C., Acosta-Perez E, Huntsman S, Colon-semidey A, Keys K, Rodríguez-Santana JR, Alvarez M, Maria Pino-Yanes, Canino G, **Chen W[#]**, Burchard EG[#], Celedón JC[#]. A genome-wide study of DNA methylation in white blood cells and asthma in Latino children and youth. *Epigenetics*. 2020
111. Jiang Y, Chiu CY, Yan Q, **Chen W**, Gorin MB, Conley VP, Lakhal-Chaieb ML, Cook RJ, Amos CI, Wilson AF, Bailey-Wilson JE, McMahon FJ, Vazquez AI, Yuan A, Zhong X, Xiong M, Weeks DE, Fan R. Gene-based association testing of dichotomous traits with generalized linear mixed models using extended pedigrees: applications to age-related macular degeneration. 2020 In press. *Journal of the American Statistical Association*.
112. Han YY, Yan Q, Yang G, **Chen W**, Forno E, Celedón JC. Serum free testosterone and asthma, asthma hospitalisations and lung function in British adults. *Thorax*. 2020 Aug 31.
113. Song X, Yang B, Yang G, Chen R, Forno E[#], **Chen W[#]**, Gao W[#]. SpiroSonic: Monitoring Human Lung Functions via Acoustic Sensing on Smartphones, full peer reviewed paper, Accepted, *the 26th Int'l Conference on Mobile Computing and Networking (MobiCom)*, 2020.
114. Sun T, Wei Y, **Chen W**, Ding Y. GWAS-based Deep Learning for Survival Prediction. 2020. In Press. *Statistics in Medicine*.
115. So J, Ningappa M, Glessner J, Min J, Ashokkumar C, Ranganathan S, Higgs BW, Li D, Sun Q, Schmitt L, Biery AC, Dobrowolski S, Trautz C, Fuhrman L, Schwartz MC, Klena NT, Fusco J, Prasad K, Morayooluwa A, Mohamed N, Yan Q, **Chen W**, Horne W, Dhawan A, Sharif K, Kelly D, Squires RH, Gittes GK, Hakonarson H, Morell V, Lo C, Subramaniam S, Shin D, Sindhi R. Biliary-Atresia-associated Mannosidase-1-alpha-2 gene regulates biliary and ciliary morphogenesis and laterality. 2020. In Press. *Frontiers in Physiology*.
116. Yan Q, Forno E, Herrera-Luis E, Pino-Yanes M, Qi C, Rios R, Han Y, Kim S, Oh S, Acosta-Perez E, Zhang R, Hu D, Eng C, Huntsman S, Avila L, Boutaoui N, Cloutier M, Soto-Quiroz M, Xu C, Weiss S, Lasky-Su J, Kiedrowski M, Figueiredo C, Bomberger JM, Barreto M, Canino G, **Chen W**, Koppelman G, Burchard E, Celedón J. 2020. A genome-wide association study of severe asthma exacerbations in Latino children and adolescents. In Press. *European Respiratory Journal*.
117. Yan Q, Forno E, Herrera-Luis E, Pino-Yanes M, Yang G, Oh S, Acosta-Pérez E, Hu D, Eng C, Huntsman S, Rodriguez-Santana JR, Cloutier MM, Canino G, Burchard EG, **Chen W**, Celedón JC. 2020. In Press. *The Journal of Allergy and Clinical Immunology*.
118. Zhang R, Ren Z[#], Celedón JC, **Chen W[#]**. (2020) Inference of Large Modified Poisson-type Graphical Models: Application to RNA-seq Data in Childhood Atopic Asthma Studies. *Annals of Applied Statistics*. In Press.
119. Dizaji KG, **Chen W**, Huang H. Deep Large-scale multi-mask learning network for gene expression inference. 2020. *Journal of Computational Biology*. Accepted.

Full publications can be found in

<https://www.ncbi.nlm.nih.gov/myncbi/1BiLmrlnjqUQE/bibliography/public/>

2. SELECTED SOFTWARE

1. GMM-DEMUX: A Gaussian mixed model for sample demultiplexing.
2. BREMSC: A Bayesian Random Effects Model for single cell multi-omics data.
3. BAMMSC: A Bayesian mixture method for clustering population-based single cell.
4. SILGGM: Statistical inference library for graphical Gaussian model.
5. KMGene: Kernel machine methods for gene-based association analysis.
6. DIMMSC: A Dirichlet mixture model for clustering droplet-based single cell transcriptomic data.
7. FamLDCaller: A computational method for genotyping calling of sequence data from population and families.
8. FastGGM: An R package for efficiently studying conditional dependence among variables, which is well known as the Gaussian graphical model (GGM).
9. GWASGUI: A graphical overview of user-defined whole-genome association study with high-dimensional traits.
10. GTDT: A program with implementation of gene-based or group-wise TDT for rare variant aggregation analysis. Joint work with Dr. Bingshan Li.
11. LanceCheck: An efficient and memory saving program to check potential problematic lanes generated by shotgun sequencing machine and mapped by sequence assembler software.
12. LFKM: An R package using gene based kernel machine regression for quantitative traits in longitudinal family data.
13. MFKM: An R package using gene based kernel machine regression for quantitative traits in multivariate family data.
14. Polymutt: An efficient program implementing a likelihood-based framework for calling single nucleotide variants and detecting de novo point mutation events in families for next-generation sequencing data. Joint work with Dr. Bingshan Li.
15. SimuRare: Genetic Model-based Simulator to simulate case-control and quantitative data sets based on pre-defined genetic models.
16. SimuAdmix: A tool to simulate unrelated and family data set from multiple-way admixed population.
17. TrioCaller: A computational method for genotyping calling of sequence data trios.

Full software list can be found at <http://www.pitt.edu/~wec47/software.html>

3. BOOKS, BOOK CHAPTERS AND MONOGRAPHS

1. Integrating Omics Data. Edited by George Tseng, Debashis Ghosh, Xianghong Jasmine Zhou. 2015. Cambridge University Press. Chapter 1. **Chen W[#]**, Liu D, Fritsche L.

2. Age-related Macular Degeneration: from Clinic to Genes and back to Patient Management. Edited by Emily Chew and Anand Swaroop. 2020. Springer. Book Chapter. Yan Q, Ding Y, Weeks D, Wei Chen W[#] .

4. Conference Abstract

I have published > 200 abstracts in multiple national and international conferences. Most of accepted abstracts have been published in peer-reviewed journals.

PROFESSIONAL ACTIVITIES

TEACHING

Graduate Student Teaching:

2012	Guest lecture for next-generation sequencing workshop, Department of Human Genetics, University of Pittsburgh, PA One full day. Audience: 100-150 faculty, postdocs and students.
2013	Guest lecturer for BIOST 2055 “Introductory high-throughput genomic data analysis I: data mining and applications, Department of Biostatistics, University of Pittsburgh, PA 5 lectures. Audience: 10-15 PhD students.
2014	Guest lecturer for BIOST 2055 “Introductory high-throughput genomic data analysis I: data mining and applications, Department of Biostatistics, University of Pittsburgh, PA 4 lectures. Audience: 10-15 PhD students.
2014	Guest speaker for medical fellow research seminar “Introduction to Biostatistics in Clinical Research”, Department of Pediatrics, University of Pittsburgh, PA 1 lecture. Audience: 20-25 faculty and fellow.
2015	Guest lecturer for BIOST 2055 “Introductory high-throughput genomic data analysis I: data mining and applications, Department of Biostatistics, University of Pittsburgh, PA 3 lectures. Audience: 10-15 PhD students.
2016	Guest lecturer for BIOST 2055 “Introductory high-throughput genomic data analysis I: data mining and applications, Department of Biostatistics, University of Pittsburgh, PA 3 lectures. Audience: 10-15 PhD students.
2017	Lecturer for Summer School, Center for Statistical Science, Tsinghua

	University, Beijing, China 4 lectures. Audience: 120 graduate students and junior faculty
2018	Guest lecturer for “Fundamentals of Bench Research” course, School of Medicine, University of Pittsburgh, PA 1 lecture. Audience: 10-15 medical fellows.
2019	Guest lecturer for “Fundamentals of Bench Research” course, School of Medicine, University of Pittsburgh, PA 1 lecture. Audience: 10-15 medical fellows.
2020	Guest lecturer for HuGen2080 “Statistical Genetics” Graduate School of Public Health, University of Pittsburgh, PA 1 lecture. Audience: 10-15 PhD students.
2020	Lecturer for summer mini-workshop “Introduction to multi-omics analysis” Department of Pediatrics, School of Medicine, University of Pittsburgh, PA 4 lectures. Audience: 10-15 PhD students from three departments.

MENTORING

Primary/Co-mentoring Advisor:

Date	Name	Position	Achievements/Current Position
2014	Lun-Ching Chang	PHD	Student of the Year, ASA Pittsburgh Chapter Tenure Track Assistant Professor (TTAP), Florida Atlantic University
2014	Shanshan Tu	Student Worker	
2014-2016	Daniel Hui	Student Worker	Chancellor’s Undergraduate Fellowship, UPitt, Honors College Health Sciences Fellowship, UPitt
2014-2017	Qi Yan	Postdoctoral Fellow	CHP RAC Fellowship for Postdoc, NIH K01 award, Tenure Track Assistant Professor, Columbia University
2014-2017	Yi Liu	PHD, GSRA	Mihaela Serban Best Poster Award in ASA Pittsburgh Chapter

			Principle Statistician at Boehringer Ingelheim
2014-2018	Ting Wang	Postdoctoral Fellow	Research Scientist at Fred Hutchinson Cancer Research Center
2014-2018	Zhou (Ark) Fang	PHD, GSRA	Data Scientist at Google
2015-2016	Jerome Lin	GSRA	Bioinformatician at University of Pennsylvania
2016-2019	Zhe Sun	PHD, GSRA	CHP RAC Fellowship, ASHG Reviewer's Choice Poster, ENAR Best Student Paper Award, Outstanding Student Award from School of Public Health Research Scientist at Eli Lilly and Company
2017-2020	Rong Zhang	PHD, GSRA	Mellon Fellowship, ENAR Poster Winner, Biostatistics Manager at Amgen
2017-2018	Yusi Fang	GSRA	
2017-2019	Yale Jiang	Tsinghua-Pitt Joint Program	ATS Abstract Scholarship Award
2017-2019	Ge Yang	Xiangya-Pitt Joint Program	
2017-2020	Tao Sun	PHD, GSRA	CTSI Young Investigator award, ENAR Best Student Paper Award, Student of the Year, ASA Pittsburgh Chapter, Outstanding Teaching Assistant Award, LiDS Best Poster Award, Travel Award by SAMSI, Travel Award to attend (iBRIGHT) conference, Best Presentation Award in the Annual Pitt Biostatistics Research Day, Inducted to the Delta Omega Honor Society Tenure Track Assistant Professor, Renmin University of China
2018-2019	Venkat Gella	Student Worker	

2018-2019	Minyue Liu	Student Worker	
2018-2020	Jianjiao Chen	Postdoctoral Fellow	
2018-2020	Hongyi Xin	Postdoctoral Fellow	ASHG Reviewer's Choice Poster/ Tenure Track Assistant Professor, Shanghai Jiao Tong University
2018-present	Soyeon Kim	Postdoctoral Fellow	NIH K01 award, Research Assistant Professor, University of Pittsburgh
2018-present	Yue Wei	PHD	LIDS Student Paper Award, Honorable Mentions for the Oral Presentation in the Annual Pitt Biostatistics Research Day
2018-present	Tianmeng Chen	PHD	
2019-present	Xinjun Wang	PHD, GSRA	CTSI Young Investigator award, CHP RAC Fellowship
2019-present	Zhongli Xu	Tsinghua-Pitt Joint Program	
2019-present	Dhivyaa Rajasundaram	Research Assistant Professor	
2020-present	Franziska Rosser	Assistant Professor at CHP	Pitt KL2 award
2020-present	Xueping Zhou	PHD	
2020-present	Jipeng Zhang	GSRA	
2020-present	Molin Yue	GSRA	

Committee Member

Date	Name	Position
2013	Umut Ozbek	Biostat PHD
2015	Zhen Zeng	Biostat PHD
2015	Jia Jia	Biostat PHD
2015	Yingda Jiang	Biostat PHD
2015	Sung Hwan Kim	Biostat PHD

2017	Jenna Carlson	Biostat PHD
2017	Ying Shan	Biostat PHD
2018	Rich Biedrzycki	Human Genetics Master
2019	Li Zhu	Biostat PHD
2020	Jeremy Landeo Gutierrez	Medical Fellow
2020	Christina Schutt	Medical Fellow
2020	Oluwabunmi Olaloye	Medical Fellow
2020	Hongchang Gao	Engineering PHD
Ongoing	Wayne Mao	Computational Biology PHD
Ongoing	Zhouyuan Huo	Engineering PHD
Ongoing	Kamran Dizaji	Engineering PHD

RESEARCH

Current Grant Support:

Funding Agency: NSF
 Grant Number: 2029520
 Title of Grant: RAPID: In-Home Automated and Non-Invasive Evaluation of COVID-19 Infection with Commodity Smartphones
 Principal Investigator: Gao W
 Role on Grant: Co-Principal Investigator
 Years Inclusive: 07/01/20-06/31/21
 Percent Effort: 5%
 Amount: \$200,000

Funding Agency: UPMC/CHP
 Title of Grant: UPMC: i4Kids Pilot Grant Application - Acoustic Waveform Respiratory Examination for Pediatric Inflammatory Airway Diseases
 Principal Investigator: Chen W (with Dr. Forno)
 Role on Grant: Principal Investigator
 Years Inclusive: 07/01/20–12/31/21
 Amount: \$44,925

Funding Agency: NEI
 Grant Number: R21EY030488
 Title of Grant: Deep-learning-based prediction of AMD and its progression with GWAS and fundus image data
 Principal Investigator: Chen W (with Dr. Ding)
 Role on Grant: Principal Investigator
 Years Inclusive: 08/01/20–05/31/22
 Percent Effort: 15%
 Amount: \$421,200

Funding Agency:	NHLBI
Grant Number:	R21HL150431
Title of Grant:	Multi-omics Analysis of Childhood Asthma in Hispanics
Principal Investigator:	Chen W (with Dr. Celedon)
Role on Grant:	Principal Investigator
Years Inclusive:	08/15/20–07/31/22
Percent Effort:	10%
Amount	\$234,000
Funding Agency:	National Science Foundation
Grant Number:	2040588
Title of Grant:	NSF Convergence Accelerator Track D: A Trusted Integrative Model and Data Sharing Platform for Accelerating AI-Driven Health Innovation
Principal Investigator:	Li H (Duke University)
Role on Grant:	Co-Principal Investigator
Years Inclusive:	09/15/2020-09/14/2021 (qualified for phase II renewal)
Percent Effort:	8%
Amount:	\$999,737
Title of Grant	Acoustic Waveform Respiratory Examination (AWARE)
Principal Investigator:	Chen W (with Dr. Forno and Dr. Gao)
Role on Grant:	Principal Investigator
Years Inclusive:	01/01/21 - 06/30/22
Amount	\$125,000
Funding Agency:	NIAID
Grant Number:	P01 AI10668406
Title of Grant:	Immune Airway-Epithelial Interactions in Steroid-refractory Severe Asthma
Principal Investigator:	Ray A
Role on Grant:	Core C Deputy Principal Investigator (with Dr. Kolls)
Years Inclusive:	06/01/15–05/31/21
Percent Effort:	10%
Subaward Amount:	\$1,815,769
Funding Agency:	NHLBI
Grant Number:	R01 HL117191
Title of Grant:	Epigenetic variation and childhood asthma in Puerto Ricans
Principal Investigator:	Celedon JC
Role on Grant:	Co-Investigator
Years Inclusive:	05/01/17 – 04/31/21
Percent Effort:	10%
Subaward Amount	\$149,000

Funding Agency: NIMHD
Grant Number: P50 AR06780
Title of Grant: Novel Therapeutics and Precision Medicine in Systemic Sclerosis
Principal Investigator: Robert Lafyatis
Role on Grant: Co-Investigator
Years Inclusive: 07/01/17–06/30/22
Percent Effort: 10%
Subaward Amount: \$124,800

Funding Agency: NIMHD
Grant Number: R01 MD011764
Title of Grant: Epigenetic variation and childhood asthma in Puerto Ricans
Principal Investigator: Celedon JC
Role on Grant: Co-Investigator
Years Inclusive: 08/01/17 – 07/31/21
Percent Effort: 15%
Subaward Amount: \$200,000

Funding Agency: NIDDK
Grant Number: U01 DK062420
Title of Grant: Epigenetic variation and childhood asthma in Puerto Ricans
Principal Investigator: Duerr R
Role on Grant: Co-Investigator
Years Inclusive: 09/30/17 - 08/31/22
Percent Effort: 5%
Subaward Amount: \$315,885

Funding Agency: NHLBI
Grant Number: R01 HL137709
Title of Grant: Epigenetic regulation of chemokines in lung inflammation
Principal Investigator: Kong Chen (University of Pittsburgh)
Role on Grant: Co-Investigator
Years Inclusive: 09/01/18 – 08/31/23
Percent Effort: 5%
Subaward Amount: \$62,400

Funding Agency: NHLBI
Grant Number: R01 HL149693
Title of Grant: Obesity and childhood asthma: the role of adipose tissue
Principal Investigator: Erick Forno (University of Pittsburgh)
Role on Grant: Co-Investigator
Years Inclusive: 03/01/20 – 02/28/25
Percent Effort: 7%

Subaward Amount: \$290,000

Pending Grant Support:

Funding Agency: NHLBI
Grant Number: R01
Title of Grant:
Principal Investigator: Celedon JC
Role on Grant: Co-Investigator
Years Inclusive: 02/01/21–01/31/26
Percent Effort: 5%
Review Percentile 14% (within payline)
Subaward amount: \$78,842

Funding Agency: NIAID
Grant Number: P01
Title of Grant: Immune-Airway Epithelial Interactions in Steroid Refractory Severe Asthma
Principal Investigator: Ray A
Role on Grant: Core C Principal Investigator
Years Inclusive: 02/01/21–01/31/26
Percent Effort: 20%
Review Score: 33
Subaward amount: \$910,000

Prior Grant Support:

Funding Agency: UPMC/University of Pittsburgh Competitive Medical Research Fund
Grant Number: NA
Title of Grant: Novel methods for design and analysis of epigenetics studies of childhood asthma
Principal Investigator: Chen W
Role on Grant: Principal Investigator
Years Inclusive: 09/01/13 – 08/31/15
Percent Effort: NA
Amount \$25,000

Funding Agency: NEI
Grant Number: R01 EY024226
Title of Grant: AMD genetics: methods and analysis for progression, prediction, and association
Principal Investigator: Chen W
Role on Grant: Principal Investigator
Years Inclusive: 04/01/14 – 03/31/19
Percent Effort: 30%

Amount	\$898,595
Funding Agency:	NHGRI
Grant Number:	R01 HG007358
Title of Grant:	Statistical methods for population and family-based whole-genome sequence data
Principal Investigator:	Chen W
Role on Grant:	Principal Investigator
Years Inclusive:	04/25/14 – 01/31/21
Percent Effort:	25%
Amount	\$1,706,461
Funding Agency:	Cystic Fibrosis Foundation Grant
Grant Number:	NA
Title of Grant:	Transcriptomic responses to Kalydeco – role in predicting outcomes
Principal Investigator:	Jay Kolls
Role on Grant:	Co-Principal Investigator
Years Inclusive:	01/01/16 – 12/31/17
Percent Effort:	10%
Amount	\$200,000
Funding Agency:	NHGRI
Grant Number:	R01 HG006857
Title of Grant:	Design and analysis of sequencing studies for gene mapping in families
Principal Investigator:	Li B (Vanderbilt University)
Role on Grant:	Subcontract-PI
Years Inclusive:	06/01/13 – 05/31/17
Percent Effort:	20%
Funding Agency:	NHLBI
Grant Number:	R01 HL117191
Title of Grant:	Epigenetic variation and childhood asthma in Puerto Ricans
Principal Investigator:	Celedon JC
Role on Grant:	Co-Investigator
Years Inclusive:	08/01/13 – 07/31/17
Percent Effort:	20%
Funding Agency:	NIH
Grant Number:	UL1TR001857
Title of Grant:	CTSI Quantitative Methodologies Pilot Program
Principal Investigator:	Chen W
Role on Grant:	Principal Investigator

Years Inclusive:	09/01/19–08/31/20
Percent Effort:	NA
Amount	\$10,000

Other research related activities

- 2009 Co-inventor for Compositions and methods for diagnosing and treating macular degeneration. Patent no.: US 8119348 B2
- 2009-present Reviewer For *New England Journal of Medicine*, *Nature Genetics*, *Nature Methods*, *The American Journal of Respiratory and Critical Care Medicine*, *Nature Communications*, *European Respiratory Journal*, *Genome Research*, *Genome Biology*, *Genome Medicine*, *Nucleic Acid Research*, *American Journal of Human Genetics*, *PloS Genetics*, *Diabetes*, *Microbiome*, *Bioinformatics*, *Briefings in Bioinformatics*, *Biometrics*, *Annals of Applied Statistics*, *Statistics in Medicine*, *BMC Medical Genetics*, *PLoS One*, *Genetic Epidemiology*, *Human Heredity*, *Molecular Vision*, *Acta Ophthalmologica*, *BMC Bioinformatics*, *Gene*, *Methods*, *Oncotarget*, *Scientific Reports* etc.
- 2015 NIH grant reviewer for Children’s Health Exposure Analysis Resource (CHEAR): Data Repository, Analysis and Science Center (U2C). NIEHS, Research Triangle Park, NC.
- 2013-present Member of Statistical Advisory Board, PLOS ONE
- 2016 Guest Associate Editor for PLoS Genetics
- 2018 NIH grant reviewer for NIH Transformative Research Awards study section ZRG1 BCMB-A (51) R
- 2018-2020 Program committee member for European Conference on Computational Biology (ECCB)
- 2019-present Editorial Board Member for American Journal of Respiratory Cell and Molecular Biology
- 2019 NIH grant reviewer for study section in NIEHS
- 2019 NIH grant reviewer for NIH HDM study section
- 2019-Present Special Issue Editor for Clinical eHealth
- 2020 Grant reviewer for NEI supported DRCR.net
- 2020 NIH grant reviewer for NIEHS K99/R00
- 2020 NIH grant reviewer for NEI special panel
- 2020 NIH grant reviewer for GCAT study section
- 2020 ATS Research Grant Review panel
- 2020 Editorial Board Member for American Journal of Respiratory Cell and Molecular Biology
- 2020 Co-inventor for systems and methods for evaluating respiratory function using a smartphone. Provisional patent no.: 63/031,876

LIST of CURRENT RESEARCH INTERESTS

- Development of statistical and computational methods for Genome-wide Association Studies (GWAS) and Next-Generation Sequencing (NGS)
- Multi-omics study of asthma
- Genetic and image study of Age-related Macular Degeneration (AMD)
- Computational methods for single cell RNA-seq data
- Computational methods for Electronic Health Record (EHR) data
- Machine learning and deep learning methods

INVITED SEMINARS AND LECTURESHIPS

Local

2011	Department of Pediatrics, University of Pittsburgh, Pittsburgh, PA
2012	Department of Human Genetics, University of Pittsburgh, Pittsburgh, PA
2014	Department of Developmental Biology, University of Pittsburgh, Pittsburgh, PA
2015	Department of Biomedical Informatics, University of Pittsburgh, Pittsburgh, PA
2016	Department of Computational Biology, Carnegie Mellon University, Pittsburgh, PA
2016	Department of Pediatrics, MMR seminar, University of Pittsburgh, Pittsburgh, PA
2017	Computational Biology orientation week seminar, Department of Computational Biology, University of Pittsburgh, PA
2019	Department of Computational Biology, University of Pittsburgh, Pittsburgh, PA
2019	10X Genomics User Group Conference, Pittsburgh, PA
2020	Department of Human Genetics, University of Pittsburgh, PA
2020	Department of Biomedical Informatics, University of Pittsburgh, Pittsburgh, PA
2020	Department of Biostatistics, University of Pittsburgh, Pittsburgh, PA

National

2011	Department of Biostatistics, University at Buffalo, The State University of New York, Buffalo, NY
2011	Department of Human Genetics, Rutgers University, New Brunswick, NJ
2015	Department of Biostatistics, University at Buffalo, The State University of New York, Buffalo, NY
2016	Center for Quantitative Science, Vanderbilt University, Nashville, TN
2018	Department of Human Genetics, University of Houston, Houston, TX
2018	Department of Statistics, University of Georgia, GA
2019	Department of Biostatistics, University of Minnesota, MN
2020	Center for Statistical Genetics and Genomics, Duke University, Durham, North Carolina
2020	Machine learning seminar, Michigan State University, East Lansing, MI (Postponed due to COVID)
2020	Channing Division of Network Medicine, Harvard Medical School, online

International

2009	The 59th Annual meeting of the American Society of Human Genetics, Honolulu, HI
2009	Joint Statistical Meeting, Washington, DC
2010	The 60th Annual Meeting of the American Society of Human Genetics, Washington, DC
2011	Department of Oncology, Fudan University Shanghai Cancer Center, Shanghai, China
2012	The Annual Meeting of Eastern North American Region Biometric Society, Baltimore, MD
2013	The Annual Meeting of Eastern North American Region Biometric Society, Seattle, WA
2013	Department of Mathematics, Nanjing University, Nanjing, China
2015	Center for Statistical Science of Tsinghua University, Beijing, China
2015	School of Medicine, Sun Yet-San University, Guangzhou, China
2016	The Annual Meeting of Eastern North American Region Biometric Society, Austin, TX
2016	The Third Taihu International Statistics Forum, Shanghai, China
2017	Recomb-seq conference, Hong Kong
2017	Summer School, Center for Statistical Science of Tsinghua University, Beijing, China
2017	Joint Statistical Meeting, Baltimore, MD
2018	The 1st International Symposium on Genomics and Translational Medicine, Suzhou, China
2018	ISRD-ATS joint conference, Xiamen, China
2019	Joint Statistical Meeting, Denver, CO
2019	ISRD-ATS joint conference, Shanghai, China
2019	ICSA International Conference, Hangzhou, China
2020	The Annual Meeting of Eastern North American Region Biometric Society, Nashville, TN
2020	Eminent Scholar Talk, International Conference on Intelligent Biology and Medicine, Philadelphia, Pennsylvania, USA (Postponed due to COVID)
2020	Chinese-American Lung Association Seminar Talk, online

SERVICE

University and Medical School Service

- 2011-present Statistical mentor for division clinical fellows
- 2011-present Statistical consultant for Division, Department and University
- 2012-present Interviewer for division faculty recruitment
- 2012-present Ad-hoc internal reviewer for R01 proposals from School of Medicine
- 2014-present Summer Intern mentor for Children's Hospital of Pittsburgh (CHP)
- 2016-2017 Member of steering committee for CHP core facilities
- 2017-2020 Reviewer for CMRF award
- 2017-present Director of Statistical Genetics Core, Division of Pulmonary Medicine

- 2020 Chair of Faculty Search Committee, Division of Pulmonary Medicine

External Service

- 2013-2014 Abstract reviewer for Bio-Medical Informatics and Cybernetics
- 2015 Invited session chair, Joint Statistical Meeting, 2015, Seattle, WA
- 2016 Invited session organizer and chair, Eastern North American Region Conference 2016, Austin, Texas
- 2016 Invited session chair, International Chinese Statistical Association, Atlanta, GA
- 2017 Invited session chair, Joint Statistical Meeting, 2017, Baltimore, MD
- 2018 Member of Scientific committee, the 1st International Symposium on Genomics and Translational Medicine
- 2018 Organizing committee member for Lifetime Data Science Conference, Pittsburgh
- 2018-present Scientific committee member of The International Symposium on Genomics and Translational Medicine
- 2019 Invited session chair, Lifetime Data Science Conference, Denver, CO
- 2019 Invited session chair, Joint Statistical Meeting, Denver, CO
- 2019 Invited session chair, ICSA International, Hangzhou, China
- 2019-present Editor for special issue on Clinical eHealth
- 2019-present Committee Chair, The Chinese-American Lung Association (CALA)
- 2020-present Scientific Advisory Committee, American Thoracic Society (ATS)