

**University of Pittsburgh
School of Medicine
BIOGRAPHICAL**

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EDUCATION and TRAINING

UNDERGRADUATE

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

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| 2003-2006 | Michigan State University, East Lansing, MI | M.S., 2006 | Mathematics |
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| 2006-2011 | University of Michigan, Ann Arbor, MI | Ph.D., 2011 Mentor: Gonçalo Abecasis | Biostatistics |
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APPOINTMENTS and POSITIONS

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| 8/2011-1/2017 | Department of Pediatrics, School of Medicine, University of Pittsburgh, Pittsburgh, PA, USA | Assistant Professor |
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| 12/2013-1/2017 | Department of Biostatistics | Assistant Professor Secondary |
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| 12/2013-1/2017 | Department of Human Genetics | Assistant Professor Secondary |
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| 5/2014-Present | University of Pittsburgh | Graduate Faculty |
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| 2/2017-Present | Department of Pediatrics | Associate Professor with Tenure |
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| 2/2017-Present | Department of Biostatistics | Associate Professor Secondary |
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| 2/2017-07/2021 | Department of Human Genetics | Associate Professor Secondary |
| 6/2017-Present | Department of Pediatrics | Director of Statistical Genetics Core |
| 8/2021-Present | Department of Pediatrics | Professor with Tenure |

MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES

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|---|--------------|
| 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

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| 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 |

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, Nemes 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, Atsuhiro 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, Armbrrecht 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, Cojocaru 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, Almlı 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.
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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.
- 2017 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.
- 2020 Guest Lecturer for BME 42-620 “Engineering Molecular Cell Biology”,
Department of Biomedical Engineering, Carnegie Mellon University,

Pittsburgh, PA
1 lecture. Audience: 25 Graduate students

2020
Guest Lecturer for Biostat 2069 “Statistical Methods for Omics Data”, Department of Biostatistics, Pittsburgh, PA
Two lectures. Audience: 20+ Graduate students

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, Graduate Student Research Assistant (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 | 2017-2018 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 | 2019 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 | 2020 CTSI Young Investigator award, 2020-2021 CHP RAC Fellowship, ICSA 2020 student paper award, Student of the Year, ASA Pittsburgh Chapter |
| 2019-present | Zhongli Xu | Tsinghua-Pitt Joint Program | ATS abstract scholar ship |
| 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 | |

Thesis 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 | Hongchang Gao | Engineering PHD |
| Ongoing | Wayne Mao | Computational Biology PHD |
| Ongoing | Zhouyuan Huo | Engineering PHD |
| Ongoing | Kamran Dizaji | Engineering PHD |

Scholarship Oversight Committee Member:

| | | |
|-----------|-------------------------|----------------|
| 2019-2020 | Jeremy Landeo Gutierrez | Medical Fellow |
| 2019-2020 | Christina Schutt | Medical Fellow |
| 2019-2020 | Oluwabunmi Olaloye | Medical Fellow |

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: 07/01/20-06/31/22
 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
 Role on Grant: Principal Investigator
 Years Inclusive: 07/01/20–12/31/21
 Percent Effort: NA
 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: Dr. Ding (contact PI)

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 (contact PI)
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: 09/15/2020-09/14/2022 (qualified for phase II renewal)
Percent Effort: 8%
Amount: \$999,737

Funding Agency: University of Pittsburgh, Pitt Innovation Challenge
Title of Grant: Acoustic Waveform Respiratory Examination (AWARE)
Principal Investigator: Dr. Forno (contact PI)
Role on Grant: Principal Investigator
Years Inclusive: 01/01/21 - 06/30/22
Percent Effort: NA
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 Co-investigator
Years Inclusive: 06/01/15–05/31/18
Role on Grant: Core C Principal Investigator (Original Core PI Jay Kolls left Pitt)
Years Inclusive: 06/01/18–05/31/21
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: Exposure to violence, epigenetic variation, and asthma in Puerto Rican children
Principal Investigator: Celedon JC
Role on Grant: Co-Investigator
Years Inclusive: 08/01/17 – 07/31/21
Percent Effort: 10%
Subaward Amount: \$200,000

Funding Agency: NIDDK
Grant Number: U01 DK062420
Title of Grant: IBD genetic consortium genetic research center
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: Chen K
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: Forno E
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-Airay 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

Funding Agency: Merck
Grant Number: RFA
Title of Grant: Severity of SARS-CoV-2 infection in household contacts of patients
with COVID-19: The role of epigenetics
Principal Investigator: Shaikh N
Role on Grant: Co-Principal Investigator
Years Inclusive: 06/01/21–12/31/22
Percent Effort: 5%
Review Score: To be funded awaiting for paper work
Subaward amount: \$80,000

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 – 03/31/18
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 – 01/31/20
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*, *Nature Biotechnology*, *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 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-present Editorial Board Member for American Journal of Respiratory Cell and Molecular Biology
- 2021-present Editorial Board Member for Genome Biology
- 2020 Co-inventor for systems and methods for evaluating respiratory function using a smartphone. Provisional patent no.: 63/031,876
- 2020 Grant reviewer for French National Research Agency
- 2021 Grant reviewer for The Innovation and Technology Commission in Hong Kong

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 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-present Scientific committee member of The International Symposium on Genomics and Translational Medicine
- 2019 Organizing committee member for the international American Statistical Association Lifetime Data Science Conference (LiDS), Pittsburgh, PA
- 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)

- 2020-present Editorial Board for American Journal of Respiratory Cell and Molecular Biology
- 2021-present Editorial Board for Genome Biology