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Research interest: Genetics and genomics of common diseases

Dr. Liangdan Sun is Professor and Director of the Key Laboratory of Dermatology in Hefei, the Ministry of Education, Director of Department of Research and Development (R&D) of the First Affiliated Hospital, Anhui Medical University, Visiting Scholar of the University of Colorado and the Royal Swedish Academy of Engineering Sciences. His researches focus on the genetic and genomic studies of diseases. Dr. Sun has identified more than 200 susceptibility genes and diagnostic biomarkers for 40 diseases and has constructed the unique precision variation database of the whole Human Leukocyte Antigens (HLA) based on 10,000 samples in the Chinese population. Through the genome-wide association and sequencing study, he has constructed the genome-wide variation maps for different diseases, demonstrated the mechanisms of genetic susceptibilities and etiologies, which will provide the necessary evidence for the precision medicine of these diseases. Dr. Sun has published over 170 papers, including those in *Nat Genet*, *New Engl J Med*, and *Nat Commun*, and has been cited more than 6,300 times, including by publications in *Nature*, *Cell*, *New Engl J Med*.

Selected publications

1. **Sun LD**, Cheng H, Wang ZX, Zhang AP, Wang PG, Xu JH, Zhu QX, Zhou HS, Ellinghaus E, Zhang FR, Pu XM, Yang XQ, Zhang JZ, Xu AE, Wu RN, Xu LM, Peng L, Helms CA, Ren YQ, Zhang C, Zhang SM, Nair RP, Wang HY, Lin GS, Stuart PE, Fan X, Chen G, Tejasvi T, Li P, Zhu J, Li ZM, Ge HM, Weichenthal M, Ye WZ, Zhang C, Shen SK, Yang BQ, Sun YY, Li SS, Lin Y, Jiang JH, Li CT, Chen RX, Cheng J, Jiang X, Zhang P, Song WM, Tang J, Zhang HQ, Sun L, Cui J, Zhang LJ, Tang B, Huang F, Qin Q, Pei XP, Zhou AM, Shao LM, Liu JL, Zhang FY, Du WD, Franke A, Bowcock AM, Elder JT, Liu JJ, Yang S, and Zhang XJ. Association analyses identify six new psoriasis susceptibility loci in the Chinese population. *Nat Genet* 2010, 42(11): 1005-9.
2. **Sun LD**, Xiao FL, Li Y, Zhou WM, Tang HY, Tang XF, Zhang H, Schaarschmidt H, Zuo XB, Foelster-Holst R, He SM, Shi M, Liu Q, Lv YM, Chen XL, Zhu KJ, Guo YF, Hu DY, Li M, Li M, Zhang YH, Zhang X, Tang JP, Guo BR, Wang H, Liu Y, Zou XY, Zhou FS, Liu XY, Chen G, Ma L, Zhang SM, Jiang AP, Zheng XD, Gao XH, Li P, Tu CX, Yin XY, Han XP, Ren YQ, Song SP, Lu ZY, Zhang XL, Cui Y, Chang J, Gao M, Luo XY, Wang PG, Dai X, Su W, Li H, Shen CP, Liu SX, Feng XB, Yang CJ, Lin GS, Wang ZX, Huang JQ, Fan X, Wang Y, Bao YX, Yang S, Liu JJ, Franke A, Weidinger S, Yao ZR, Zhang XJ. Genome-wide association study identifies two new susceptibility loci for atopic dermatitis in the Chinese Han population. *Nat Genet*. 2011 Jun 12;43 (7):690-4.
3. Zhou F, Cao H, Zuo X, Zhang T, Zhang X, Liu X, Xu R, Chen G, Zhang Y, Zheng X, Jin X, Gao J, Mei J, Sheng Y, Li Q, Liang B, Shen J, Shen C, Jiang H, Zhu C, Fan X, Xu F, Yue M, Yin X, Ye C, Zhang C, Liu X, Yu L, Wu J, Chen M, Zhuang X, Tang L, Shao H, Wu L, Li J, Xu Y, Zhang Y, Zhao S, Wang Y, Li G, Xu H, Zeng L, Wang J, Bai M, Chen Y, Chen W, Kang T, Wu Y, Xu X, Zhu Z, Cui Y, Wang Z, Yang C, Wang P, Xiang L, Chen X, Zhang A, Gao X, Zhang F, Xu J, Zheng M, Zheng J, Zhang J, Yu X, Li Y, Yang S, Yang H, Wang J, Liu J, Hammarström L, **Sun L**, Wang J, Zhang X. Deep sequencing of the MHC region in the Chinese population contributes to studies of complex disease. *Nat Genet*. 2017 Jul;48(7):740-6.
4. Wang C, Zheng X, Jiang P, Tang R, Gong Y, Dai Y, Wang L, Xu P, Sun W, Wang L, Han C, Jiang Y, Wei Y, Zhang K, Wu J, Shao Y, Gao Y, Yu J, Hu Z, Zang Z, Zhao Y, Wu X, Dai N, Liu L, Nie J, Jiang B, Lin M, Li L, Li Y, Chen S, Shu L, Qiu F, Wu Q, Zhang M, Chen R, Jawed R, Zhang Y, Shi X, Zhu Z, Pei H, Huang L, Zhao W, Tian Y, Zhu X, Qiu H, Gershwin ME, Chen W, Seldin MF, Liu X, **Sun L**, Ma X. Genome-wide

- Association Studies of Specific Antinuclear Autoantibody Subphenotypes in Primary Biliary Cholangitis. *Hepatology*. 2019 Jul;70(1):294-307.
5. Sheng Y, Jin X, Xu J, Gao J, Du X, Duan D, Li B, Zhao J, Zhan W, Tang H, Tang X, Li Y, Cheng H, Zuo X, Mei J, Zhou F, Liang B, Chen G, Shen C, Cui H, Zhang X, Zhang C, Wang W, Zheng X, Fan X, Wang Z, Xiao F, Cui Y, Li Y, Wang J, Yang S, Xu L, **Sun L**, Zhang X. Sequencing-based approach identified three new susceptibility loci for psoriasis. *Nat Commun*. 2014 Jul 9; 5:4331.
 6. Yu Y, Zuo X, He M, Gao J, Fu Y, Qin C, Meng L, Wang W, Song Y, Cheng Y, Zhou F, Chen G, Zheng X, Wang X, Liang B, Zhu Z, Fu X, Sheng Y, Hao J, Liu Z, Yan H, Mangold E, Ruczinski I, Liu J, Marazita ML, Ludwig KU Beaty TH, Zhang X, **Sun L**, Bian Z. Genome-wide analyses of non-syndromic cleft lip with palate identify 14 novel loci and genetic heterogeneity. *Nat Commun*. 2017 Feb 24;8:14364.
 7. Zhou F, Wang W, Shen C, Li H, Zuo X, Zheng X, Yue M, Zhang C, Yu L, Chen M, Zhu C, Yin X, Tang M, Li Y, Chen G, Wang Z, Liu S, Zhou Y, Zhang F, Zhang W, Li C, Yang S, **Sun L**, Zhang X. Epigenome-wide association analysis identified nine skin DNA methylation loci for psoriasis. *J Invest Dermatol*. 2016 Apr;136(4):779-87.
 8. Wang C, Zheng X, Tang R, Han C, Jiang Y, Wu J, Shao Y, Gao Y, Yu J, Hu Z, Zang Z, Zhao Y, Dai N, Liu L, Wu X, Nie J, Jiang B, Lin M, Li L, Wei Y, Li Y, Gong Y, Dai Y, Wang L, Ding N, Xu P, Chen S, Jiang P, Wang L, Qiu F, Wu Q, Zhang M, Jawed R, Chen R, Zhang Y, Shi X, Zhu Z, Pei H, Huang L, Tian Y, Zhang K, Qiu H, Zhao W, Gershwin ME, Chen W, Seldin MF, Liu X, Ma X, **Sun L**. Fine mapping of the MHC region identifies major independent variants associated with Han Chinese primary biliary cholangitis. *J Autoimmun*. 2019 Dec 3:102372. doi: 10.1016 /j.jaut.2019. 102372.
 9. Zhen Q, Yang Z, Wang W, Li B, Bai M, Wu J, Ge H, Dong Z, Shen J, Tang H, Sun S, Qiu Y, Xu J, Qu X, Wang Y, Yi M, Hu H, Xu Y, Cheng H, Liang B, Gao J, Shao H, Jiang Z, Gao Q, **Sun L**. Genetic Study on Small Insertions and Deletions in Psoriasis Reveals a Role in Complex Human Diseases. *J Invest Dermatol*. 2019 Nov; 139(11):2302-2312.e14.
 10. Gao J, Zhu C, Zhang Y, Sheng Y, Yang F, Wang W, Qian W, Chen S, Zhu Q, Zuo X, Tang H, Tang X, Li Y, Cheng H, Zhou F, Liu S, Chen G, Zheng X, Zhu Z, Wang Z, Yang S, Luo X, Ye D, Zhang X, **Sun L**. Association Study and Fine-Mapping Major Histocompatibility Complex Analysis of Pemphigus Vulgaris in a Han Chinese Population. *J Invest Dermatol*. 2018 Nov;138(11):2307-2314.