Jingyi Jessica Li

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Department of Statistics   E-mail: jli@stat.ucla.edu

University of California, Los Angeles, CA 90095-1554 USA

Homepage: http://jsb.ucla.edu/

RESEARCH INTERESTS

My research is at the interface between statistics and biology. My primary research interest lies in developing new statistical methods for understanding biological questions, especially those related to large-scale genomic and transcriptomic data. The specific topics I have examined include
Bioinformatics:

- Computational method development for imputation and differential expression analysis of single-cell RNA sequencing data
- Statistical modeling of next-generation RNA sequencing data to identify and quantify full-length mRNA transcripts
- Using statistics to quantitate the Central Dogma
- Comparison of transcriptomes and/or epigenomes of various tissues and cells to reveal tissue/cell-associated genes and/or functional elements

Statistics:

- Neyman-Pearson (NP) classification: an umbrella algorithm; NP receiver operating characteristics (NP-ROC); feature ranking
- Measure of dependence: a generalized R^2
- Hierarchical modeling to extract consistent information from multiple replicate samples
- Confidence intervals of coefficients in a high-dimensional linear model

EMPLOYMENT

2019 -	Associate Professor (tenured), University of California, Los Angeles
2013 - 2019	Assistant Professor, University of California, Los Angeles

Department of Statistics (primary appointment)
Department of Human Genetics (secondary appointment)
Department of Biomathematics (secondary appointment)
Interdepartmental Ph.D. Program in Bioinformatics
Institute for Quantitative and Computational Biosciences (QCB)
Gene Regulation Program Area, Jonsson Comprehensive Cancer Center
Director, Center of Statistical Research for Computational Biology (CSRCB)

EDUCATION

2013   Ph.D. in Biostatistics, with Designated Emphasis in Computational Biology
            Thesis: Statistical Methods for Analyzing High-throughput Biological Data
            Advisers: Peter J. Bickel and Haiyan Huang
            University of California, Berkeley, CA

2007   B.S. in Biological Sciences (summa cum laude), with minor in English
            Tsinghua University, China

HONORS AND AWARDS

2019	CAREER Award, National Science Foundation
2018	Physical Sciences Entrepreneurship and Innovation Fund Fellowship, UCLA
2018	Junior Researcher Paper Award, International Chinese Statistical Association (ICSA) China Conference
2018	Math Scholar Award, Johnson & Johnson Women in STEM^{2}D (Science, Technology, Engineering, Math, Manufacturing and Design) Program (one winner per category, selected among 525 applications from 35 countries)
2018	Sloan Research Fellowship, Sloan Foundation
2017	Research Starter Award in Informatics, PhRMA Foundation
2016	Affordable Course Materials Initiative Award, UCLA
2016	Faculty Research Grant / Trans-disciplinary Seed Grant, UCLA
2016	Chancellor's Award for Teaching a *Fiat Lux* Freshman Seminar, UCLA
2015	Hellman Fellow, Hellman Foundation
2015	Faculty Career Development Award, UCLA
2013	ISCB Travel Fellowship for RECOMB 2013 (17th Annual International Conference on Research in Computational Molecular Biology)
2013	Chinese Government Award for Outstanding Self-financed Students Aboard, China Scholarship Council
2012	International Dissertation Field Work Grant, Institute of International Studies, UC Berkeley
2011	Stipend Awards in Recognition of Scholastic Achievements, Division of Biostatistics, UC Berkeley
2011	Best Presentation Award - CSHA Fellowship, Cold Spring Harbor Asia Conferences: Bioinformatics of Human and Animal Genomics, Suzhou, China
2010	Outstanding Graduate Student Instructor Award, UC Berkeley
2007	Distinguished Graduate of Class 2007, Tsinghua University
2007	Outstanding Undergraduate Thesis, Tsinghua University
2006	"12.9" Fellowship (awarded to ~30 students selected from all majors), Tsinghua University
2006	Role-Model College Student of Beijing
2004 - 2006	Merit-based Fellowships (awarded to top 1% student in each department), Tsinghua University

GRANTS

CURRENT

DBI 1846216   **07/01/2019 – 06/30/2024**
NSF $599,611
"CAREER: Advancing the Bioinformatic Infrastructure and Methodology for Single-cell RNA Sequencing"

Physical Sciences Entrepreneurship and Innovation Fund (PSEIF) Fellowship
                                                              09/07/2018 – 09/06/2019
UCLA $100,000
"A flexible simulator for single-cell RNA sequencing experimental design"

Sloan Research Fellowship   **09/15/2018 – 09/14/2020**
Alfred P. Sloan Foundation $65,000

Johnson & Johnson Women in STEM^{2}D Scholar Award   **01/21/2018 – 01/21/2021**
Johnson & Johnson $150,000
"Statistical modeling to quantitate the central dogma"

R01 GM120507 (PI: Li)   **09/01/2016 – 05/31/2021**
NIH / NIGMS $1,667,725
"Robust Identification and accurate quantification of RNA transcripts on a system wide scale"

DMS 1613338 (Co-PI; PI: Tong)   **08/15/2016 – 08/14/2019**
NSF $120,000 (Li: $40,215)
"Development of a general classification framework under the Neyman-Pearson Paradigm, with biomedical and social applications"

COMPLETED

PhRMA Foundation Research Starter Grant in Informatics   **01/15/2017 – 01/14/2018**
PhRMA Foundation $100,000
"Computational Methods for Comparing Large-scale Epigenomic Data and Sequences"

Faculty Research Grant / Trans-disciplinary Seed Grant (PI: Li)   **07/01/2016 – 06/30/2017**
UCLA $6,600

Chancellor's Award for Teaching a *Fiat Lux* Freshman Seminar (PI: Li)
                                                        07/01/2016 – 06/30/2017
UCLA $1,500

DMS 1557727 (MPI Li/Abrams/Kang/Long/Shah)   **09/15/2015 – 08/31/2016**
NSF $100,000 (Li: $33,762)
"QuBBD: Collaborative Research: Advancing mHealth using Big Data Analytics: Statistical and Dynamical Systems Modeling of Real-Time Adaptive m-Intervention for Pain"

Hellman Fellows Award (PI: Li)   **07/01/2015 – 06/30/2016**
Hellman Foundation $17,837
"A new statistical measure to capture complex gene interactions from massive genomic data"

Faculty Career Development Award (PI: Li)   **07/01/2015 – 06/30/2016**
UCLA $10,000

PUBLICATIONS

Google Scholar: https://scholar.google.com/citations?hl=en&user=6FHAoRoAAAAJ

* co-first authors   **+** corresponding authors   __ trainees

RESEARCH PAPERS

PUBLISHED

1. Liu, H., <u>Xu, X.</u>, and **Li, J.J.**$^+$ (2019). A bootstrap lasso + partial ridge method to construct confidence intervals for parameters in high-dimensional sparse linear models. ***Statistica Sinica*** (in press).

2. Li, W.V.*, Li, S.*, Tong, X., Deng, L., Shi, H.[+], and **Li, J.J.**[+] (2018). AIDE: a statistical method for annotation-based isoform discovery and abundance estimation from RNA-seq data. ***Genome Research*** (in press).

3. **Li, J.J.**[+], Chew, G.L., and Biggin, M.D.[+] (2019). Principles of *cis*-translational control by general mRNA features in six model eukaryotes. ***Genome Biology*** 20:162.

4. Li, W.V. and **Li, J.J.**[+] (2019). A statistical simulator scDesign for rational scRNA-seq experimental design. ***Bioinformatics*** 35(14):i41–i50.
   - Accepted by the Conference on Intelligent Systems for Molecular Biology (ISMB) and the European Conference on Computational Biology (ECCB) 2019

5. Ge, X.*, Zhang, H.*, Xie, L., Li, W.V., Kwon, S.B., and **Li, J.J.**[+] (2019). EpiAlign: an alignment-based bioinformatic tool for comparing chromatin state sequences. ***Nucleic Acids Research*** gkz287.

6. Razaee, Z., Amini, A., and **Li, J.J.** (2019). Matched bipartite block model with covariates. ***Journal of Machine Learning Research*** 20:1-44.

7. Duong, D.[+], Ahmad, W.U., Eskin, E., Chang, K.-W., and **Li, J.J.**[+] (2019). Word and sentence embedding tools to measure semantic similarity of Gene Ontology terms by their definitions. ***Journal of Computational Biology*** 26(1):38-52. PubMed PMID: 30383443; PubMed Central PMCID: PMC6350067.

8. Burke, J., Longhurst, A., Merkurjev, D., Sales-Lee, J., Rao, B., Moresco, J., Yates, J., **Li, J.J.**, and Madhani, H.D. (2018). Spliceosome profiling visualizes the operations of a dynamic RNP in vivo at nucleotide resolution. ***Cell*** 173(4):1014-1030.e17. PubMed PMID: 29727661; PubMed Central PMCID: PMC5940017.

9. Li, W.V.*, Zhao, A., Zhang, S.[+], and **Li, J.J.***[+] (2018). MSIQ: joint modeling of multiple RNA-seq samples for accurate isoform quantification. ***The Annals of Applied Statistics*** 12(1):510-539. PubMed PMID: 29731954; PubMed Central PMCID: PMC5935499.

10. Li, W.V. and **Li, J.J.**[+] (2018). An accurate and robust imputation method scImpute for single cell RNA-seq data. ***Nature Communications*** 9:997. PubMed PMID: 29520097; PubMed Central PMCID: PMC5843666.

11. Tong, X.[+], Feng, Y., and **Li, J.J.**[+] (2018). Neyman-Pearson classification algorithms and NP receiver operating characteristics. ***Science Advances*** 4(2):eaao1659. PubMed PMID: 29423442; PubMed Central PMCID: PMC5804623.

12. Zhang, Y., Harris, C.J., Liu, Q., Liu, W., Ausin, I., Long, Y., Xiao, L., Feng, L., Chen, X., Xie, Y., Chen, X., Zhan, L., Feng, S., **Li, J.J.**, Wang, H., Zhai, J., and Jacobsen. S.E. (2018). Large-scale comparative epigenomics reveals hierarchical regulation of non-CG methylation in *Arabidopsis*. ***Proc Natl Acad Sci. USA*** 115(5):E1069-E1074. PubMed PMID: 29339507; PubMed Central PMCID: PMC5798360.

13. **Li, J.J.**[+], Chew, G.L., and Biggin, M.D.[+] (2017). Quantitating translational control: mRNA abundance-dependent and independent contributions and the mRNA sequences that specify them. ***Nucleic Acids Research*** 45(20):11821-11836. PubMed PMID: 29040683; PubMed Central PMCID: PMC5714229.
   - Highlight talks at the International Conference on Research in Computational Molecular Biology (RECOMB) 2018 and the Conference on Intelligent Systems for Molecular Biology (ISMB) 2018

14. Jonassaint, C.R., Kang, C., Abrams, D.M., **Li, J.J.**, <u>Mao, J.</u>, <u>Jia, Y.</u>, Long, Q., Sanger M., Jonassaint, J.C., De Castro, L., and Shah, N. (2017). Understanding patterns and correlates of daily pain using the sickle cell disease mobile application to record symptoms via technology (SMART). ***British Journal of Hematology***. PubMed PMID: 29076140.

15. Clifton, S.M., Kang, C.[+], **Li, J.J.[+]**, Long, Q., Shah, N., and Abrams, D.M.[+] (2017). Hybrid statistical and mechanistic mathematical model guides mobile health intervention for chronic pain. ***Journal of Computational Biology*** 24(7):675-688. PubMed PMID: 28581814; PubMed Central PMCID: PMC5510708.

16. <u>Li, W.V.</u>, <u>Chen, Y.</u>, and **Li, J.J.[+]** (2017). TROM: A testing-based method for finding transcriptomic similarity of biological samples. ***Statistics in Biosciences*** 9(1):105-136. PubMed PMID: 28781712; PubMed Central PMCID: PMC5542419.

17. <u>Gao, R.</u> and **Li, J.J.[+]** (2017). Correspondence of *D. melanogaster* and *C. elegans* developmental stages revealed by alternative splicing characteristics of conserved exons. ***BMC Genomics*** 18(1):234. PubMed PMID: 28302059; PubMed Central PMCID: PMC5353869.

18. Yang, Y.*, Yang, Y.C.T.*, Yuan J., Lu, Z.J.[+], and **Li, J.J.[+]** (2017). Large-scale mapping of mammalian transcriptomes identifies conserved genes associated with different cell states. ***Nucleic Acids Research*** 45(4):1657-1672. PubMed PMID: 27980097; PubMed Central PMCID: PMC5389511.

19. <u>Ye, Y.</u> and **Li, J.J.[+]** (2016). NMFP: a non-negative matrix factorization based preselection method to increase accuracy of identifying mRNA isoforms from RNA-seq data. ***BMC Genomics*** 17(Supp 1):11. PubMed PMID: 26818007; PubMed Central PMCID: PMC4895266.

20. <u>Li, W.V.</u>, <u>Razaee, Z.S.</u>, and **Li, J.J.[+]** (2016). Epigenome overlap measure (EPOM) for comparing tissue/cell types based on chromatin states. ***BMC Genomics*** 17(Supp 1):10. PubMed PMID: 26817822; PubMed Central PMCID: PMC4895267.

21. Liu, Z., Dai, S., Bones, J., Ray, S., Cha, S., Karger, B. L., **Li, J.J.**, Wilson, L., Hinckle, G., and Rossomando, A. (2015). A quantitative proteomic analysis of cellular responses to high glucose media in Chinese hamster ovary cells. ***Biotechnology Progress*** 31(4):1026-38. PubMed PMID: 25857574.

22. **Li, J.J.** and Biggin, M.D. (2015). Statistics requantitates the central dogma. ***Science*** 347(6226):1066-1067. PubMed PMID: 25745146.

23. Gerstein, M.B.*, Rozowsky, J.*, Yan, K.K.*, Wang, D.*, Cheng, C.*, Brown, J.B.*, Davis, C.A.*, Hillier, L.*, Sisu, C.*, **Li, J.J.***, Pei, B.*, Harmanci, A.O.*, Duff, M.O.*, Djebali, S.*, and 82 other authors from the modENCODE consortium (2014). Comparative analysis of the transcriptome across distant species. ***Nature*** 512(7515):445-448. PubMed PMID: 25164755; PubMed Central PMCID: PMC4155737.

24. Boyle, A., Araya, C., Brdlik, C., Cayting, P., Cheng, C., Cheng, Y., Gardner, K., Hillier, L., Janette, J., Jiang, L., Kasper, D., Kawli, T., Kheradpour, P., Kundaje, A., **Li, J.J.**, and 25 other authors from the modENCODE and ENCODE consortia (2014). Comparative analysis of regulatory information and circuits across distant species. ***Nature*** 512(7515):453-456. PubMed PMID: 25164757; PubMed Central PMCID: PMC4336544.

25. **Li, J.J.**, Huang, H., Bickel, P.B., and Brenner, S.E. (2014). Comparison of D. melanogaster and C. elegans developmental stages, tissues, and cells by modENCODE RNA-seq data. ***Genome***

Research 24(7):1086-1101. PubMed PMID: 24985912; PubMed Central PMCID: PMC4079965.
   - Top 10 papers selected at the 2014 RECOMB/ISCB Conference on Regulatory & Systems Genomics

26. **Li, J.J.**, Bickel, P.B., and Biggin, M.D. (2014). System wide analyses have underestimated protein abundances and transcriptional importance in mammals. *PeerJ* 2:e270. PubMed PMID: 24688849; PubMed Central PMCID: PMC3940484.
   - "PeerJ Picks 2015" Collection
   - "Top Bioinformatics Papers - June 2015" Collection

27. Fisher, W.W., **Li, J.J.**, Hammonds, A.S., Brown, J.B., Pfeiffer, B., Weiszmann, R., MacArthur, S., Thomas, S., Stamatoyannopoulos, J.A., Eisen, M.B., Bickel, P.B., Biggin, M.D., and Celniker, S.E. (2012). DNA regions bound at low occupancy by transcription factors do not drive patterned reporter gene expression in Drosophila. *Proc Natl Acad Sci. USA* 109(52):21330-21335. PubMed PMID: 23236164; PubMed Central PMCID: PMC3535648.

28. The ENCODE Project Consortium (2012). An integrated encyclopedia of DNA elements in the human genome. *Nature* 489(7414):57-74. PubMed PMID: 22955616; PubMed Central PMCID: PMC3439153.

29. Gao, Q., Ho, C., Jia, Y., **Li, J.J.**, and Huang, H. (2012). Biclustering of linear patterns in gene expression data (CLiP). *Journal of Computational Biology* 19(6):619-631. PubMed PMID: 22697238; PubMed Central PMCID: PMC3375643.

30. Li, J., **Li, J.**, and Chen, B. (2012). Oct4 was a novel target of Wnt signaling pathway. *Molecular and Cellular Biochemistry* 362:233-240. PubMed PMID: 22120493.

31. **Li, J.J.**, Jiang, C.-R., Brown, B.J., Huang, H., and Bickel, P.J. (2011). Sparse linear modeling of RNA-seq data for isoform discovery and abundance estimation. *Proc Natl Acad Sci. USA* 108(50):19867-19872. PubMed PMID: 22135461; PubMed Central PMCID: PMC3250192.

32. MacArthur, S.*, Li, X.Y.*, **Li, J.***, Brown, J.B., Chu, H.C., Zeng, L., Grondona, B.P., Hechmer, A., Simirenko, L., Keranen, S.V., Knowles, D.W., Stapleton, M., Bickel, P., Biggin, M.D., and Eisen, M.B. (2009). Developmental roles of 21 Drosophila transcription factors are determined by quantitative differences in binding to an overlapping set of thousands of genomic regions. *Genome Biology* 10:R80. PubMed PMID: 19627575; PubMed Central PMCID: PMC2728534.
   - Highly accessed article on BioMed Central
   - Faculty of 1000 recommendation

SUBMITTED

33. **Li, J.J.[+]**, Tong, X., and Bickel, P.J. (2018). Generalized R^2 measures for a mixture of bivariate linear dependences. arXiv preprint. Under review at *Journal of American Statistical Association*.

34. Chen, Y., Tong, X., and **Li, J.J.[+]** (2018). A general model selection criterion under the Neyman-Pearson binary classification paradigm. arXiv preprint. Under review at *Journal of American Statistical Association*.

MANUSCRIPTS

35. Sun, Y., Zhou, H.J., and **Li, J.J.[+]** (2019). A tight spectral clustering algorithm for bipartite networks with node covariates.

36. <u>Jiang, R.</u>, <u>Li, W.V.</u>, and **Li, J.J.**[+] (2019). An accurate and robust imputation method MBImpute for microbiome data.

REVIEWS

37. **Li, J.J.**[+] (2019). Review of "Statistical modeling and machine learning for molecular biology" by Moses, A.M. ***The American Statistician*** 73(1):103-104.

38. <u>Li, W.V.</u> and **Li, J.J.**[+] (2018). Modeling and analysis of RNA-seq data: a review from a statistical perspective. ***Quantitative Biology*** 6(3):195-209.

39. Tong, X. and **Li, J.J.** (2017). Discussion of "Random-projection ensemble classification" by Cannings, T.I. and Samworth, R.J. ***Journal of the Royal Statistical Society: Series B*** 79(4):1025-1026.

BOOK CHAPTERS

40. **Li, J.J.** and Tong, X. (2016). Genomic Applications of the Neyman-Pearson Classification Paradigm. *Big Data Analytics in Genomics*. Springer (New York). DOI: 10.1007/978-3-319-41279-5; eBook ISBN: 978-3-319-41279-5; Hardcopy ISBN: 978-3-319-41278-8.

41. **Li, J.J.**, Huang, H., Qian, M., and Zhang, X. (2015). Chapter 24: Transcriptome analysis using next-generation sequencing data. *Advanced Medical Statistics* (2nd Edition). World Scientific Publishing Co. ISBN-10: 9814583294; ISBN-13: 978-9814583299.

THESIS

42. **Li, J.J.** (2013). Statistical Methods for Analyzing High-throughput Biological Data. Ph.D. Thesis, University of California, Berkeley.

TEACHING

UNDERGRADUATE COURSES

<u>UCLA</u> **(as Instructor)**
STAT 19: Freshman Fiat Lux Seminar "Introduction to Modern Genomics Technologies" Spring 2016
STAT 20: Lower-division Course "Introduction to Statistical Programming with R" Winter 2016
STAT 100B: Upper-division Course "Introduction to Mathematical Statistics" Winter 2014, Winter 2016, Spring 2017

<u>UC Berkeley</u> **(as Graduate Student Instructor)**
STAT 131A: Upper-division Course "Statistical Inferences for Social and Life Scientists" Instructor: Haiyan Huang, Department of Statistics, Spring 2009

GRADUATE COURSES

<u>UCLA</u> **(as Instructor)**
STAT 200C: PhD-level course "Large Sample Theory, Including Resampling" Spring 2016, Winter 2017 (renamed as STAT 203), Spring 2019
STAT 205: PhD-level course "Hierarchical Linear Models" Winter 2017, Fall 2017, Fall 2018, Fall 2019
STAT 207: PhD-level course "Statistical Learning with Sparsity" Spring 2018

STAT M254 / BIOINFO M223
> PhD-level Course "Statistical Methods in Computational Biology"
> Spring 2014-2019, Fall 2019

STAT 290:   Seminar Course "Current Literature in Statistics"
> Fall 2014, Winter 2014, Spring 2015

STAT 402:   MAS-level course "Applied Regression"
> Fall 2016

BIOINFO 201: Seminar Course "Advanced Methods in Computational Biology"
> Spring 2019, Fall 2019

<u>Tsinghua University, China</u> (as Instructor)
Summer Course "Biostatistical Methods with Applications in Biology," School of Life Sciences,
> Summer 2014, Summer 2016

<u>Chinese Academy of Sciences</u> (as Instructor)
Summer Course "Biological Big Data and Data Mining," Academy of Mathematics and Systems
> Science, Summer 2016

<u>UC Berkeley</u> (as Graduate Student Instructor)
STAT 200B: Master-level Course "Introduction to Probability and Statistics at an Advanced Level"
> Instructor: Cari Caufman, Department of Statistics, Spring 2010

STAT 210A: PhD-level Course "Theoretical Statistics"
> Instructor: Haiyan Huang, Department of Statistics, Fall 2010

STAT 215A: PhD-level Course "Statistical Models: Theory and Application"
> Instructor: Bin Yu, Department of Statistics, Fall 2012

ADVISING

GRADUATE STUDENTS

- Wenbin Guo (2018 -)   PhD student in Bioinformatics at UCLA
- Heather Zhou (2018 -)   PhD student in Statistics at UCLA
- Kexin Li (2018 -)   PhD student in Statistics at UCLA
- Leroy Bondhus (Fall 2018)   PhD rotation student in Human Genetics at UCLA
- Tianyi Sun (2017 -)   PhD student in Statistics at UCLA
- Nan Xi (2017 -)   PhD student in Statistics at UCLA
- Soo Bin Kwon (Spring 2017)   Ph D rotation student in Bioinformatics at UCLA
- Lingyu Zhan (Winter 2017)   PhD rotation student in Gene Regulation at UCLA
- Xinzhou Ge (2016 -)   MS student in Statistics at UCLA
- Yiling Chen (2016 -)   PhD student in Statistics at UCLA
- Xinyuan Chen (Fall 2016)   PhD rotation student in Human Genetics at UCLA
- Mudra Choudhury (Fall 2016)   PhD rotation student in Bioinformatics at UCLA
- Surui Sun (2015 -):   MS student in Statistics at UCLA
- Yidan Sun (2015 -):   PhD student in Statistics at UCLA
- Jiaping Zhu (2015 -)   PhD student in Statistics at UCLA
- Douglas Arneson (Winter 2015):   PhD rotation student in Bioinformatics at UCLA
- Wei Li (2014 -):   PhD student in Statistics at UCLA
- Zahra Razaee (2014 - 2017):   PhD student in Statistics at UCLA
- Arturo Ramirez (2013 - 2015):   MS student in Statistics at UCLA

UNDERGRADUATE STUDENTS

- Dehong Xu (2018)   Visiting CSST student from Beijing University of Posts and Telecommunications
- Kexin Li (2017)   Visiting student from Tsinghua University, China
- Yue Cui (2016 - 2017):   Statistics major at UCLA
- Longsheng Qian (2016 - 2017): Math/Econ major at UCLA
- Qianhao Yu (2016 - 2017):   Applied Math & Statistics major at UCLA
- Jingwei Song (2016 - 2017):   Statistics major at UCLA
- Yumeng Ma (2016):   Visiting student from Tsinghua University, China
- Tianyi Sun (2016):   Visiting student from Tsinghua University, China
- Yushi Tang (2016):   Visiting CSST student from Peking University, China
- Yuqi Tian (2016):   Summer student from Xiamen University, China
- Yiling Chen (2015 - 2016):   Math/Applied Science major at UCLA
- Yimeng Jia (2015 - 2016):   Statistics major at UCLA
- Jason Mao (2015 - 2016):   Statistics major at UCLA
- Ruiqi Gao (2015 - 2016):   Visiting student from Peking University, China
- Xin Xu (2014 - 2015):   Visiting CSST student from Nankai University, China
- Yuting Ye (2014 - 2015):   Visiting student from Tsinghua University, China
- Chang Ding (Spring, Fall 2014): Mathematics/Economics major at UCLA

THESIS COMMITTEES

PhD in Statistics:
- As the committee chair
  - Zahra Razaee   (2016 -)
  - Wei Li   (2016 -)
  - Yidan Sun   (2017 -)
  - Jiaping Zhu   (2017 -)
  - Yiling Chen   (2017 -)
  - Nan Xi   (2018 -)
  - Ruochen Jiang   (2018 -)
  - Xinzhou Ge   (2018 -)
  - Tianyi Sun   (2019 -)
- As a committee member
  - Nikhyl Bryon Aragam (2013 - 2015)
  - Jianwen Xie   (2015 - 2016)
  - Qian Xiao   (2014 - 2017)
  - Joshua Gordon   (2015 - 2017)
  - Seunghyun Min   (2016 -)
  - Levon Demirdjian   (2016 - 2018)
  - Zhixin Zhou   (2017 - 2018)
  - Kun Zhou   (2017 -)
  - Yifei Xu   (2019 -)

PhD in other majors:
  - Yun-hua Hsiao   (Bioengineering, 2014 - 2018)
  - Shanxi Jiang   (Molecular, Cellular, and Integrative Physiology, 2015 - 2018)
  - Sepideh Mazrouee   (Computer Science, 2016 - 2017)
  - Jui-Ting Ju   (Computer Science, 2016 - 2019)
  - Hung-Hao Lo   (Molecular Biology, 2016 - 2019)
  - Zong Miao   (Bioinformatics, 2016 -)
  - Qin An   (Human Genetics, 2017 -)
  - Xinhui Zhang   (Biology, 2017 -)
  - Kikuye Koyano   (Bioinformatics, 2018 -)

- o   Feiyang Ma   (Molecular Biology, 2018 -)
- o   Xingquan Guan   (Civil Engineering, 2018 -)
- o   Soo Bin Kwon   (Bioinformatics, 2018 -)
- o   Dat Bach Duong   (Computer Science, 2018 -)
- o   Mina Shahi   (Bioengineering, 2019 -)
- o   Alec Matthew Chiu   (Bioinformatics, 2019 -)

MS in Statistics:
- As the committee chair
  - o   Surui Sun   (2017)
  - o   Yu-Cheng Yang   (2017)
  - o   Tianyi Xia   (2019)
- As a committee member
  - o   Yuan Tian   (2014)
  - o   Muzhou Liang   (2015)
  - o   Qian Xiao   (2015)
  - o   Chufeng Hu   (2017)
  - o   Yiwei Xu   (2017)
  - o   Soo Woo Choi   (2017)
  - o   Maxim Ananyev   (2018)
  - o   Hua Kang   (2018)
  - o   Shuai Zhu   (2019)
  - o   Yu Zhang   (2019)
  - o   Zijun Zhang   (2019)

MAS in Statistics:
- As the committee member
  - o   Hui Zhang   (2018)
  - o   Yueyan (Lilian) Gao   (2019)
  - o   Jason Osajima   (2019)

INVITED TALKS & PRESENTATIONS

CONFERENCE AND SYMPOSIUM PRESENTATIONS
- Joint Statistical Meetings, Denver, CO, Jul 31, 2019
- The 27th Conference on Intelligent Systems for Molecular Biology (ISMB) and the 18th European Conference on Computational Biology (ECCB), Basel, Switzerland, Jul 23, 2019
- Single-cell Data in Space and Time: Mathematical and Computational Challenges, Imperial College London, London, UK, Jun 17, 2019
- Frontiers in Single-cell Technology, Application and Data Analysis, Banff International Research Station (BIRS) Workshop, Banff, AB, Feb 27, 2019
- The 8th Annual Southern California Systems Biology Conference, University of California at Irvine, CA, Feb 9, 2019
- ICSA Conference on Data Science, Xishuangbanna, China, Jan 12, 2019
- DahShu Virtual Journal Club, Nov 16, 2018
- The Past, Present and Future of RNA-seq Technology and Its Application to Drug Discovery, EMBL-EBI Industry Programme Workshop, Cambridge, MA, Nov 8, 2018
- Keynote Talk, The 8th National Conference on Bioinformatics and Systems Biology of China and the 1st (Macao) International Bioinformatics Symposium, Macao, Oct 23, 2018
- Joint Statistical Meetings, Vancouver, BC, Aug 1, 2018
- Regulatory and Systems Genomics (RegSys) Community of Special Interest (COSI) at the 26th Conference on Intelligent Systems for Molecular Biology (ISMB), Jul 10, 2018
- The 5th International Biostatistics Symposium, Guangzhou, China, Jul 7, 2018
- ICSA China Conference with the Focus on Data Science, Qingdao, China, Jul 4, 2018

- ICSA Applied Statistics Symposium, New Brunswick, NJ, Jun 16, 2017
- The 46th Annual Meeting of the Statistical Society of Canada, McGill University, Montreal, QB, Canada, Jun 5, 2018
- UCLA College Physical Sciences "Welcome to Research" Symposium (How to thrive in the sciences at UCLA and beyond: research at the cutting edge), Los Angeles, CA, May 21, 2018
- DahShu Virtual Journal Club, Apr 30, 2018
- Johnson & Johnson WiSTEM2D Symposium, New Brunswick, NJ, Apr 26, 2018
- Highlight Talk at the 22nd International Conference on Research in Computational Molecular Biology (RECOMB), Paris, France, Apr 24, 2018
- Joint Statistical Meetings, Baltimore, MD, Aug 3, 2017
- The 1st North American Social Networks (NASN) Conference, Washington, D.C., Jul 28, 2017
- ICSA Applied Statistics Symposium, Chicago, IL, Jun 26, 2017
- HDDA VII (The 7th International Workshop on Perspectives on High-dimensional Data Analysis), CIMAT, Guanajuato, Mexico, Jun 18, 2017
- UCLA QCB 2nd Annual Symposium "Exploring the Frontiers of Biomedical Big Data," UCLA, Los Angeles, CA, Apr 28, 2017
- Workshop "Harnessing Big Data for Precision Medicine: Infrastructure and Applications," Pacific Symposium on Biocomputing (PSB), The Big Island of Hawaii, HI, Jan 3, 2017
- The 10th ICSA International Conference: Global Growth of Modern Statistics in the 21st Century, Shanghai Jiaotong University, Shanghai, China, Dec 20, 2016
- International Indian Statistical Association Conference, Oregon State University, Corvallis, OR, Aug 20, 2016
- Joint Statistical Meetings, Chicago, IL, Aug 2, 2016
- The 3rd Taihu International Statistics Forum, Shanghai, China, Jul 10, 2016
- The ICSA Conference on Data Science, Dali, China, Jul 3, 2016
- Biological Big Data and Data Mining Workshop, Chinese Academy of Sciences, Beijing, China, Jun 25, 2016
- ICSA Applied Statistics Symposium, Atlanta, GA, Jun 13, 2016
- UCLA QCB 1st Annual Symposium "Exploring the Frontiers of Biomedical Big Data," UCLA, Los Angeles, CA, Jun 1, 2016
- The 14th Asia Pacific Bioinformatics Conference, San Francisco, CA, Jan 13, 2016
- Joint Statistical Meetings, Seattle, WA, Aug 9, 2015
- Cold Spring Harbor Laboratory Systems Biology Meeting: Global Regulation of Gene Expression, Rio Mar, Puerto Rico, Jan 29, 2015 (Poster Presentation)
- The 7th RECOMB/ISCB Conference on Regulatory and Systems Genomics, with DREAM Challenges, San Diego, CA, Nov 14, 2014
- Joint Statistical Meetings, Boston, MA, Aug 6, 2014
- EITA-New Media and Bio 2014, MIT, Cambridge, MA, Jul 31, 2014
- The 9th ICSA International Conference: Challenges of Statistical Methods for Interdisciplinary Research and Big Data, Hong Kong Baptist University, Hong Kong, Dec 23, 2013
- The 6th RECOMB/ISCB Conference on Regulatory and Systems Genomics, with DREAM Challenges, Toronto, Canada, Nov 12, 2013
- The 17th RECOMB (Annual International Conference on Research in Computational Molecular Biology), Beijing, China, Apr 8, 2013
- UC Systemwide Bioengineering Symposium, Berkeley, CA, Jun 23, 2012
- Joint mod/mouse/ENCODE AWG/PI meeting, MIT, Cambridge, MA, May 22, 2012
- Bay Area RNA Club, UCSF, San Francisco, CA, Jan 25, 2012
- Cold Spring Harbor Asia Conference: Bioinformatics of Human and Animal Genomics, Suzhou, China, Nov 17, 2011
- Joint mod/ENCODE Consortia Meeting, Washington DC, May 23, 2011

SEMINAR PRESENTATIONS AT UNIVERSITIES AND RESEARCH INSTITUTES
- Department of Statistics, University of California, Santa Barbara, CA, Oct 9, 2019

- Computational and Systems Biology Seminar, Lyda Hill Department of Bioinformatics, The University of Texas Southwestern Medical Center, Dallas, TX, Sep 23, 2019
- Institute of Applied Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Science, Beijing, China, Aug 30, 2019
- The Comprehensive Cancer Center, Cancer Immunotherapeutics Program & Department of Immuno-Oncology, City of Hope, Duarte, CA, Mar 15, 2019
- Department of Statistics and Actuarial Science, Simon Fraser University, Vancouver, BC, Feb 22, 2019
- Department of Statistics, The University of British Columbia, Vancouver, BC, Feb 21, 2019
- Department of Mathematics, California State University, Northridge, Feb 20, 2019
- State Key Laboratory of Biotherapy, Sichuan University, Chengdu, China, Jan 23, 2019
- School of Life Sciences, Tsinghua University, Beijing, China, Jan 18, 2019
- Center for Statistical Science, Tsinghua University, Beijing, China, Jan 17, 2019
- The First Affiliated Hospital, Sun Yat-Sen University, Guangzhou, China, Jan 14, 2019
- Department of Biostatistics, University of Pittsburgh, Nov 1, 2018
- Department of Biomathematics, University of California, Los Angeles, Oct 4, 2018
- Omics Seminar, Cedars-Sinai Medical Center, Los Angeles, CA, Sep 25, 2018
- Department of Statistics, University of Georgia, Athens, GA, Aug 23, 2018
- 3rd UCLA Computational Genomics Summer Institute, University of California, Los Angeles, CA, Jul 17, 2018
- Bioinformatics Interdepartmental Ph.D. Program, University of California, Los Angeles, CA, Apr 9, 2018
- Physical Sciences Faculty Lunch Seminar, College of Letters and Sciences, University of California, Los Angeles, CA, Mar 19, 2018
- Department of Biostatistics, Ohio State University, Columbus, OH, Feb 23, 2018
- Department of Statistics, University of California, Los Angeles, CA, Jan 17, 2018
- Medical and Population Genomics Seminar, University of California, Los Angeles, CA, Dec 6, 2017
- 2nd UCLA Computational Genomics Summer Institute, University of California, Los Angeles, CA, Jul 24, 2017
- Medical and Population Genomics Seminar, University of California, Los Angeles, CA, May 24, 2017
- Institute of Applied Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Science, Beijing, China, Jul 4, 2017
- Center for Statistical Science, Tsinghua University, Beijing, China, Jul 3, 2017
- School of Life Sciences, Tsinghua University, Beijing, China, Jul 3, 2017
- Institute of Machine Learning and Systems Biology, Tongji University, Shanghai, China, Dec 21, 2016
- 1st UCLA Computational Genomics Summer Institute, University of California, Los Angeles, CA, Jul 22, 2016
- Institute of Applied Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Science, Beijing, China, Jun 24, 2016
- Faculty Research Lunch Series, Quantitative and Computational Biosciences, University of California, Los Angeles, CA, May 6, 2016
- Department of Data Sciences and Operations, Marshall School of Business, University of Southern California, Los Angeles, CA, Dec 4, 2015
- Genomics Seminar, Johns Hopkins University, Baltimore, MD, Nov 17, 2015
- Jonsson Comprehensive Cancer Center Gene Regulation Intramural Meeting, University of California, Los Angeles, CA, May 5, 2015
- Department of Statistics, University of California, Riverside, CA, Feb 24, 2015
- Department of Ecology and Evolutionary Biology, University of California, Los Angeles, CA, Feb 18, 2015
- Department of Statistics, Pennsylvania State University, State College, PA, Jan 22, 2015
- Center for Systems Genomics, Pennsylvania State University, State College, PA, Jan 21, 2015

- Department of Biostatistics, University of California, Los Angeles, CA, November 19, 2014
- MOE Key Laboratory of Bioinformatics and Bioinformatics Division, TNLIST / Department of Automation, Tsinghua University, Beijing, China, Jun 20, 2014
- Institute of Applied Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Science, Beijing, China, Jun 19, 2014
- Department of Statistics, Columbia University, NY, May 1, 2014
- Department of Molecular and Computational Biology, University of Southern California, CA, Mar 6, 2014
- Department of Statistics, University of California, Los Angeles, CA, Jan 14, 2014
- School of Life Sciences, Tsinghua University, Beijing, China, Dec 13, 2013
- Institute of Applied Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Science, Beijing, China, Apr 11, 2013
- Department of Statistics, University of Chicago, IL, Feb 25, 2013
- Departments of Human Genetics and Statistics, University of California, Los Angeles, CA, Feb 1, 2013
- Department of Statistics, University of California, Davis, CA, Jan 16, 2013

EDITORIAL BOARD & REVIEWING ACTIVITIES

EDITORIAL BOARD
- *PeerJ* - Associate Editor (2015 -)
- *Frontiers in Bioinformatics and Computational Biology* - Review Editor (2014 -)

REVIEWER FOR SCIENTIFIC JOURNALS
- *Annals of Applied Statistics*
- *Bioinformatics*
- *Biometrics*
- *Biostatistics*
- *BMC Bioinformatics*
- *BMC Genomics*
- *BMC Medical Genomics*
- *BMC Research Notes*
- *Communications Biology*
- *Computational Biology and Chemistry*
- *Computational Statistics and Data Analysis*
- *Computers in Biology and Medicine*
- *eLife*
- *Frontiers in Genetics*
- *F1000Research*
- *Gene Reports*
- *Genes*
- *Genetics*
- *Genome Research*
- *IEEE/ACM Transactions on Computational Biology and Bioinformatics*
- *Journal of American Statistical Association*
- *Journal of Machine Learning Research*
- *Nature Communications*
- *Nature Methods*
- *Nucleic Acids Research*
- *PeerJ*
- *PLOS Computational Biology*
- *Proceedings of the National Academy of Sciences of the United States of America*

- *Science*
- *Science Bulletin*
- *Statistica Sinica*
- *Statistical Applications in Genetics and Molecular Biology*
- *Statistics and Its Interface*

REVIEWER FOR CONFERENCES
- APBC 2019: the 17th Asia Pacific Bioinformatics Conference
- ICIBM 2018: International Conference on Intelligent Biology and Medicine
- APBC 2016: the 14th Asia Pacific Bioinformatics Conference

REVIEWER FOR GRANT APPLICATIONS
- Reviewer, NSF (National Science Foundation) BIO Review Panel, 2019
- External Reviewer, NSERC (Natural Sciences and Engineering Research Council of Canada), Discovery Grants, 2018
- Reviewer, NIH GCAT (Genomics, Computational Biology and Technology) Study Section, 2018
- Reviewer, PhRMA Foundation Informatics Advisory Committee, 2018
- Reviewer, NSF (National Science Foundation) DMS Review Panel, 2017
- Reviewer, Hong Kong General Research Fund (GRF), 2016, 2017, 2018, 2019
- Reviewer, NIH/NIEHS Review Panel, 2016
- Reviewer, Israel Science Foundation, 2016
- Reviewer, NSF (National Science Foundation) IIS Review Panel, 2016
- Specialist Reviewer, DOD CDMRP (Department of Defense Congressionally Directed Medical Research Programs) Review Panel, 2015

PROFESSIONAL SERVICE

2019 - 2020	Search Committee, UCLA Department of Biostatistics
2019 -	Advisory Committee, UCLA Computational and Systems Biology Program
2018 - 2019	Search Committee, UCLA Department of Ecology and Evolutionary Biology
2018	Local Organizing Committee Chair, International Conference on Intelligent Biology and Medicine
2018	Seminar Committee, UCLA Bioinformatics Graduate Program
2018	Evaluating Computational Biology, Genomics and Medicine Landscape Committee, UCLA
2018	Ad Hoc Committee, UCLA Department of Statistics
2018	Admission Committee, UCLA Department of Statistics
2017 -	Admission Committee, UCLA Bioinformatics Graduate Program
2017 -	Advising Committee, UCLA Bioinformatics Graduate Program
2015 -	Curriculum Committee, UCLA Bioinformatics Graduate Program
2014 - 2015	Organizer of UCLA Statistics Seminar Series
2014 - 2015	Search Committee, UCLA Department of Statistics
2014	Session Organizer, Joint Statistical Meetings

UNIVERSITY ACTIVES

- Participant in the CEILS (Center for Education Innovation & Learning in the Sciences) Faculty Workshop on Best Practices in Teaching, UCLA, Sep 17, 2015
- Participant in the Success in Science Workshop, Oxnard, CA, Feb 5-7, 2015

OTHER PROFESSIONAL ACTIVITIES

- Program Faculty at the UCLA IPAM Computational Genomics Summer Institute, Jul 11-Aug 3, 2018
- Program Faculty at the UCLA IPAM Computational Genomics Summer Institute, Jul 6-20, 2017
- Session Chair at the International Indian Statistical Association Conference, Oregon State University, Corvallis, OR, Aug 18-21, 2016
- Session Chair and Organizer at the Joint Statistical Meetings, Chicago, IL, Jul 30-Aug 4, 2016
- Program Faculty at the UCLA IPAM Computational Genomics Summer Institute, Jul 18-Aug 12, 2016
- Session Chair at the 14th Asia Pacific Bioinformatics Conference, San Francisco, CA, Jan 11-13, 2016
- Session Chair at the Joint Statistical Meetings, Seattle, WA, Aug 8-13, 2015
- Participant in the SAMSI (Statistical and Applied Mathematical Sciences Institute) Innovations Lab (35 participants selected from > 350 applications), Research Triangle Park, NC, Jul 20-24, 2015
- Session Chair and Organizer at the Joint Statistical Meetings, Boston, MA, Aug 2-8, 2014
- Participant in the Women in Statistics Conference, Research Triangle Park, NC, May 15-17, 2014
- Participant in the SAMSI Social Network Data: Collection and Analysis Workshop, Research Triangle Park, NC, Oct 21-23, 2013
- Participant in the IPAM (Institute of Pure and Applied Mathematics) "Mathematical and Computational Approaches in High-Throughput Genomics" Program, Los Angeles, CA, Fall 2011
- Volunteer in ICSA (International Chinese Statistical Association) Applied Statistics Symposium, San Francisco, CA, Jun 21-24, 2009

PROFESSIONAL AFFILIATIONS

2018 -   IBS (International Biometric Society)
2013 -   ISCB (International Society for Computational Biology)
2009 -   ICSA (International Chinese Statistical Association)