

# Yan Dora Zhang

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## Academic Positions

- 2019– **Assistant Professor**  
Department of Statistics and Actuarial Science  
Faculty of Science  
The University of Hong Kong  
Centre for PanorOmic Sciences  
LKS Faculty of Medicine  
The University of Hong Kong
- 2016–2019 **Postdoctoral Fellow** (Mentor: [Nilanjan Chatterjee](#))  
Department of Biostatistics  
Bloomberg School of Public Health  
Johns Hopkins University

## Education

- 2011–2016 **Ph.D. in Statistics**, North Carolina State University, *NC, USA*  
Thesis: *Bayesian Methods for High-dimensional Data*  
Advisor: [Dr. Howard D. Bondell](#)
- 2007–2011 **B.S. in Mathematics and Statistics**, Nankai University, *Tianjin, China*

## Research Interests

Biostatistics, Public health, Statistical genetics, Bioinformatics, Big data analytics

## Publications

(\*First authors with equal contribution. †Senior authors with equal contribution.)

### Peer-Reviewed Articles

1. **Zhang YD**, Hurson AN, Zhang H, Choudhury PP, ..., Chatterjee N<sup>†</sup>, García-Closas M<sup>†</sup>. (2020). Assessment of polygenic architecture and risk prediction based on common variants across fourteen cancers. *Nature communications*, 11(1), 1-13.

2. **Zhang YD**, Naughton BP, Bondell HD, Reich BJ. (2020). (2020). Bayesian regression using a prior on the model fit: The r2-d2 shrinkage prior. *Journal of the American Statistical Association*, 1-13.
3. **Zhang Y**, Qi G, Park JH, Chatterjee N. (2018). Estimation of complex effect-size distributions using summary-level statistics from genome-wide association studies across 32 complex traits. *Nature genetics*, 50(9), 1318-1326.
4. **Zhang Y**, Bondell HD. (2018). Variable selection via penalized credible regions with Dirichlet–Laplace global-local shrinkage priors. *Bayesian Analysis*, 13(3), 823-844.
5. Meisner A, Kundu P, **Zhang YD**, Lan LV, Kim S, Ghandwani D, Choudhury PP, Berndt SI, Freedman ND, Garcia-Closas M, Chatterjee N. (2020). Combined Utility of 25 Disease and Risk Factor Polygenic Risk Scores for Stratifying Risk of All-Cause Mortality. *The American Journal of Human Genetics*, 107(3), 418-431.
6. Tubbs JD, **Zhang YD**, Sham PC. (2020). Intermediate confounding in trio relationships: The importance of complete data in effect size estimation. *Genetic Epidemiology*, 44(4), 395-399.
7. Ji Y, Azuine RE, **Zhang Y**, Hou W, Hong X, Wang G, Riley A, Pearson C, Zuckerman B, Wang X. (2020). Association of cord plasma biomarkers of in utero acetaminophen exposure with risk of attention-deficit/hyperactivity disorder and autism spectrum disorder in childhood. *JAMA psychiatry*, 77(2), 180-189.
8. Pal Choudhury P\*, Wilcox AN\*, Brook MN, **Zhang Y**, Ahearn T, ..., Chatterjee N†, García-Closas M†. (2020). Comparative validation of breast cancer risk prediction models and projections for future risk stratification. *JNCI: Journal of the National Cancer Institute*, 112(3), 278-285.

## Talks and Presentations

### Invited Seminar Talk

Nov 2019	Academy of Mathematics and Systems Science, Chinese Academy of Sciences, <i>Beijing</i>
Feb 2019	Department of Biostatistics, University of Wisconsin-Madison, <i>Madison, WI</i>
Jan 2019	Center for Statistical Science, Tsinghua University, <i>Beijing</i>
Jan 2019	Department of Statistics and Actuarial Science, HKU, <i>Hong Kong</i>
Dec 2018	Department of Biostatistics, Peking University, <i>Beijing</i>
Dec 2018	School of Data Science, Fudan University, <i>Shanghai</i>
Dec 2018	Department of Mathematics, Shanghai Jiao Tong University, <i>Shanghai</i>
Dec 2018	Department of Mathematics, University of Houston, <i>Houston, TX</i>
Sep 2018	School of Public Health, Peking University, <i>Beijing</i>
Sep 2018	SJTU-YALE Joint Center of Biostatistics and Data Science, Shanghai Jiao Tong University, <i>Shanghai</i>
Sep 2018	School of Statistics and Data Science, Nankai University, <i>Tianjin</i>
Jan 2016	Institute of Statistics and Big Data, Renmin University of China, <i>Beijing</i>

Dec 2015	Institute of Statistics, Nankai University, <i>Tianjin</i>
Dec 2015	School of Statistics and Management, Shanghai University of Finance and Economics, <i>Shanghai</i>
Dec 2015	School of Management, University of Science and Technology of China, <i>Hefei</i>

### Invited Conference Talk

Aug 2017	Joint Statistical Meetings, Baltimore, MD
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### Conference Platform Talk

Aug 2016	Joint Statistical Meetings (JSM), <i>Chicago, IL</i>
Aug 2015	Joint Statistical Meetings (JSM), <i>Seattle, WA</i>
Aug 2014	Joint Statistical Meetings (JSM), <i>Boston, MA</i>

### Poster Presentation

Oct 2018	American Society of Human Genetics (ASHG) Conference, <i>San Diego, CA</i>
Mar 2018	Eastern North American Region International Biometric Society (ENAR) Conference, <i>Atlanta, GA</i>
Oct 2017	American Society of Human Genetics (ASHG) Conference, <i>Orlando, FL</i>

## Teaching

### Instructor

Spring 2021	STAT3621, Statistical data analysis, HKU
Fall 2020	STAT3604, Design and analysis of experiments, HKU
Spring 2020	STAT3621, Statistical data analysis, HKU

### Lab Instructor

2013–2014	Experimental Statistics for Biological Sciences II, NCSU
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### Teaching Assistant

2011–2016	Applied Bayesian Statistics, Applied Multivariate Statistical Analysis, Experimental Statistics for Biological Sciences I, Introduction to Mathematical Statistics I, Experimental Statistics for Engineers II, Introduction to Statistics, NCSU
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## Professional Services

2020–	<b>Guest Editor</b> <i>PLOS Computational Biology</i>
2018–	<b>Journal Referee</b> <i>Nature Genetics, Nature Communications, Bayesian Analysis, International Journal of Biostatistics, Communications in Statistics – Theory and Methods, Human Heredity</i>

## Membership

2017–	American Society of Human Genetics (ASHG)
2016–2017	International Chinese Statistical Association (ICSA) Community

2012–2016      American Statistical Association (ASA) Community

## Selected Honors & Awards

2017	Honorable Mention for poster “Estimating effect-size distribution from summary-level statistics for large genome-wide association studies”, Genetics Research Day, The Maryland Genetics, Epidemiology, and Medicine Training Program (MD-GEM)
2013	Nomination for the University Outstanding Teaching Assistant Award, NCSU
2013	Mu Sigma Rho Statistics Society Honor, NCSU
2011	Outstanding Graduates Honor, Nankai University, China
2010	Excellent Student Leader Honor, Nankai University, China
2010	Tianjin Municipal People’s Government Scholarship, China
2009	National Scholarship, China
2008	Hong Kong and Shang Hai Banking Corporation Scholarship, China

## Software

- [GENESIS](#): GENetic Effect-Size distribution Inference from Summary-level data
- [CancerEffectSize](#): Assessment of Polygenic Architecture and Risk Prediction based on Common Variants for Cancers
- [R2D2](#): Bayesian Regression Using a Prior on the Model Fit: The R2-D2 Shrinkage Prior