CURRICULUM VITAE
Jing Ma, PhD
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1. Personal Data

Place of Birth: Henan, China
Work Address: Fred Hutchinson Cancer Research Center
                       Division of Public Health Sciences
                       1100 Fairview Ave. N,
                       PO Box 19024 - M2-B500
                       Seattle, WA 98109-1024
Email: jingma@fredhutch.org
Website: http://drjingma.com

2. Education

- Fudan University, Shanghai, China, B.S., Mathematics, 2010
  with University Distinction (Highest)
- University of Michigan, Ann Arbor, MI, Ph.D., Statistics, 2015
  Advisor: George Michailidis

3. Academic Positions

- Postdoctoral Fellow, Depts of Biostatistics and Statistics, University of Pennsylvania, 2015-2017
- Assistant Member, Public Health Sciences Division, Fred Hutchinson Cancer Research Center, 2017-present
  - Affiliate Assistant Professor, Department of Biostatistics, University of Washington, 2019-present

4. Honors, Awards, Scholarships

A. National Awards

- National Merit Scholarship from Ministry of Education of China, 2008
- Travel Award, National Science Foundation, 2015
- Travel Award, BD2K Data Science Innovation Lab, 2018
- Travel Award, The Jayne Koskinas Ted Giovanis Foundation for Health and Policy, 2018

B. Department/University Awards

- College Graduate Excellence Award of Shanghai, 2010
- Outstanding First Year Ph.D. Student Award, 2011
- Rackham International Students Fellowship, 2011-2012
- Outstanding Graduate Student Instructor Award, 2012-2013
- Rackham School of Graduate Studies Conference Travel Grant, 2012-2015

5. Professional Activities

A. Session Chair

- *Understanding the Microbiome Complexity: Genetics and Networks -- Invited Papers*, ICSA Applied

Statistics Symposium, Chicago, IL. (06/17)
- *Efficient Methods for Structured Large Genomics Data -- Contributed Papers*, Joint Statistical Meetings, Chicago, IL. (08/16)
- *Methods for Variable and Model Selection -- Contributed Papers*, Joint Statistical Meetings, San Diego, CA. (08/12)

B. Referee Service

Referee for Bioinformatics, Biometrika, Biometrics, Biostatistics, Electronic Journal of Statistics, Journal of the American Statistical Association, Journal of Multivariate Analysis, Molecular & Cellular Proteomics, Scientific Reports (Nature), Statistics in Biosciences

C. Conference Review

- 2016 International Conference on Information Systems
- 2016 Conference on Neural Information Processing Systems
- Judge for 2018 ASA Section on Genomics and Genetics Student Paper Competition
- 2018 Conference on Neural Information Processing Systems
- Judge for 2019 ASA Section on Genomics and Genetics Student Paper Competition

D. Professional Memberships

- American Statistical Association, 2010-present
- International Chinese Statistical Association, 2014-present
- Eastern North American Region International Biometric Society, 2016-present

6. Bibliography

(*indicates alphabetical ordering authorship)

A. Publications in Peer-Refereed Journals

1. **Ma, J**, and Michailidis, G. Joint structural estimation of multiple graphical models. *Journal of Machine Learning Research* 17:1--48, 2016. [original work]

2. **Ma, J**, Shojaie, A and Michailidis, G. Network-based pathway enrichment analysis with incomplete network information. *Bioinformatics* 32(20):3165--3174, 2016. [original work]

3. von Rundstedt, F, Kimal, R, **Ma, J**, Arnold, J, Gohlke, J, Putluri, V, Krishnapuram, R, Piyarathna, D, Lotan, Y, Godde, D, Roth, S, Storkel, S, Levitt, J, Michailidis, G, Lerner, S, Coarfa, C, Sreekumar, A, Putluri, N. Integrated pathway analysis of a metabolic signature in bladder cancer - a linkage to The Cancer Genome Atlas project and prediction of survival. *Journal of Urology* 195(6):1911--1919, 2016. [collaboration]

4. *Cai, TT, **Ma, J** and Zhang, L. CHIME: clustering of high-dimensional Gaussian mixtures with EM algorithm and its optimality. *Annals of Statistics*, to appear, 2019. [original work]

   [L. Zhang was a recipient of ASA Biopharmaceutical Section Student Paper Award at the 2017 ICSA Applied Statistics Symposium.]

5. *Cai, TT, Li, H, **Ma, J**, and Xia, Y. Differential Markov random field analysis with applications to detecting differential microbial community networks. *Biometrika*, to appear, 2019. [original work]

B. Book Chapters

1. Li, H and **Ma, J**. Graphical models in genetics, genomics and metagenomics. In *Handbook of Graphical Models*. Editors: Mathias Drton, Steffen Lauritzen, Marloes Maathuis, Martin Wainwright. Chapman & Hall / CRC, 2018.

C. Other Refereed Scholarly Publications

1. **Ma, J.** Estimation and inference in high-dimensional Gaussian graphical models with structural constraints**.** University of Michigan, 2015. [PhD Thesis]

D. Manuscripts Submitted

1. **Ma, J**, Shojaie, A and Michailidis, G. A comparative study of topology-based pathway enrichment analysis methods. *Submitted to BMC Bioinformatics*. Sep 2018. [review]

2. **Ma, J**, Karnovsky, A., Afshinnia, F., Wigginton, J., Feldman, H., Rader, D., Shama, K., Porter, A., Rahman, M., He, J., Hamm, L., Shafi, T., Pennathur, S., Michailidis, G. Differential network-based enrichment analysis of lipid pathways altered in Chronic Kidney Disease progression. *Submitted to Bioinformatics*. Sep 2018. [collaboration]

7. Research Funding

A. Current

2018-2021   NIH R01 Award; 5 R01 ES025796
Title: The Impact of Prenatal Exposure to Persistent Organic Pollutants on Kinetics of Immune Response to Vaccines and Sero-protection in Infants
FTE: 10%
Role: Co-Investigator (PI: P. Bhatti)

2018-2022   NIH R01 Award; 1 R01 GM129512
Title: Joint Analysis of Microbiome and Other Genomic Data Types
FTE: 15%
Role: Co-Investigator (PI: M. Wu)

2018-2023   NIH U19 Award; 1 U19 AG057377
Title: The Dog Aging Project: The Genetic and Environmental Determinants of Healthy Aging in Companion Dogs
FTE: 15%
Role: Co-Investigator (PI: D. Promislow; Sub: S. Schwartz)

B. Pending

2019-2023   NIH R01 Award
Title: Novel Statistical Inference for Biomedical Big Data
FTE: 15%
Role: Co-Investigator (PI: A. Shojaie; Sub-award PI)

C. Completed

2017-2018 NIH R21 Award; 1 R21 AI129712
      Title: DMPA Use and Vaginal Bacterial Diversity among African Women
      FTE: 4%
      Role: Co-Investigator (PI: A. Roxby; Sub: D. Fredricks

8. Oral Presentations

A. Invited Oral Presentations at Conferences and Symposia

- ICSA/KISS Joint Applied Statistics Symposium, Portland, OR. (06/14)
- ICSA Applied Statistics Symposium, Atlanta, GA. (06/16)
- ICSA Applied Statistics Symposium, Chicago, IL. (06/17)
- Fred Hutch Microbiome Symposium, Seattle, WA. (03/18)
- Data Science Innovation Lab: Mathematical Challenges of Single Cell Dynamics, Bend, OR. (06/18)
- 12th International Vilnius Conference on Probability Theory and Mathematical Statistics / 2018 IMS Annual Meeting on Probability and Statistics, Vilnius, Lithuania. (07/18)
- Joint Statistical Meetings, Vancouver, Canada. (07/18)
- CMStatistics Conference, Pisa, Italy. (12/18)
- The Role of Genomics and Metagenomics in Human Health: Recent Developments in Statistical and Computational Methods, Banff, Canada. (02/19)
- ICSA China Conference, Tianjin, China. (07/19)

B. Invited Seminars and Colloquia

- Department of Mathematics and Statistics, Lancaster University, Lancaster, UK. (10/16)
- Department of Statistics, University of Warwick, Coventry, UK. (01/17)
- Biostatistics Program, Public Health Sciences Division, Fred Hutchinson Cancer Research Center, Seattle, WA. (02/17)
- Department of Biostatistics, University of Washington, Seattle, WA. (01/18)
- Department of Statistics, University of Florida, Gainesville, FL. (01/18)
- Biostatistics/ATME Joint Seminar, Public Health Sciences Division, Fred Hutchinson Cancer Research Center, Seattle, WA. (01/18)
- SLAB Lab Seminar, Department of Biostatistics, University of Washington, Seattle, WA. (02/18)
- Postdoc Meeting, Public Health Sciences Division, Fred Hutchinson Cancer Research Center, Seattle, WA. (02/18)
- Translational Research Program Faculty Meeting, Public Health Sciences Division, Fred Hutchinson Cancer Research Center, Seattle, WA. (02/18)
- Department of Statistics, Texas A&M University, College Station, TX. (11/18)
- Department of Statistics, University of Michigan, Ann Arbor, MI. (09/19)

9. Teaching

A. Instructor at University of Michigan

- Lab Instructor, Introduction to Statistics and Data Analysis. Fall 2010 & Winter 2011
- Applied Qualifying Exam. Summer 2012, 2013 & 2014
- Review of Linear Algebra. Summer 2013 & 2014

B. Graduate Student Instructor at University of Michigan

- English Language Institute. Summer 2011
- Applied Statistics and Data Analysis. Fall 2011 & 2012
  [GSI Excellence in Teaching Award]
- Introduction to Probability and Statistics. Fall 2011 & Winter 2012
- Multivariate and Categorical Data Analysis. Winter 2012

10. Mentorship Record

A. Postdoctoral Fellows

- Yue Wang, PhD in Biostatistics, UNC Chapel Hill (joint with A. Shojaie), 2018-

B. Graduate Students

- Kun Yue, UW Biostatistics PhD student (joint with A. Shojaie), 2017-

C. Student Collaborators

- Nanxun Ma, UW Biostatistics PhD student, working with M. Wu, 2017-
- Michael Hellstern, UW Statistics MS student, working with A. Shojaie, 2018-

D. MS and PhD Committees in Non-Chair Role

- Arjun Sondhi, UW Biostatistics PhD student (advisor: A. Shojaie), 2018-2019

11. Service

A. University of Michigan

- Coordinator of Reading Group on Statistical Modeling and Analysis of Networks, Department of Statistics, University of Michigan. (09/11- 03/12)
- Co-Chair, Graduate Student Statistical Topics Seminar Series, Department of Statistics, University of Michigan. (09/11-04/13)
- Student committee member of the Seventh Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSISS). (09/12-04/13)

B. Fred Hutch Cancer Research Center

- Chair, 2018 Fred Hutch Microbiome Symposium. (03/18)
- Faculty host for University of Washington prospective student visit. (03/18)
- Chair, Biostatistics Seminar Series, Fred Hutch Cancer Research Center. (01/19-08/19)

12. Other