Dewei Wang

updated on February 6, 2023

Contact Information

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Education

- Ph.D. in Mathematical Sciences, Clemson University, 2014
- M.S. in Mathematical Sciences, Clemson University, 2011
- B.S. in Statistics, University of Science and Technology of China, 2008

Professional Experience

- **University of South Carolina, Department of Statistics** - Columbia, SC
  Associate Professor: 2020 – present
- **University of South Carolina, Department of Statistics** - Columbia, SC
  Assistant Professor: 2014 – 2020
- **Clemson University, Department of Mathematical Sciences** - Clemson, SC
  Graduate Assistant: 2008 – 2014

Current Research Interests

Pooled biomonitoring/testing, order-restricted inference, nonparametric and semiparametric regression, shrinkage methods, quantile regression

Professional Organizations

- American Statistical Association
- Institute of Mathematical Statistics
- International Biometric Society
- International Chinese Statistical Association

Honors and Awards

- Peter and Bonnie McCausland Faculty Fellowship, University of South Carolina, 2020–2022
- Travel Award for the ENAR Spring Meetings (Workshop for Junior Researchers), Washington, D.C., 2017
- Outstanding Ph.D. Student, Department of Mathematical Sciences, Clemson University, 2013
- Professional Enrichment Grants, Graduate School, Clemson University, Spring and Fall 2013
- Boyd Harshbarger Award, Southern Regional Council on Statistics, 2012 and 2013
- Best Presentation Award, South Carolina American Statistical Association Palmetto Symposium, 2013
- Outstanding Student Scholarship, University of Science and Technology of China, 2004–2007

Refereed Publications

*advisee

1. Wang, D. and Kulasekera, K. (2012). Parametric component detection and variable selection in varying-coefficient partially linear models. *Journal of Multivariate Analysis* **112**, 117–129.
2. Wang, D., Zhou, H., and Kulasekera, K. (2013). A semi-local likelihood regression estimator of the proportion based on group testing data. *Journal of Nonparametric Statistics* **25**, 209–221.
3. Wang, D., McMahan, C., Gallagher, C., and Kulasekera, K. (2014). Semiparametric group testing regression models. *Biometrika* **101**, 587–598.
4. Wang, D., McMahan, C., and Gallagher, C. (2015). A general parametric regression framework for group testing data with dilution effects. *Statistics in Medicine* **34**, 3606–3621.
5. Tang, C.*, Wang, D., and Tebbs, J. (2017). Nonparametric goodness-of-fit tests for uniform stochastic ordering. *Annals of Statistics* **46**, 2565–2589.
6. Russell, B., Wang, D., and McMahan, C. (2017). Spatially modeling the effects of meteorological drivers of PM2.5 in the eastern United States via a local linear penalized quantile regression estimator. *Environmetrics* **28**, 1–16.
7. Wang, D., McMahan, C., Tebbs, J., and Bilder, C. (2018). Group testing case identification with biomarker information. *Computational Statistics and Data Analysis* **122**, 156–166.
8. Lin, J.* and Wang, D. (2018). Single-index regression for pooled biomarker data. *Journal of Nonparametric Statistics* **30**, 813–833.
9. Wang, D., Jiang, C., and Park, C. (2019). Reliability analysis of load-sharing systems with memory. *Lifetime Data Analysis* **25**, 341–360.
10. Gregory, K., Wang, D., and McMahan, C. (2019). Adaptive elastic net for group testing. *Biometrics* **75**, 13–23.
11. Lin, J.*, Wang, D. and Zheng, Q. (2019). Regression and variable selection for two-stage multiple-infection group testing data. *Statistics in Medicine* **38**, 4519–4533.
12. Wang, D., Tang, C.*, and Tebbs, J. (2020). More powerful goodness-of-fit tests for uniform stochastic ordering. *Computational Statistics and Data Analysis* **144**, 106898.
13. Hou, P.*, Tebbs, J., Wang, D., McMahan, C., and Bilder, C. (2020). Array testing with multiplex assays. *Biostatistics* **21**, 417–431.
14. Wang, D., Mou, X.*, Li, X., and Huang, X. (2020). Local polynomial regression for pooled response data. *Journal of Nonparametric Statistics* **32**, 814–837.
15. Tang, C.*, Wang, D., El Barmi, H., and Tebbs, J. (2021). Testing for positive quadrant dependence. *American Statistician* **75**, 23–30.
16. Wang, D. and Tang, C. (2021). Testing against uniform stochastic ordering with paired observations. *Bernoulli* **27**, 2556–2563.
17. Wang, D., Mou, X., and Liu, Y. (2022) Varying–coefficient regression analysis for pooled biomonitoring. *Biometrics* **78**, 1328–1341.
18. Cao, X.* and Gregory, K., and Wang, D. (2023+) Inference for sparse linear regression based on the leave-one-covariate-out solution path. *Communications in Statistics–Theory and Methods*, submitted.

Submitted Manuscripts

1. Liu, Y., Wang, D., Li, L., and Li, D. (2023+) Assessing U.S. population's exposure to environmental chemicals based on pooled biomonitoring data. *Journal of American Statistical Association, Applications and Case Studies*, tentatively accepted pending minor revision.
2. Mou, X. and Wang, D (2023+). Additive partially linear model for pooled biomonitoring data. *Computational Statistics and Data Analysis*, submitted.
3. Tang, C. F. and Wang, D (2023+). Multiple ordinal dominance curves and uniform stochastic ordering. *Statistica Sinica*, submitted.

Funded Grants: External

- National Institutes of Health (2018–2021). Flexible biomarker evaluation through a cost-effective data collection mechanism (R03 AI135614). Role: PI.
- National Institutes of Health (2021-2023). Global significance test based on quantile regression with applications to genomic studies of Alzheimer's disease (R21 AG070659). Role: co-I.

Funded Grants: Internal

- University of South Carolina (2019–2021). Semiparametric regression for multiple-infection group testing data (Aspire I track 1 grant, $12,371). Role: PI.

Pending Grants

- National Institutes of Health R01 (Submitted in Feb 2023). Regression analyses for pooled biomonitoring data (RAPID) subject to skewness: development and application. Role: PI.
- National Institutes of Health R01 (Submitted in October 2022). Assess the impacts of interventions based on group testing data. Role: co-I.

Invited Seminars

1. Academy of Mathematics and Systems Science, Chinese Academy of Sciences. June 2018
2. Department of Bioinformatics and Biostatistics, University of Louisville. March 2017
3. Department of Finance and Statistics, University of Science and Technology of China. December 2015
4. Department of Mathematics and Statistics, University of North Carolina at Charlotte. November 2015
5. Department of Epidemiology and Biostatistics, University of South Carolina. March 2015
6. Department of Mathematical Sciences, Binghamton University. February 2014
7. Department of Statistics, University of South Carolina. February 2014
8. Division of Statistics, Northern Illinois University. February 2014
9. Department of Mathematics and Statistics, University of North Carolina at Charlotte. January 2014
10. Division of Epidemiology, Biostatistics, and Environmental Health, University of Memphis. January 2014

Conference Presentations

1. ENAR Spring Meetings (Virtual), 2021
2. AMS Fall Southeastern Sectional meeting (Virtual), 2020
3. ENAR Spring Meetings (Virtual), 2020
4. Joint Statistical Meetings, Denver, 2019
5. ICSA Applied Statistics Symposium, Raleigh, 2019
6. ENAR Spring Meetings, Philadelphia, 2019
7. ENAR Spring Meetings, Atlanta, 2018
8. ENAR Spring Meetings, Washington D. C., 2017
9. ICSA Applied Statistics Symposium, Atlanta, 2016
10. Joint Statistical Meetings, Seattle, 2015
11. ICSA China, Shanghai, 2015
12. IMS China, Kunming, 2015
13. Southern Regional Council on Statistics, Carolina Beach, 2015
14. ENAR Spring Meetings, Miami, 2015
15. ENAR Spring Meetings, Baltimore, 2013
16. OBayes, Durham, 2013
17. Mini-conference in honor of Robert Taylor, Clemson, 2013
18. Joint Statistical Meetings, Montreal, 2013
19. Southern Regional Council on Statistics, Burns, 2013
20. South Carolina American Statistical Association Palmetto Symposium, Columbia, 2013
21. Southern Regional Council on Statistics, Jekyll island, 2012

Note: I have been a co-author (i.e., not the presenting author) on an additional 22 conference presentations.

Student Advising

- Ph.D. Students
    1. Qingyuan Hong. Expected graduation date: May 2025.
    2. Yizeng Li. Expected graduation date: May 2023.
    3. Xiangyang Cao (co-advise with Karl Gregory): "High-dimensional inference based on the leave-one-covariate-out regularization path." August 2020.
    4. Xichen Mou (co-advise with Joshua Tebbs): "Estimation problems for pooled data." August 2019.
    5. Juexin Lin: "Regression for pooled testing data with biomedical applications." May 2019.
    6. Chuan-Fa Tang (co-advise with Joshua Tebbs): "Nonparametric inference for orderings and associations between two random variables." August 2017.
    7. Peijie Hou (co-advise with Joshua Tebbs): "Topics in group testing with multiple traits." May 2017.
- Served as a committee member
    - Department of Statistics
        * Nicholas Woolsey, Ph.D., 2023
        * Zichen Ma, Ph.D., 2021
        * Michael Stutz, Ph.D., 2020

    - Taeho Kim, Ph.D., 2019
    - Qiang Zheng, Ph.D., 2019
    - Trisha Ludeke, undergraduate thesis defense, 2018
    - Xiang Li, Ph.D., 2018
    - Haifeng Wu, Ph.D., 2016
  - Other departments
    - Andrei Medved (Mathematics, Ph.D. qualification exam)
    - Victoria Chebotaeva (Mathematics, Ph.D. qualification exam)
    - Shuang Liu (Mathematics, Ph.D. qualification exam)
    - Xiaofei Yi (Mathematics, Ph.D. qualification exam)
    - Shuai Yuan (Mathematics, Ph.D. qualification exam)
    - Alexander Brylev (Mathematics, Ph.D. defense)

Department Service

- Graduate Director, 2022–present
- Graduate Committee, 2020–2021, 2022–present
- Website Committee, 2018–present
- Ph.D. Qualification Exam Committee, 2019-2020, 2022-present
- Computer Committee, 2016–2022
- Undergraduate Advisory Committee, 2015–2019
- Instructor Search Committee, 2016
- MAS Exam Committee, 2015–2016
- Faculty Advisor of the Stat Club and the Mu Sigma Rho, 2014–present

Professional Activities

- Referee for: American Statistician; Bayesian Analysis; Management Science; Clinical Microbiology and Infection; Technometrics; BMC Bioinformatics; 2019 KDD conference; IEEE International Conference on Data Mining 2018; 2018 IEEE International Conference on BIG DATA; PLOS ONE; IEEE Transactions on Reliability; Biometrics; Canadian Journal of Statistics; Statistics in Medicine; Computational Statistics and Data Analysis; Journal of Nonparametric Statistics; Journal of Multivariate Analysis; Statistics and Probability Letters; Communications in Statistics-Theory and Methods; Sustainable Computing, Informatics and Systems; Sustainability; International Journal of Environmental Research and Public Health
- President, South Carolina Chapter of American Statistical Association, 2019–2021
- Assisted in organizing the annual South Carolina American Statistical Association Palmetto Symposium, Columbia, 2016–2021
- Vice-president, South Carolina Chapter of American Statistical Association, 2017–2019
- Assisted in organizing the South Carolina Statistics Consortium, Clemson, 2018
- Session Chair, "Infectious disease models." ENAR Spring Meetings, Atlanta, 2018
- Treasurer, South Carolina Chapter of American Statistical Association, 2016–2017
- Organizer and Chair of the invited session, "Biomarker pooling and group testing" Latent Variables Conference, Columbia, 2016
- Organizer and Chair of the topic-contributed session, "Variable selection and applications of semiparametric models." The 4th Institute of Mathematical Statistics Asia Pacific Rim Meetings, Hong Kong, 2016

Teaching

- University of South Carolina
  - STAT 811, Probability Theory I, Spring 2023 (7 students)
  - STAT 810, Probability Theory I, Fall 2022 (8 students)
  - STAT 509, Statistics for Engineers, Fall 2021 (80 students)
  - STAT 811, Probability Theory II, Spring 2021 (17 students)
  - STAT 509, Statistics for Engineers, Spring 2021 (44 students)
  - STAT 810, Probability Theory I, Fall 2020 (17 students)
  - STAT 509, Statistics for Engineers, Fall 2020 (44 students)
  - STAT 823, Large Sample Theory, Spring 2020 (11 students)
  - STAT 509, Statistics for Engineers, Spring 2020 (55 students)
  - STAT 713, Mathematical Statistics II, Spring 2019 (20 students)
  - STAT 712, Mathematical Statistics I, Fall 2018 (20 students)
  - STAT 509, Statistics for Engineers, Fall 2018 (54 students)
  - STAT 823, Large Sample Theory, Spring 2018 (14 students)
  - STAT 509, Statistics for Engineers, Fall 2017 (20 students)
  - STAT 513, Theory of Statistical Inference, Fall 2017 (15 students)
  - STAT 512, Mathematical Statistics, Spring 2017 (25 students)
  - STAT 511, Probability, Fall 2016 (52 students)
  - STAT 509, Statistics for Engineers, Fall 2016 (19 students)
  - STAT 823, Large Sample Theory, Spring 2016 (13 students)
  - STAT 509, Statistics for Engineers, Fall 2015 (47 students)
  - STAT 720, Time Series Analysis, Spring 2015 (11 students)
  - STAT 509, Statistics for Engineers, Fall 2014 (45 students)
- Clemson University
  - MATH 302, Statistics for Science and Engineering (4 sections)
  - MATH 309, Introductory Business Statistics (1 section)
- Granted the Teaching Towards Inclusive Excellence (TTIE) Certificate, Center for Teaching Excellence, University of South Carolina, 2020