

# Anton H. Westveld

Canberra, ACT, AUS & Richmond, VA, USA

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## Affiliation

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### Senior Lecturer (Level C) in Statistics (Australian System)

Jan 2017 - Present

Research School of Finance, Actuarial Studies and Statistics (RSFAS)

College of Business and Economics, Australian National University

Canberra, ACT, Australia

- Convenor of the [ASA DataFest](#) at ANU [2021 - Present]
- CBE representative on the CHMS Education Committee [2020 - Present]
- RSFAS Honours Program Convenor [2015 - 2019]

### Affiliate Associate Professor

Aug 2023 - Present

Department of Statistical Sciences and Operations Research

Virginia Commonwealth University

Richmond, Virginia, USA

## Education

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### Ph.D. in Statistics, University of Washington

Seattle, WA, USA

### M.A. in Applied Statistics & Applied Economics, University of Michigan

Ann Arbor, MI, USA

### B.A. in Economics & Political Science, University of Michigan

Ann Arbor, MI, USA

## Work Experience

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### Associate

Jan 2013 - Dec 2017

Statistics Laboratory @ the Bio5 Institute

and the Statistics Graduate Inter-Disciplinary Program (GIDP)

University of Arizona, Tucson, AZ, USA

### Lecturer (Level B) in Statistics

Jul 2014 - Dec 2016

Research School of Finance, Actuarial Studies and Statistics

College of Business and Economics, Australian National University

Canberra, ACT, AUS

### Assistant Professor of Statistics

Jan 2013 - May 2014

Faculty of ESTEM

University of Canberra

Canberra, ACT, AUS

### Statistician and Regular Statistics Faculty

Sep 2011 - Nov 2012

Statistics Laboratory @ the Bio5 Institute

and the Statistics Graduate Inter-Disciplinary Program (GIDP)

University of Arizona, Tucson, AZ, USA

### Assistant Professor of Statistics

Jul 2007 - Aug 2011

Department of Mathematical Sciences

University of Nevada

Las Vegas, NV, USA

Last updated: 2025-12-14

**Post Doctoral Fellow** Jan - Jul 2007  
Center for Empirical Research in the Law  
Washington University  
St. Louis, MO, USA

## Visiting Positions

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**Visiting Faculty** Aug 2019 - Feb 2020  
Department of Statistics & Data Sciences  
University of Texas  
Austin, TX, USA

**Visiting Faculty** Jul - Aug 2019  
Center for Statistics and the Social Sciences  
University of Washington  
Seattle, WA, USA

**Visiting Faculty** Dec 2017  
Department of Statistics & Data Sciences  
University of Texas  
Austin, TX, USA

**Visiting Researcher** Mar 2010  
Division of Mathematics, Informatics, and Statistics  
CSIRO  
Canberra, ACT, AUS

**Visiting Researcher** Jun - Jul 2008  
Division of Computational Biology  
Fred Hutchinson Cancer Research Center  
Seattle, WA, USA

## Continuing Education

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**Operational AI: Balancing National Security & Ethical Governance** Feb - Mar 2025  
Whole of Government Center of Excellence and the Law School  
William & Mary  
Williamsburg, VA, USA

**Modern Leadership: Reflections and Tools for the Values-Based Leader** May 2021  
William & Mary Washington Center  
Washington, DC, USA

**Preparing Statisticians for Leadership:  
How to See the Big Picture and Have More Influence** Jul 2018  
JSM  
Vancouver, BC, CAN

## Scientific Publications

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Marin<sup>#</sup>, S., B. Loong, and A. H. **Westveld**. “Adaptive Shrinkage with a Nonparametric Bayesian Lasso”. Preprint: [arXiv:2411.08262](https://arxiv.org/abs/2411.08262), *Journal of Computational and Graphical Statistics* (2025).  
<https://doi.org/10.1080/10618600.2025.2572327>.

Marin<sup>#</sup>, S., B. Loong, and A. H. **Westveld**. “BOB: Bayesian Optimized Bootstrap with Applications to Gaussian Mixture Models”. Preprint: [arXiv:2311.03644](https://arxiv.org/abs/2311.03644), *Statistics and Computing* (2025).  
<https://doi.org/10.1007/s11222-025-10763-y>.

- Wang<sup>#</sup>, J., A. H. **Westveld**, A. H. Welsh, M. Parker, and B. Loong. “Analysis of Survey on Menstrual Disorder Among Teenagers Using Gaussian Copula Model with Graphical Lasso Prior”. *PLOS ONE* 3 (2021): 1–22. <https://doi.org/10.1371/journal.pone.0248340>.
- Lundy, M. B., C. A. Standley, and A. H. **Westveld**. “Curricular Reform in Two Medical School Tracks and the Impact on USMLE Scores”. *Medical Science Educator* 27, no. 2 (2017): 201–207. <https://doi.org/10.1007/s40670-016-0368-y>.
- Chiu, G. S., and A. H. **Westveld**. “A Statistical Social Network Model for Consumption Data in Trophic Food Webs”. Preprint: <https://arxiv.org/abs/1006.4432>, *Statistical Methodology (Special issue on Modern Statistical Methods in Ecology)* 17 (2014): 139–160. <https://doi.org/10.1016/j.stamet.2013.09.001>.
- Hurwitz, B. L., A. H. **Westveld**, J. R. Brum, and M. B. Sullivan. “Modeling Ecological Drivers in Marine Viral Communities Using Comparative Metagenomics and Network Analyses”. *Proceedings of the National Academy of Sciences of the USA* 111, no. 29 (2014): 10714–10719. <https://doi.org/10.1073/pnas.1319778111>.
- Taylor, A., et al. “The Use of Metformin is Associated with Decreased Lumbar Radiculopathy Pain”. *Journal of Pain Research* 2013, no. 6 (2013): 755–763. <https://doi.org/10.2147/JPR.S52205>.
- Westveld**, A. H., and P. D. Hoff. “Modeling of the Learning Process in Centipede Games”. Preprint: [arXiv:1003.2253](https://arxiv.org/abs/1003.2253), *Stat* 2, no. 1 (2013): 242–254. <https://doi.org/10.1002/sta4.32>.
- Chiu, G. S., and A. H. **Westveld**. “A Unifying Approach for Food Webs, Phylogeny, Social Networks, and Statistics”. *Proceedings of the National Academy of Sciences of the USA* 108, no. 38 (2011): 15881–15886. <https://doi.org/10.1073/pnas.1015359108>.
- Chiu, G. S., P. Guttorp, A. H. **Westveld**, S. A. Khan, and J. Liang. “Latent health factor index: a statistical modeling approach for ecological health assessment”. *Environmetrics* 22, no. 3 (2011): 243–255. <https://doi.org/https://doi.org/10.1002/env.1055>.
- Westveld**, A. H., and P. D. Hoff. “A Mixed Effects Model for Longitudinal Relational and Network Data, with Applications to International Trade and Conflict”. Preprint: [arXiv:1009.1436](https://arxiv.org/abs/1009.1436), *Annals of Applied Statistics* 5, no. 2A (2011): 843–872. <https://doi.org/10.1214/10-AOAS403>.
- Gneiting, T., A. E. Raftery, A. H. **Westveld**, and T. Goldman. “Calibrated Probabilistic Forecasting Using Ensemble Model Output Statistics and Minimum CRPS Estimation”. *Monthly Weather Review* 133, no. 3 (2005): 1098–1118. <https://doi.org/10.1175/MWR2904.1>.

<sup>#</sup> denotes a student that I supervise(d) in some manner.

## Working Papers

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- Chiu, G. S., et al. “Model-based Calibration of Gear-Specific Fish Abundance Survey Data as a Change-of-Support Problem”. *arXiv Statistics Methodology* (2025). **Submitted**, <https://doi.org/10.48550/arXiv.2505.05767>.
- Wolff<sup>#</sup>, M., A. Dobra, A. H. **Westveld**, and G. S. Chiu. “Modeling Human Spatial Mobility Patterns with the Lévy Flight Cluster Model”. *arXiv Statistics Methodology* (2025). **Under Revision**, <https://doi.org/10.48550/arXiv.2509.00298>.
- Kuh<sup>#</sup>, F. S., G. S. Chiu, and A. H. **Westveld**. “Latent Causal Socioeconomic Health Index”. *arXiv Statistics Methodology* (2023). **Under Revision**, <https://arxiv.org/abs/2009.12217>.

- Kuh<sup>#</sup>, F. S., G. S. Chiu, and A. H. **Westveld**. “Modeling National Latent Socioeconomic Health and Examination of Policy Effects via Causal Inference”. *arXiv Statistics Applications* (2019). <https://arxiv.org/abs/arXiv:1911.00512>.
- Wang<sup>#</sup>, J., A. H. **Westveld**, B. Loong, and A. H. Welsh. “An Imputation model by Dirichlet Process Mixture of Elliptical Copulas for Data of Mixed Type”. *arXiv Statistics Methodology* (2019). <https://arxiv.org/abs/1910.05473>.
- Wang<sup>#</sup>, J., A. H. **Westveld**, B. Loong, and A. H. Welsh. “A Copula-based Imputation Model for Missing Data of Mixed Type in Multilevel Data Sets”. *arXiv Statistics Methodology* (2017). <https://arxiv.org/abs/1702.08148>.

## Conference Papers

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- Chien<sup>#</sup>, C.-H., A. Haller, and A. H. **Westveld**. “Firm Business Networks”. *International Workshops on Contextualized Knowledge Graphs, and Semantic Statistics co-located with 17th International Semantic Web Conference* (2018). <http://ceur-ws.org/Vol-2317/>.
- Chiu, G. S., and A. H. **Westveld**. “Physical Statistics or Statistical Physics? A Brief Overview of Bayesian Melding”. ISBN: 978-0-9872143-3-1, *J. Piantadosi and R.S. Anderssen and J. Boland (eds) MODSIM2013, 20th International Congress on Modelling and Simulation. Modelling and Simulation Society of Australia and New Zealand* (2013): 2506–2512. <https://www.mssanz.org.au/modsim2013/A7/chiu.pdf>.
- Jensen, N. M., A. D. Martin, and A. H. **Westveld**. “Foreign Direct Investment: A Longitudinal Social Network Approach”. *Political Networks Conference* (2011). [http://opensiuc.lib.siu.edu/pnconfs\\_2010/51/](http://opensiuc.lib.siu.edu/pnconfs_2010/51/).
- Myroshnychenko<sup>#</sup>, M. V., and A. H. **Westveld**. “Analysis of Morris Water Maze Data with Bayesian Statistical Methods”. [Poster associated with the paper](#) [joint with Dr. Jefferson Kinney]. *UNLV McNair Scholars Institute Annual Report 2011-2012, University of Nevada Las Vegas* (2011): 65–71. [https://digitalscholarship.unlv.edu/cgi/viewcontent.cgi?article=1002&context=mcnair\\_journal](https://digitalscholarship.unlv.edu/cgi/viewcontent.cgi?article=1002&context=mcnair_journal).
- Quinn, K. M., and A. H. **Westveld**. “Bayesian Inference for Semi-parametric Quantal Response Equilibrium Models”. *JSM Proceedings, Section on Bayesian Statistical Science* (2009). <https://github.com/awest3/awest3.github.io/blob/main/docs/extraFiles/SpqreJsmProc09.pdf>.
- Letnes, B., and A. H. **Westveld**. “Transnational Corporations, Economic Development and Human Rights: On the Importance of Assets and Institutions”. *APSA Proceedings* (2005). <https://convention2.allacademic.com/one/apsa/apsa05/>.
- Westveld**, A. H., and P. D. Hoff. “Statistical Methodology for Longitudinal Social Network Data”. *APSA Proceedings* (2005). <https://convention2.allacademic.com/one/apsa/apsa05/>.

## Technical & Client Reports

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- Chien<sup>#</sup>, C.-H., A. H. Welsh, and A. H. **Westveld**. “Australian Business Networks”. *ABS Research Paper* (2019). <https://www.abs.gov.au/ausstats/abs@.nsf/mf/1351.0.55.063>.
- Chiu, G. S., S. Treier, A. H. **Westveld**, and N. Erskine. “Progress Report on ‘Evidence-based inference for network relations using latent space network modelling: Case studies from the Australian political landscape’”. *Report prepared for ANU College of Arts and Social Sciences* (2019).

Macatangay, K., A. H. **Westveld**, and B. Kunkel. “Intervening for Success”. *Report prepared for Clark County District Attorney, Family Support Division and the U.S. Department of Health and Human Services* (2012).

## Competitive Grants & Other Funding

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- Consulting** at the [Virginia Institute of Marine Science](#) (William & Mary). 2022
- Statistical Consultant (Bayesian methodology) - [U.S. Greater Amberjack Research Program](#).
- Instructor** at the [Australian Institute of Health and Welfare](#). 2019
- One day statistics and data science with R workshop.
- International Collaborator** of the [SFI Centre for Research Training Foundations of Data Science](#). 2019
- Co-PI** of ANU RSFAS & RSSS cross-college grant. 2018
- Evidence-based inference for network relations using latent space network modelling: Case studies from the Australian political landscape.
  - In collaboration with the other PIs: Dr. Shawn Treier and Dr. Grace Chiu.
- Co-PI** for sustainable farming practices from the Ian Potter Foundation. 2018
- In collaboration with Professor David Lindenmayer (PI) et al., including Associate Professor Emma Schultz, Dr. Grace Chiu (CBE Co-PIs).
- Co-PI** for sustainable farming practices pilot project - 1 year grant. 2016
- In collaboration with Professor David Lindenmayer (PI) et al., including Associate Professor Emma Schultz, Dr. Grace Chiu (CBE Co-PIs).
- Co-PI** for IBISWorld philanthropic grant. 2016-2018
- IBISWorld, Melbourne, Australia - 3 year grant; Part of this grant was used to create the IBISWorld Ph.D. Scholarship awarded to Ms. F. Swen Kuh, who is jointly advised by myself and Dr. Grace Chiu (PI).
- Sub-grant PI** for Clark County District Attorney’s Office Family Support Division, Nevada, USA. 2009-2012
- Child Support Policies via Randomized Experiments (Evidenced Based Policy) funded from the US Department of Health & Human Services.
- Sub-grant PI** of NSERC Discovery Grant. 2009
- Statistical modelling of health indices for aquatic ecosystems.
- PI** of the New Researchers’ US Federal Stimulus Award. 2008
- PI** of the Nevada System of Higher Education, NSF EPSCoR RING TRUE. 2007 - 2008

## Courses Taught, Convened<sup>+</sup>, & Developed\*

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- Statistical Learning**<sup>++</sup> 2015 - 2017, 2021 - Present  
ANU STAT 3040/4040/7040 [undergraduate, honours, graduate - some years graduate and undergraduate were not jointly taught]
- Statistical Inference**<sup>+</sup> 2014 - 2020, 2024 - Present  
ANU STAT3013/4027/8027 [undergraduate, honours, graduate]
- Statistics for Data Analysis A & B**<sup>++</sup> 2021  
ANU Micro-credential Course [professional]

<b>Regression Modelling + Introduction to GLMs<sup>+</sup></b> ANU STAT 2008/2014/6014 [undergraduate and graduate]	2020
<b>Regression Modelling<sup>+</sup></b> ANU STAT 2008/6038 [undergraduate and graduate]	2018 [944 students enrolled]
<b>Managing the Research Process<sup>++</sup></b> ANU STAT 4010 [honours]	2016 - 2018
<b>Introduction to Mathematical Statistics<sup>+</sup></b> ANU STAT2001/6039 [undergraduate and graduate]	2014
<b>Econometrics<sup>+</sup></b> UC 6541/6551 [undergraduate and graduate]	2014
<b>Problem Evaluation and Resolution<sup>+</sup></b> UC 8730 [undergraduate]	2013 - 2014
<b>Introduction to Business Statistics<sup>+</sup></b> UC 5123/6275 [undergraduate and graduate]	2013
Aided in developing a course on <b>network data<sup>*</sup></b> for the School of Information: Science, Technology, and Arts (SISTA) UA [undergraduate]	2012
<b>Applied Statistics for the Biological Sciences<sup>+</sup></b> UNLV STAT 391 [undergraduate]	2008 - 2010
<b>Experimental Design and Analysis<sup>+</sup></b> UNLV STAT 713 [graduate]	2008 - 2010
<b>Bayesian Data Analysis<sup>++</sup></b> UNLV STAT 753 [graduate]	2009
Independent study for <b>Bayesian Data Analysis<sup>++</sup></b> UNLV STAT 753 [graduate]	2008 - 2011
<b>Regression Analysis II<sup>++</sup></b> (GLMs, LMMs, GLMMs) UNLV STAT 762 [graduate]	2010 - 2011
<b>Statistical Decision Theory<sup>+</sup></b> UNLV Stat 765 [graduate]	2008
<b>Multivariate Analysis<sup>+</sup></b> UNLV Stat 764 [graduate]	2007
Note: Australian National University (ANU), University of Arizona (UA), University of Canberra (UC), University of Nevada, Las Vegas (UNLV)	

## Research Advising and Mentoring

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<b>Santiago Marin Ardila</b> , Ph.D. student in Statistics, RSFAS, ANU. <ul style="list-style-type: none"> <li>Project: Bayesian Posterior Approximation and Non-Parametrics</li> </ul>	2023 - Present Co-Pri Adv
<b>Chris Malone</b> , Master's in Statistics, RSAF, ANU. <ul style="list-style-type: none"> <li>Project: Bayesian Inference of Eradication of Incipient Tephritid Fruit Fly</li> <li>LinkedIn: <a href="https://www.linkedin.com/in/cm-ds/">https://www.linkedin.com/in/cm-ds/</a></li> </ul>	2021 - 2022 Co-Pri Adv

- Malcolm Wolff**, Ph.D. student in Statistics, Univ. of Washington, Seattle. 2021 - Present  
Co-Adv
- Project: Statistical Modelling of Human Movement, Social Activity Spaces, and Networks
  - LinkedIn: <https://www.linkedin.com/in/malcolm-wolff-82b1586a/>
- Fui Swen Kuh**, IBISWorld Ph.D. Scholar in Statistics, RSFAS, ANU. 2016 - 2022  
Co-Pri Adv
- Project: [A Holistic Bayesian Framework for Modelling Latent Socio-Economic Health](#)
  - Winner of the Inaugural Poster competition of the ASA Social Statistics Section - JSM 2018
  - LinkedIn: <https://www.linkedin.com/in/swenkuh/>
- Joseph Chien**, Ph.D in Statistics, Mathematical Sciences Institute, ANU. 2016 - 2021  
Assoc Adv
- Project: [Using Administrative Data to Gain Insights into Microdrivers of Productivity](#)
  - LinkedIn: <https://www.linkedin.com/in/joseph-chien-hung-chien-6a5184a9/>
- Jiali Wang**, Ph.D in Statistics, RSFAS, ANU. 2015 - 2018  
Co-Pri Adv
- Project: [Recent Developments of Copula-Based Models to Handle Missing Data of Mixed-Type in Multivariate Analysis](#)
  - Recipient of the 2018 Dennis Trewin Prize presented by the Statistical Society of Australia - Canberra Branch.
  - LinkedIn: <https://www.linkedin.com/in/jiali-wang-89244513b/>
- Mark Dawkins**, Honours in Statistics (H1), RSFAS, ANU. 2017  
Co-Pri Adv
- Project: [Melded Bayesian Inference for Stochastic Theoretical Models with Applications in Agent Based Modelling](#)
  - LinkedIn: <https://www.linkedin.com/in/mark-dawkins-479762122/>
- Jaron Lee**, Honours in Statistics (H1), RSFAS, ANU. 2016  
Pri Adv
- Project: [A Variational Bayes Approach to Clustered Latent Preference Models for Directed Network Data](#)
  - Recipient of an [ANU University Medal](#)
  - Received Ph.D. in Computer Science from Johns Hopkins University
  - LinkedIn: <https://www.linkedin.com/in/jaron-jr-lee/>
- Fui Swen Kuh**, ANU Summer Research Scholar from the Department of Statistics, University of Auckland. 2015  
Pri Co-Adv
- Project: [Social Network Analysis on Food Web and Dispute Data](#)
  - LinkedIn: <https://www.linkedin.com/in/swenkuh/>
- Seoyoon Cho**, CSIRO Industrial Trainee from the Department of Statistics, Korea University. 2014  
Co-Adv
- Project: Modeling Network Data Using PyStan
  - Received Ph.D. in Biostatistics from University of North Carolina
- Hyangki Lee**, CSIRO Industrial Trainee from the Department of Statistics, Korea University. 2014  
Co-Adv

- Project: Modeling Network Data Using PyStan
- Yaroslav Mukhin**, M.S. in Statistics, University of Nevada, Las Vegas. 2010 - 2012  
Mentor
- Project: Inference for the Solow Growth Model: A Bayesian Melding Approach
  - Received Ph.D. in Economics from Massachusetts Institute of Technology
  - LinkedIn: <https://www.linkedin.com/in/yaroslav-mukhin-6b7890229/>
- Maxym Myroshnychenko**, NSF Biomathematics Scholar and UNLV McNair Scholar, University of Nevada, Las Vegas. 2010 - 2012  
Pri Adv
- Project: [Analysis of Morris Water Maze Data with Bayesian Statistical Methods](#)
  - Received Ph.D. in Neuroscience from Indiana University Bloomington
  - LinkedIn: <https://www.linkedin.com/in/maxym-myroshnychenko-b79b2b51/>

## Internship (Consulting) Advising & Mentoring

- Rory Williams**, ANU College of Business and Economics Internship Program. 2021  
Pri Adv
- Joint internship through Australian Department of Social Services
- James Kondilios**, ANU College of Science Internship Program. 2019  
Pri Adv
- Joint internship through Airservices Australia
- Jizhi Li**, ANU College of Science Internship Program. 2017  
Pri Adv
- Joint internship through the National Disability Insurance Agency, Australia
- Yiran Yao**, ANU College of Science Internship Program. 2017  
Pri Adv
- Joint internship through the National Disability Insurance Agency, Australia

## Selected Professional Activities & Awards

- Associate Editor** for the Journal of the American Statistical Association. 2019 - Present
- Associate Editor** for the quarterly bulletin of the International Society for Bayesian Analysis. 2016 - Present
- Instructor** for the statistics/data science workshop for the National Youth Science Foundation of Australia. 2019
- Best Poster Award.** Young Statisticians' Meeting (satellite meeting of the ISI), Dublin, IRL. 2011
- Title: Dirichlet Processes for Quantal Response Equilibrium Models - Examination of Pegged Exchange Rate Policies
- Best Poster Award.** Political Networks Conference, Cambridge, MA, USA. 2011
- Title: A Bayesian Mixed Effects Model for Longitudinal Social Network Data
- Student Paper Award.** Joint Statistical Meeting, Salt Lake City, UT, USA. 2007  
ASA Section on Bayesian Statistical Science
- Title: A Bayesian Mixed Effects Model for Longitudinal Social Network Data

## Recent Seminars

- Invited.** Professor Adrian Raftery's [ABCDE Retirement Conference](#), University of Washington, 2024  
Seattle, WA, USA.
- Modelling National Latent Socioeconomic Health and Examination of Policy Effects

<b>Invited.</b> Virginia Chapter of the ASA Conference, Charlottesville, VA, USA.	2024
• Bayesian Optimized Bootstrap (BOB) for Uncertainty Quantification in Gaussian Mixture Models	
<b>Invited.</b> The International Environmetrics Society, Adelaide, AUS.	2024
• A Bayesian Melding Approach for Stochastic Agent-Based Models	
<b>Invited.</b> Virginia State University, Petersburg, VA, USA.	2023
• A Bayesian Melding Approach for Stochastic Agent-Based Models	
<b>Invited.</b> Virginia Commonwealth University, Richmond, VA, USA.	2023
• A Bayesian Melding Approach for Stochastic Agent-Based Models	

## Professional Societies

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<b>American Statistical Association</b>	2002 - Present
<b>American Political Science Association</b>	2002 - Present
<b>Statistical Society of Australia</b>	2010 - Present
<b>International Society for Bayesian Analysis</b>	2017 - Present