

Anton H. Westveld

Canberra, ACT, AUS & Richmond, VA, USA

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Affiliation

Senior Lecturer (Level C) in Statistics (Australian System) Research School of Finance, Actuarial Studies and Statistics (RSFAS) College of Business and Economics, Australian National University Canberra, ACT, Australia	Jan 2017 - Present
<ul style="list-style-type: none">• 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 Department of Statistical Sciences and Operations Research Virginia Commonwealth University Richmond, Virginia, USA	Aug 2023 - Present
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Education

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

Associate Statistics Laboratory @ the Bio5 Institute and the Statistics Graduate Inter-Disciplinary Program (GIDP) University of Arizona, Tucson, AZ, USA	Jan 2013 - Dec 2017
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Lecturer (Level B) in Statistics Research School of Finance, Actuarial Studies and Statistics College of Business and Economics, Australian National University Canberra, ACT, AUS	Jul 2014 - Dec 2016
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Assistant Professor of Statistics Faculty of ESTEM University of Canberra Canberra, ACT, AUS	Jan 2013 - May 2014
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Statistician and Regular Statistics Faculty Statistics Laboratory @ the Bio5 Institute and the Statistics Graduate Inter-Disciplinary Program (GIDP) University of Arizona, Tucson, AZ, USA	Sep 2011 - Nov 2012
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Assistant Professor of Statistics Department of Mathematical Sciences University of Nevada Las Vegas, NV, USA	Jul 2007 - Aug 2011
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Post Doctoral Fellow Center for Empirical Research in the Law Washington University St. Louis, MO, USA	Jan - Jul 2007
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Visiting Positions

Visiting Faculty Department of Statistics & Data Sciences University of Texas Austin, TX, USA	Aug 2019 - Feb 2020
Visiting Faculty Center for Statistics and the Social Sciences University of Washington Seattle, WA, USA	Jul - Aug 2019
Visiting Faculty Department of Statistics & Data Sciences University of Texas Austin, TX, USA	Dec 2017
Visiting Researcher Division of Mathematics, Informatics, and Statistics CSIRO Canberra, ACT, AUS	Mar 2010
Visiting Researcher Division of Computational Biology Fred Hutchinson Cancer Research Center Seattle, WA, USA	Jun - Jul 2008

Continuing Education

Operational AI: Balancing National Security & Ethical Governance Whole of Government Center of Excellence and the Law School William & Mary Williamsburg, VA, USA	Feb - Mar 2025
Modern Leadership: Reflections and Tools for the Values-Based Leader William & Mary Washington Center Washington, DC, USA	May 2021
Preparing Statisticians for Leadership: How to See the Big Picture and Have More Influence JSM Vancouver, BC, CAN	Jul 2018

Scientific Publications

Marin#, S., B. Loong, and A.H. Westveld . "Adaptive Shrinkage with a Nonparametric Bayesian Lasso". Preprint: arXiv:2411.08262 , <i>Journal of Computational and Graphical Statistics</i> (2025). https://doi.org/10.1080/10618600.2025.2572327 .
Marin#, S., B. Loong, and A.H. Westveld . "BOB: Bayesian Optimized Bootstrap with Applications to Gaussian Mixture Models". Preprint: arXiv:2311.03644 , <i>Statistics and Computing</i> (2025). https://doi.org/10.1007/s11222-025-10763-y .

Wang[#], Jiali, **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>.

A.H. Westveld 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>.

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>.

A.H. Westveld 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>.

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, Grace S., Peter Guttorp, **Westveld, Anton H.**, Shahedul A. Khan, and Jun 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>.

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>.

denotes a student that I supervise in some manner.

Working Papers

Chiu, Grace 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[#], Malcolm, Adrian Dobra, **Anton H. Westveld**, and Grace 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[#], 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#, 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#, 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#, 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

C.H. Chien#, 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, *In Piantadosi, J., Anderssen, R.S. and Boland J. (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://openiuc.lib.siu.edu/pnconfs_2010/51/.

Myroshnychenko#, 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.

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/extrFiles/SpqrJsmProc09.pdf>.

A.H. Westveld and P.D. Hoff. “Statistical Methodology for Longitudinal Social Network Data”. *APSA Proceedings* (2005). <https://convention2.allacademic.com/one/apsa/apsa05/>.

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/>.

Technical & Client Reports

Chien#, Chien-Hung, 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

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⁺, & Developed*

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

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

Santiago Marin Ardila , Ph.D. student in Statistics, RSFAS, ANU. • Project: Bayesian Posterior Approximation and Non-Parametrics	2023 - Present Co-Pri Adv
Chris Malone , Master's in Statistics, RSAF, ANU. • Project: Bayesian Inference of Eradication of Incipient Tephritis Fruit Fly • LinkedIn: https://www.linkedin.com/in/cm-ds/	2021 - 2022 Co-Pri Adv

Malcolm Wolff , Ph.D. student in Statistics, Univ. of Washington, Seattle.	2021 - Present Co-Adv
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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

<ul style="list-style-type: none"> • Project: Modeling Network Data Using PyStan 		
Yaroslav Mukhin , M.S. in Statistics, University of Nevada, Las Vegas.	2010 - 2012	Mentor
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • Joint internship through Australian Department of Social Services 	Pri Adv
James Kondilios , ANU College of Science Internship Program.	2019
<ul style="list-style-type: none"> • Joint internship through Airservices Australia 	Pri Adv
Jizhi Li , ANU College of Science Internship Program.	2017
<ul style="list-style-type: none"> • Joint internship through the National Disability Insurance Agency, Australia 	Pri Adv
Yiran Yao , ANU College of Science Internship Program.	2017
<ul style="list-style-type: none"> • Joint internship through the National Disability Insurance Agency, Australia 	Pri Adv

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
<ul style="list-style-type: none"> • Title: Dirichlet Processes for Quantal Response Equilibrium Models - Examination of Pegged Exchange Rate Policies 	
Best Poster Award. Political Networks Conference, Cambridge, MA, USA.	2011
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • 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.	
<ul style="list-style-type: none"> • Modelling National Latent Socioeconomic Health and Examination of Policy Effects 	

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

Professional Societies

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