

# Andy Krause

## Curriculum Vitae

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## EDUCATION

- 2013 Ph.D. Urban Design and Planning (Interdisciplinary)**, University of Washington  
-Dissertation Research: Urban Intensification in Seattle: A Data System, Policy Evaluation and Market Analysis
- 2004 M.S. Urban Planning**, University of Arizona  
-Thesis: A Cost/Benefit Analysis of Tucson's Historic Preservation Tax Credit
- 2002 B.S. Geography**, University of Wisconsin-Stevens Point  
-Concentration: Urban Planning and Land Use  
-Minor: Geographic Information Systems (GIS)

## EMPLOYMENT

### Industry Employment

- 2025 - Director, Applied Science**, Zillow
- 2021 - 25 Senior Manager, Applied Science**, Zillow
- 2019 - 21 Manager, Applied Science**, Zillow
- 2018 - 19 Senior Applied Scientist**, Zillow
- 2017 - 18 Principal Data Scientist**, Greenfield Advisors
- 2014 - 15 Data Scientist (Consultant)**, Zillow
- 2005 - 14 Senior Analyst**, Greenfield Advisors

### Academic Employment

- 2015 - 17 Lecturer**, Department of Property, University of Melbourne
- 2013 - 14 Post-Doctoral Research Associate**, Runstad Center for Real Estate Studies, University of Washington

# PUBLICATIONS, PRESENTATIONS, and RESEARCH

## Books

- 2017 Real Estate Analysis in the Information Age. *with K. Winson-Geideman, C. Lipscomb & N. Evangelopoulos.* Routledge, ISBN-13: 9781138232907.

## Peer-Reviewed Publications

- 2020 Krause, A. and Aschwanden, G. To Airbnb?: Factors impacting short-term leasing preference. *Journal of Real Estate Research*, 42(2), 261-284. [Access via DOI](#)
- 2020 Krause, A., Martin, A. and Fix, M. Uncertainty in Automated Valuation Models: Error- vs Model-Based Approaches. *Journal of Property Research*, 37(4), 308-339. [Access via DOI](#)
- 2018 Warren-Myers, G., Aschwanden, G., Fuerst, F., and Krause, A. Estimating the real implications of sea level rise for public and private property ownership, occupation and management. *Risks*, 6(2), 37. [Access via DOI](#)
- 2018 Estiri, H. and A. Krause. A Cohort Location Model of Household Sorting in US Metropolitan Regions. *Urban Studies*, 55(1), 71-90. [Access via DOI](#).
- 2018 Lipscomb, C., Youtie, J., Shapiro, P., Arora, S. & Krause, A. Evaluating the Impact of Manufacturing Extension Services on Establishment Performance. *Economic Development Quarterly*, 32(1), 29-43. [Access via DOI](#)
- 2017 Winson-Geideman, K., A. Krause, G. Warren-Myers, and H. Wu. Non-spatial Contagion in Real Estate Markets: The Case of Brookland Greens. *Journal of Sustainable Real Estate*, 9(1), 22-45. [Access via DOI](#).
- 2017 Bitter, C. and A. Krause. The Influence of Urban Design Packages on Home Values. *International Journal of Housing Market Analysis*, 10(2), 184-203. [Access via DOI](#).
- 2016 Krause, A. and C. Lipscomb. The Data Preparation Process in Real Estate: Guidance and Review, *Journal of Real Estate Practice and Education*, 19(1), 15-42. [Access via DOI](#).
- 2016 Krause, A. Reproducible Research in Real Estate: A Review and an Example, *Journal of Real Estate Practice and Education*, 19(1), 69-85. [Access via DOI](#).
- 2015 Sim, E., A. Krause, and K. Winson-Geideman. The Impact of Transit Oriented Development (TOD) on Residential Property Prices: The Case of Box Hill, Melbourne. *Pacific Rim Property Research Journal*, 21(3), 199-214. [Access via DOI](#).
- 2015 Krause, A. Piece-by-Piece: Low-rise Redevelopment in Seattle, *Journal of Property Research*, 32(3), 258-278. [Access via DOI](#).
- 2015 Estiri, H, A. Krause & M. Heris. "Phasic" metropolitan settlers: a phase-based model for the distribution of households in US metropolitan regions, *Urban Geography*, 36(5), 777-794. [Access via DOI](#).

- 2012 Krause, A. & C. Bitter. Spatial Econometrics, Land Values and Sustainability: Trends in Real Estate Valuation, *Cities, Special Issue: Current Research on Cities*, 29(S1), S19-S25. [Access via DOI](#).
- 2012 Krause, A., R. Throupe, J. Kilpatrick, & W. Spiess. Contaminated Properties, Trespass, and Underground Rents, *Journal of Property Investment & Finance* 30(3), 304-320. [Access via DOI](#).
- 2011 Krause, A. & M. Kummerow. An Iterative Approach to Minimizing Valuation Errors using an Automated Comparable Sales Model, *Journal of Property Tax Assessment & Administration* 8(2), 39-52.
- 2007 Kilpatrick, J., J. Carruthers, R. Throupe & A. Krause. The Impact of Transit Corridors on Residential Property Values, *Journal of Real Estate Literature* 29(3), 303-320. [Access via DOI](#)

## Academic Conference Publications (Peer Reviewed)

- 2023 Moghimi, F., Johnson, R. and & A. Krause. "Rethinking Real Estate Pricing with Transformer Graph Neural Networks (T-GNN)" *International Conference on Machine Learning and Applications*. [Paper Link](#)
- 2016 Winson-Geideman, K. & A. Krause. "Transformations in Real Estate Research: The Big Data Revolution" *Pacific Rim Real Estate Society Annual Conference*. [Proceedings Link](#)

## Other Academic Publications

- 2023 Zabel, J., Phaneur, D. and Krause, A. Introduction to the Special Issue Property Value Analysis using ZTRAX: Applications under the Approaching Sunset, *Journal of Housing Economics*, 62, 1051-1377. [Access via DOI](#)

## Industry Publications

- 2016 Krause, A. Winson-Geideman, K. & Warren-Myers, G. Does 'Big Data' offer big potential to the property industry? *Australia and New Zealand Property Journal*, July, 358-363.

## Patents

- 2017 Krause, A. Lipscomb, C. A. & Kilpatrick, J. A. *Automated-valuation-model training-data optimization systems and methods*. U.S. Patent 9,582,819, filed September 26, 2013, and issued February 28, 2017.

## Software

- 2020 Krause, A. *hpiR: An R package for House Price Indexes*. [hpiR](#), Accepted to CRAN, 2018-08-18, Updated 2020-04-04.
- 2023 Krause, A. *kingCoData: Housing market data for King County, WA: 2000 - 2022*. [kingCoData](#), Last updated 2023-01-15.

## Academic Conference Presentations and Panels

- 2025 "A Multi-criteria Evaluation of House Price Indexes", American Real Estate Society Annual Meeting, Tucson, AZ.
- 2020 (Invited Discussant) "Real Estate Finance and Investment Symposium", Geneva, Switzerland.
- 2020 (Invited Keynote Speaker) (COVID Canceled) "International Association of Assessing Officer: International Research Symposium", Copenhagen, Denmark.
- 2019 (Invited Panelist) "National Science Foundation: Sustainable Urban Systems", Dearborn, MI.
- 2019 "A machine learning approach to House Price Indexes with the 'hpiR' package", American Real Estate Society Annual Meeting, Paradise Valley, AZ.
- 2019 (Panel) "Big Data and the Future of Real Estate Research, Practice and Education", Panel Member, American Real Estate Society Annual Meeting, Paradise Valley, AZ.
- 2018 "To Airbnb: A Question of Returns", American Real Estate Society Annual Meeting, Bonita Springs, FL. Co-Authored with Gideon Aschwanden.
- 2018 (Panel) "Software Tools and Open Data", Panel Host and Member, American Real Estate Society Annual Meeting, Bonita Springs, FL.
- 2017 "Should I Airbnb My Property?", Real Estate Research Institute Annual Conference, Chicago, IL. Co-Authored with Gideon Aschwanden.
- 2017 "House Price Indexes for Submarkets: A Blending Approach", American Real Estate Society Annual Meeting, San Diego, CA.
- 2017 (Panel) "Big Data Analytics", Panel Member, American Real Estate Society Annual Meeting, San Diego, CA.
- 2016 "Deriving Rent-to-Price Ratios: A Comparison of Methods", American Real Estate Society Annual Meeting, Denver, CO. Co-Authored with Gideon Aschwanden
- 2016 "Property-Level Real Estate Data: Processing Techniques and Documentation Review", Pacific Rim Real Estate Society Annual Meeting, Sunshine Coast, QLD. Co-Authored with Clifford A. Lipscomb
- 2014 "Piece by Piece: A Parcel-Level Statistical Analysis of Medium Density Redevelopment in Seattle", Western Regional Science Association Annual Meeting, San Diego, CA.
- 2013 "Investigating the 'Re-urbanism Hypothesis' through an analysis of land market trends.", Western Regional Science Association Annual Meeting, Santa Barbara,

CA.

- 2012 "Expanding GWR: Exploring an N-dimensionally locally weighted regression technique for home price estimation", Western Regional Science Association Annual Meeting, Kauai, Hawaii.
- 2011 "N-dimensional locally weighted regression for house price prediction", American Real Estate Society Annual Meeting, Seattle, Washington.
- 2009 "An Iterative Approach to Minimizing Valuation Errors using an Automated Comparable Sales Model", American Real Estate Society Annual Meeting, Monterrey, CA. Co-Authored with Max Kummerow.
- 2007 "Valuation of Underground Storage and Rents", American Real Estate Society Annual Meeting, San Francisco, CA. Co-Authored with Throupe, R., Kilpatrick, J., & Spiess, W.

## Industry Conference Presentations

- 2023 (Invited Keynote), "Spatio-Temporal Variability and Algorithm Choice" at "GIS/CAMA Valtech", Sponsored by URISA and IAAO, April 3-6, Las Vegas.
- 2022 "TAF's IAC AVM Standards Report", Appraisal Institute Annual Conference, Las Vegas, NV. with Paul Chandler.
- 2022 "TAF's IAC AVM Standards Report", Collateral Risk Network (CRN) Spring Conference, New Orleans, LA. with Paul Chandler.
- 2021 (Invited Keynote) "GIS/CAMA Valtech", Sponsored by URISA and IAAO, March 27-28, Virtual.
- 2018 "Price Indexes for Submarkets: The Hierarchical Blending Method", GIS/CAMA Conferences (Hosted by IAAO and URISA), Houston, TX.
- 2017 "Mass Appraisal and Big Data (Thinking):Process over Petabytes", International Property Tax Institute (IPTI) Annual Caribbean Conference, Trinidad and Tobago.

## Industry Service

- 2023- Member, Advisory Council. The Center for Appraisal Research and Technology (CART). [www.openappraisal.org](http://www.openappraisal.org).
- 2020-3 The Appraisal Foundation's Industry Advisory Committee (IAC) Automated Valuation Model (AVM) Task Force. Executive Committee Member. Co-Author of Final Report submitted to the Appraisal Foundation. Current Vice-Chair of Post-Report Subcommittee

## Book Chapters

- 2025 Moghimi, F, Johnson, R. and Krause, A."Transformer Graph Neural Networks (T-GNNs) for Home Valuation." *Recent Advances in Deep Learning Applications: New Techniques and Practical Examples* (2025): 197. [Access via DOI](#)

- 2017 "An Analysis of Household Location Choice in Major U.S. Metropolitan Areas using R", in *The Practice of Reproducible Research*, eds. Kitzes, J., Turek, D. & Deniz, F. University of California Press. Co-Authored with Estiri, H. ISBN: 9780520294752 [www.practicereproducibleresearch.org](http://www.practicereproducibleresearch.org).

## Grant Funded Research

- 2016-7 Krause, A and Aschwanden, G. Should I AirBNB my property? Funded by the Real Estate Research Institute, Chicago. \$15,000
- 2014 Youtie, J, Lipscomb, C, Krause, A and Arora, S. Evaluating the Long-term Effect of NIST MEP Services on Establishment Performance. Funded by the National Institute of Standards and Technology.
- 2014 Crellin, G, Krause, A and O'Connor, S. Role of Housing and other Real Estate in Wealth Accumulation by Asian Immigrants to the United States. Funded by the Asian Real Estate Association of America (AREAA).
- 2013 Moudon, A, Hallenbeck, M, Sheikh, A, Krause, A, & Stewart, O. Land Development Risks along State Transportation Corridors. Prepared for the State of Washington, Department of Transportation. Report WA-RD 805.1.

## Selected Working Papers

- 2020 "A machine learning approach to House Price Indexes with the 'hpiR' package".
- 2018 "Explaining Differences in Rent-Price Ratio Estimates: A Comparison of Three Methods" with G. Aschwanden.
- 2018 "House Price Indexes for Submarkets: A Blending Approach"

## Published Book Reviews

- 2013 Housing Markets and the Global Financial Crisis: The Uneven Impact on Households. Edited by Ray Forrest and Ngai-Ming Yip. *Journal of Regional Science*, 2013, 53(3), 547-548.
- 2013 Systems Thinking and Decision Making in Urban and Environmental Planning. by Anastassios Perdicoulis, *Review of Regional Studies*, 2013, 42(2), 179-180.
- 2006 Employment and Regional Development Policy: Market Efficiency versus Policy Intervention – Edited by Helmut Karl and Phillippe Rollet, *Papers in Regional Science*, 2006, 85(1), 163-165.
- 2005 The Real and Virtual Worlds of Spatial Planning. *Papers in Regional Science*, 2005, 84(1), 139-140.

## Media Mentions

2021-10-14 Zestimates for dummies: Everything agents need to know in 2021. *Inman Online*. [Link](#)

2018-03-22 Love that view? See how much more you'll pay. *Associated Press posting on New York Times, Chicago Tribune and others*. [Link](#)

2016-05-17 Playing the rental yield: secrets to choosing an investment property. *Domain*. [Link](#).

## AWARDS and SERVICE

### Academic Awards

- 2021 Winner, Best Paper in Real Estate Market Analysis, American Real Estate Society Annual Meeting. (Co-Authored with Jeremy Gabe, Drew Sanderford and Spenser Robinson).
- 2019 Winner, Practitioner Research Award, American Real Estate Society Annual Meeting.
- 2018 Winner, Best Paper in Real Estate Market Analysis, American Real Estate Society Annual Meeting (co-Authored with Gideon Aschwanden).
- 2018 Winner, Practitioner Research Award, American Real Estate Society Annual Meeting.
- 2017 Winner, Best Journal Paper, Pacific Rim Real Estate Society Annual Meeting (co-Authored with Eileen Sim and Kimberly Winson-Geideman).
- 2016 Winner, Best Refereed Paper, Pacific Rim Real Estate Society Annual Meeting (co-Authored with Clifford A. Lipscomb).
- 2015 Winner, Best Paper in Real Estate Education, American Real Estate Society Annual Meeting (co-Authored with Clifford A. Lipscomb).
- 2013 Recipient, Lincoln Institute of Land Policy Doctoral Fellowship.
- 2013 Winner, Emerald Literati Highly Commended Author Award, 2013 with Co-Authors Throupe, Kilpatrick and Spiess (2012).
- 2013 Finalist, Western Regional Science Association Tiebout Prize.
- 2013 Recipient, University of Washington, Urban Design and Planning PhD Student Award.
- 2013 Recipient, American Real Estate Society Doctoral Student Travel Fund.
- 2009 Best Paper by a Practicing Professional, American Real Estate Society Annual Meeting (co-Authored with M. Kummerow).
- 2001 Academy of Letters and Science, Distinguished Student Achievement Award, University of Wisconsin - Stevens Point.

## Industry Service

- 2024+ Member, MISMO AVM Developmental Working Group.
- 2023+ Research Advisory Council Member: [Center for Appraisal Research and Technology](#)
- 2022-3 Vice Chairman: The Appraisal Foundation's Industry Advisory Committee's AVM Task Force.
- 2021-2 Member: The Appraisal Foundation's Industry Advisory Committee's AVM Task Force.

## Academic Service

- 2023 - Editor, Technology Section: Journal of Real Estate Literature
- 2021 - Referee: Journal of Real Estate Research
- 2020 Referee: Journal of Sustainable Real Estate
- 2019 Referee: Journal of Real Estate Practice and Education
- 2017-8 Referee: Journal of Real Estate Research; Journal of Property Research; National Science Centre of Poland.
- 2016-7 Member, Human Ethics Advisory Group (HEAG). Faculty of Architecture, Building and Planning
- 2015-7 Referee: Urban Studies; Pacific Rim Property Research Journal; Geographical Review; Building, Research and Information; Journal of Real Estate Practice and Education; Land Use Policy; Applied GIS; Urban Studies, Applied Spatial Analysis and Policy
- 2016 Helper: Research Bazaar Melbourne, R Stream
- 2013-4 Referee: Australasian Journal of Regional Studies
- 2013-4 Journal of Regional Science Book Reviewer
- 2012-3 Review of Regional Science Book Reviewer
- 2005-6 Papers in Regional Science Book Reviewer

## PhD Supervision

Russo, Patrizia. University of Melbourne. Co-Supervisor. Expected completion 2017.  
Rao, Fujie. University of Melbourne. Committee Member. Expected completion 2018.

## TEACHING

### University of Melbourne

- 2015-7 Property Research and Analysis
- 2015-6 Property Thesis/Professional Project
- 2015-6 International Property Development

2016 Introduction to R (Assistant)

## **University of Washington**

2013 Microsoft Excel Bootcamp (MSRE Students)  
2012 Real Estate Finance (Assistant to J. Delisle)

Last updated: November 10, 2025

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