

# Rob J Hyndman

FAA, FASSA, BSc (Hons), PhD, AStat

## Curriculum Vitae

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## Education and qualifications

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| B.Sc.(Hons) | University of Melbourne          | 1988 |
| Ph.D.       | University of Melbourne          | 1992 |
| A.Stat.     | Statistical Society of Australia | 2000 |

## Current position

2003– **Professor**, Department of Econometrics & Business Statistics, Monash University

## Fellowships

- Fellow of the Australian Academy of Science (elected 2021).
- Fellow of the Academy of the Social Sciences in Australia (elected 2020).
- Fellow of the International Institute of Forecasters (elected 2021).

## Selected awards and honours

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| 2022 | Australian Awards for University Teaching citation for outstanding contributions to student learning |
| 2021 | Pitman Medal, Statistical Society of Australia   |
| 2021 | Elected Fellow of the Australian Academy of Science  |
| 2021 | Elected Fellow of the International Institute of Forecasters   |
| 2020 | Elected Fellow of the Academy of the Social Sciences in Australia                                    |
| 2020 | Dean's Award for Innovation in Learning and Teaching, Monash Business School                         |
| 2010 | Dean's Award for Excellence in Innovation and External Collaboration, Monash Business School         |
| 2010 | HP Innovation Research Award   |
| 2008 | Dean's award for Excellence in Research, Monash Business School                                      |
| 2008 | Vice-Chancellor's award for postgraduate supervisor of the year, Monash University                   |
| 2007 | Moran Medal for Statistical Science, Australian Academy of Science                                   |
| 2005 | Elected member of the International Statistical Institute  |

## Teaching and mentoring

- In each year since 2018, student evaluations for "Applied forecasting for business and economics" gave an average rating for my teaching above 4.8 out of 5.
- I currently supervise six PhD students and one post-doctoral research fellow. I have previously supervised another 29 PhD students and 3 Masters students.
- I am author of an innovative textbook with George Athanasopoulos entitled *Forecasting: principles and practice* (OTexts.org/fpp3/) which is available online and free of charge. The website has an average of over 25000 pageviews per day.
- I publish the *Hyndsight* blog on research issues which receives an average of about 1500 pageviews per day.

## Editorial boards

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|-----------|--|
| 2023–     | <b>Executive Editor</b> , <i>The R Journal</i>   |
| 2011–     | <b>Editor</b> , <i>Journal of Statistical Software</i>                                       |
| 2001–2004 | <b>Associate Editor</b> , <i>International Journal of Forecasting</i>                        |
| 2019–     | <b>Associate Editor</b> , <i>International Journal of Forecasting</i>                        |
| 2005–2018 | <b>Editor-in-Chief</b> , <i>International Journal of Forecasting</i>                         |
| 2001–2004 | <b>Theory and Methods Editor</b> , <i>Australian &amp; New Zealand Journal of Statistics</i> |
| 1996–2001 | <b>Book Review Editor</b> , <i>Australian Journal of Statistics</i>                          |

## Society leadership

- Director, International Institute of Forecasters, 2005–2018.
- Member, Scientific Program Advisory Group, Statistical Society of Australia, 2001–2004
- Secretary, Victorian branch, Statistical Society of Australia, 1993–1995.
- Central Council member, Statistical Society of Australia, 1993–1996.

## Research Grants

I have acquired (in most cases jointly) about \$35.1 million in external research grants since 2000. Highlights include being CI on an ARC Centre of Excellence, CI on an ARC Industrial Transformation Training Centre, CI on 3 ARC Discovery Grants, CI on 3 ARC Linkage Grants, and CI on 1 NHMRC grant.

## Selected public and keynote addresses

- Belz lecture, *Forecasting and the importance of being uncertain*, Statistical Society of Australia, Melbourne, Oct 2006.
- Knibbs lecture, *Population forecasting and the importance of being uncertain*, Statistical Society of Australia, Canberra, Nov 2007.
- Invited speaker, *Forecasting functional time series*, Australian Frontiers of Science, Canberra, Feb 2008.
- Keynote speaker, *Extreme Forecasting*, International Symposium on Forecasting, Hong Kong, Jun 2009.
- Keynote speaker, *Man vs Wild Data*, Young Statisticians Conference, Melbourne, Feb 2013.
- Keynote speaker, *Forecasting without forecasters*, International Symposium on Forecasting, Seoul, Jun 2013.
- Keynote speaker, *Automatic time series forecasting*, “New Trends on Intelligent Systems and Soft Computing 2014”, Granada, Spain, Feb 2014.
- Keynote speaker, *Challenges in forecasting peak electricity demand*, Energy Forum, Valais, Switzerland, Jun 2014.
- Yahoo Big Thinkers lecture, *Exploring the boundaries of predictability: what can we forecast, and when should we give up?*, California, Jun 2015.
- Keynote speaker, *Forecasting big time series data using R*, Chinese R conference, Nanchang, Oct 2015.
- Keynote speaker, *Forecasting large collections of related time series*, German Statistical Week, Augsburg, Sep 2016.
- Keynote speaker, *Visualizing and forecasting big time series data*, ICML Time Series Workshop, Sydney, Aug 2017.
- Keynote speaker, Beijing Workshop on Forecasting, Nov 2017.
- Keynote speaker, *10 years of forecast reconciliation*, International Symposium on Forecasting, Oct 2020.
- ACEMS public address, *Uncertain futures: what can we forecast and when should we give up?*, Aug 2021.

## Advisory boards

- Member of the Scaling committee, Victorian Tertiary Admissions Centre (1994–). This committee is responsible for producing the ATAR for VCE students.
- Member of the ATAR Technical Group for the Australasian Conference of Tertiary Admissions Centres (2003–).
- Member of the Indigenous Statistical and Information Advisory Group for the Australian Institute of Health and Welfare (2017–).
- Member of the Methodology Advisory Committee for the Australian Bureau of Statistics (2010–2018).

## Conference organization

- General Chair, International Symposium on Forecasting, 2017
- Program Chair, International Symposium on Forecasting, 2012.
- Program Co-Chair, International Symposium on Forecasting, 2004.

## R packages

I have coauthored 63 R packages as a result of my research. There have been over 121 million downloads of my packages since 2015 (to 31 October 2024).

## Selected books

1. Makridakis, SG, SC Wheelwright, and RJ Hyndman (1998). *Forecasting: methods and applications*. 3rd ed. New York: John Wiley & Sons. <http://robjhyndman.com/forecasting/>. [Citations: 7892].
2. Hyndman, RJ, AB Koehler, JK Ord, and RD Snyder (2008). *Forecasting with exponential smoothing: the state space approach*. Berlin: Springer-Verlag. <http://robjhyndman.com/expsmooth/>. [Citations: 2169].
3. Hyndman, RJ and G Athanasopoulos (2021). *Forecasting: principles and practice*. 3rd ed. Melbourne, Australia: OTexts. <http://OTexts.org/fpp3>. [Citations: 9155].

## Research

- Since 1991 I have authored 250 papers, chapters or books on statistical topics. A selection of these are listed below.
- On Google Scholar my h-index is 85 with total citations of 65,993 (as at 31 October 2024).

## Selected research papers<sup>1</sup>

1. Hyndman, RJ (1996). Computing and graphing highest density regions. *The American Statistician* **50**(2), 120–126. [Citations: 868].
2. Hyndman, RJ, DM Bashtannyk, and GK Grunwald (1996). Estimating and visualizing conditional densities. *J Computational & Graphical Statistics* **5**(4), 315–336. [Citations: 479].
3. Hyndman, RJ and Y Fan (1996). Sample quantiles in statistical packages. *The American Statistician* **50**(4), 361–365. [Citations: 1463].

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<sup>1</sup>Citations from Google Scholar on 31 October 2024.

4. Hyndman, RJ, AB Koehler, RD Snyder, and S Grose (2002). A state space framework for automatic forecasting using exponential smoothing methods. *International J Forecasting* **18**(3), 439–454. [Citations: 1430].
5. Booth, H, RJ Hyndman, L Tickle, and P de Jong (2006). Lee-Carter mortality forecasting: a multi-country comparison of variants and extensions. *Demographic Research* **15**(9), 289–310. [Citations: 387].
6. de Gooijer, JG and RJ Hyndman (2006). 25 years of time series forecasting. *International J Forecasting* **22**(3), 443–473. [Citations: 1657].
7. Hyndman, RJ and AB Koehler (2006). Another look at measures of forecast accuracy. *International J Forecasting* **22**(4), 679–688. [Citations: 6459].
8. Wang, X, KA Smith-Miles, and RJ Hyndman (2006). Characteristic-based clustering for time series data. *Data Mining and Knowledge Discovery* **13**(3), 335–364. [Citations: 897].
9. Hyndman, RJ and S Ullah (2007). Robust forecasting of mortality and fertility rates: A functional data approach. *Computational Statistics & Data Analysis* **51**(10), 4942–4956. [Citations: 968].
10. Hyndman, RJ and H Booth (2008). Stochastic population forecasts using functional data models for mortality, fertility and migration. *International J Forecasting* **24**(3), 323–342. [Citations: 363].
11. Hyndman, RJ and Y Khandakar (2008). Automatic time series forecasting: the forecast package for R. *J Statistical Software* **26**(3), 1–22. [Citations: 5062].
12. Hyndman, RJ and S Fan (2010). Density forecasting for long-term peak electricity demand. *IEEE Transactions on Power Systems* **25**(2), 1142–1153. [Citations: 462].
13. Verbesselt, J, RJ Hyndman, G Newnham, and D Culvenor (2010). Detecting trend and seasonal changes in satellite image time series. *Remote Sensing of Environment* **114**(1), 106–115. [Citations: 1966].
14. De Livera, AM, RJ Hyndman, and RD Snyder (2011). Forecasting time series with complex seasonal patterns using exponential smoothing. *J American Statistical Association* **106**(496), 1513–1527. [Citations: 1290].
15. Hyndman, RJ, RA Ahmed, G Athanasopoulos, and HL Shang (2011). Optimal combination forecasts for hierarchical time series. *Computational Statistics & Data Analysis* **55**(9), 2579–2589. [Citations: 619].
16. Hyndman, RJ, H Booth, and F Yasmeen (2013). Coherent mortality forecasting: the product-ratio method with functional time series models. *Demography* **50**(1), 261–283. [Citations: 374].
17. Hong, T, P Pinson, S Fan, H Zareipour, A Troccoli, and RJ Hyndman (2016). Probabilistic Energy Forecasting: Global Energy Forecasting Competition 2014 and Beyond. *International J Forecasting* **32**(3), 896–913. [Citations: 979].
18. Athanasopoulos, G, RJ Hyndman, N Kourentzes, and F Petropoulos (2017). Forecasting with temporal hierarchies. *European J Operational Research* **262**(1), 60–74. [Citations: 332].
19. Bergmeir, C, RJ Hyndman, and B Koo (2018). A note on the validity of cross-validation for evaluating autoregressive time series prediction. *Computational Statistics & Data Analysis* **120**, 70–83. [Citations: 703].
20. Wickramasuriya, SL, G Athanasopoulos, and RJ Hyndman (2019). Optimal forecast reconciliation for hierarchical and grouped time series through trace minimization. *J American Statistical Association* **114**(526), 804–819. [Citations: 374].
21. Hyndman, RJ (2020). A brief history of forecasting competitions. *International J Forecasting* **36**(1), 7–14. [Citations: 166].
22. Kang, Y, RJ Hyndman, and F Li (2020). GRATIS: GeneRAting Time Series with diverse and controllable characteristics. *Statistical Analysis and Data Mining* **13**(4), 354–376. [Citations: 144].
23. Makridakis, S, RJ Hyndman, and F Petropoulos (2020). Forecasting in social settings: the state of the art. *International J Forecasting* **36**(1), 15–28. [Citations: 153].
24. Talagala, PD, RJ Hyndman, K Smith-Miles, S Kandanaarachchi, and MA Muñoz (2020). Anomaly detection in streaming nonstationary temporal data. *J Computational & Graphical Statistics* **20**(1), 13–27. [Citations: 68].
25. Ben Taieb, S, JW Taylor, and RJ Hyndman (2021). Hierarchical Probabilistic Forecasting of Electricity Demand with Smart Meter Data. *J American Statistical Association* **116**(533), 27–43. [Citations: 148].
26. Kandanaarachchi, S and RJ Hyndman (2021). Dimension reduction for outlier detection using DOBIN. *J Computational & Graphical Statistics* **30**(1), 204–219. [Citations: 12].
27. Li, H and RJ Hyndman (2021). Assessing mortality inequality in the US: What can be said about the future? *Insurance, Mathematics and Economics* **99**, 152–162. [Citations: 11].
28. Talagala, PD, RJ Hyndman, and K Smith-Miles (2021). Anomaly detection in high-dimensional data. *J Computational & Graphical Statistics* **30**(2), 360–374. [Citations: 62].
29. Ashouri, M, RJ Hyndman, and G Shmueli (2022). Fast forecast reconciliation using linear models. *J Computational & Graphical Statistics* **31**(1), 263–282. [Citations: 11].
30. Panagiotelis, A, P Gamakumara, G Athanasopoulos, and RJ Hyndman (2023). Probabilistic forecast reconciliation: properties, evaluation and score optimisation. *European J Operational Research* **306**(2), 693–706. [Citations: 59].
31. Wang, X, RJ Hyndman, F Li, and Y Kang (2023). Forecast combinations: an over 50-year review. *International J Forecasting* **39**(4), 1518–1547. [Citations: 144].
32. Athanasopoulos, G, RJ Hyndman, N Kourentzes, and A Panagiotelis (2024). Forecast reconciliation: a review. *International J Forecasting* **40**(2), 430–456. [Citations: 29].
33. Girolimetto, D, G Athanasopoulos, T Di Fonzo, and RJ Hyndman (2024). Cross-temporal probabilistic forecast reconciliation: Methodological and practical issues. *International J Forecasting* **40**(3), 1134–1151. [Citations: 7].