Prof Dr Christian Hennig - **Curriculum Vitae**

Born 14 December 1966
Current position: Full Professor, Dipartimento di Scienze Statistiche "Paolo Fortunati", Universitá di Bologna

1 Education and Qualifications

1986 Abitur (German grammar school degree)

1993 Diploma in Mathematics, Faculty of Mathematics, University of Hamburg

1997 Doctor rer.nat. (PhD), Faculty of Mathematics, University of Hamburg, thesis title "Datenanalyse mit Modellen für Cluster Linearer Regression" (*"Data analysis by means of models for clusterwise linear regression"*), "summa cum laude" examined by Professor K. Behnen and Professor D. Pfeifer

2001 Certificate "Qualified teaching in science and continuing education", IZHD Centre for University Didactics, University of Hamburg

2005 German Habilitation with thesis *"Cluster Stability, Cluster Validation and the Principle of Asymmetry in Cluster Analysis"* accepted by the University of Hamburg. Referees: Prof. Adrian E. Raftery, Prof. Christine Müller, Prof. Gunther Ritter.

2017 Abilitazione Scientifica Nazionale Settore Concorsuale 13/D1 - I Fascia, valid 31 March 2017-31 March 2023.

2 Professional history

Oct 1993-Mar 1997 University Assistant, Institute for Mathematical Stochastics, University of Hamburg

Oct 1997-Mar 2005 University Lecturer (fixed term postdoctoral position), Institute for Mathematical Stochastics, University of Hamburg, interrupted by leave Oct 2001-Sep 2003

Oct 2001-Sep 2003 University Lecturer (fixed term postdoctoral position), Seminar for Statistics, ETH Zürich

April 2005-September 2010 Lecturer at Department of Statistical Science, University College London

September 2010-October 2018 Senior Lecturer at Department of Statistical Science, University College London

October 2018-August 2019 Assistant Professor, Dipartimento di Scienze Statistiche "Paolo Fortunati", Universitá di Bologna

September 2019-today Full Professor, Dipartimento di Scienze Statistiche "Paolo Fortunati", Universitá di Bologna

3 Miscellaneous

3.1 Positions in scientific societies

- Chair of the Data Analysis and Numerical Classification working group of the GfKl (German Classification Society), 2011-2014
- Treasurer of the British Classification Society (2009-2019)
- Scientific Secretary of the International Federation of Classification Societies (2014-2020)
- ISI Elected Member since 2021

3.2 Editorial positions

- Statistics and Computing (Associate Editor since 2007)
- Computational Statistics and Data Analysis (Associate Editor 2008-2019)
- Advances in Data Analysis and Classification (Associate Editor since 2012)
- Statistical Methods and Applications (Associate Editor 2014-2019)
- Canadian Journal of Statistics (Associate Editor since 2021)
- Archives of Data Science Series B (Editor 2018-2021)
- Statistica (Editor-in-Chief since 2022)

3.3 Awards

2015 Best applied paper of the European Conference in Data Analysis, Colchester, as co-author of my PhD student Serhat Akhanli

2000 IFCS award for promising young researchers by the International Federation of Classification Societies in the area of classification (2000)

3.4 Grant and research funding

- EPSRC Research Grant EP/K033972/1 "A multicriterion approach for cluster validation", 1 June 2013-31 May 2017, £ 98,024
- UCL Impact Studentship for my PhD student Daniel Meddings in 2010, "Statistical inference in mixture models with random effects".

3.5 Statistical Advisory

Statistical advisory for more than 100 clients: mostly scientists at University of Hamburg, ETH Zürich, UCL, and University of Bologna, but also businesses such as TV Movie, Hamburg, ecommera, London, Trustmark, Zürich, Department of Public Health, Highbury and Islington Council, London.

3.6 Key presentations

- Invited keynote speaker at Conference on Correspondence Analysis and Related Methods, Cologne 2023, online workshop series "The Statistics Wars and their Casualties" 2022, 5th ISM International Statistical Conference, Kuala Lumpur 2021, 15th Iranian Statistics Conference Teheran 2020, 3rd International Workshop on Proximity Data, Multivariate Analysis and Classification, Valladolid 2017, European Conference on Data Analysis, Wroclaw 2017, Conference of the International Federation of Classification Societies, Tokyo 2017, Workshop on Model-Based Clustering and Classification, Catania 2016, Jubilee meeting 25 years VOC (Dutch/Flemish classification society), Kerkrade 2014, Conference of the Portuguese Classification Society JOCLAD, Lisbon 2014, Conference of the GfKl (German classification society), Karlsruhe 2007.

- Invited presenter of RSS discussion paper "Beyond subjective and objective in statistics" with Andrew Gelman, 12 April 2017

- Invited presenter of RSS discussion paper "How to find an appropriate clustering for mixed-type variables with application to socio-economic stratification" with Tim Liao, 14 November 2012

3.7 Former PhD students

Pietro Coretto, Elisabet Lund, ChienJu Lin, Daniel Meddings, Serhat Akhanli, Iqbal Shamsudheen, Fatima Batool, Javier Espinosa, Laura Anderlucci (external co-supervisor), Lorenzo Mancini (external co-supervisor). All successfully finished.

4 Publications

4.1 Book

1. Hennig, C., M. Meila, F. Murtagh, and R. Rocci (2015). *Handbook of Cluster Analysis*. Chapman and Hall/CRC

4.2 Reviewed journal publications

1. Shamsudheen, I. and C. Hennig (2023). Should we test the model assumptions before running a model-based test? *Journal of Data Science, Statistics, and Visualisation*, accepted for publication

2. Hennig, C. (2023b). Parameters not empirically identifiable or distinguishable, including correlation between Gaussian observations. *Statistical Papers*, 10.1007/s00362–023–01414–3

3. Akhanli, S. E. and C. Hennig (2023). Clustering of football players based on performance data and aggregated clustering validity indexes. *Journal of Quantitative Analysis in Sports 19*(2), 103–123

4. Van Mechelen, I., A.-L. Boulesteix, R. Dangl, N. Dean, C. Hennig, F. Leisch, D. Steinley, and M. J. Warrens (2023). A white paper on good research practices in benchmarking: The case of cluster analysis. *WIREs Data Mining and Knowledge Discovery*, e1511

5. Hennig, C. and P. Coretto (2022). An adequacy approach for deciding the number of clusters for otrimle robust gaussian mixture-based clustering. *Australian & New Zealand Journal of Statistics 64*(2), 230–254

6. Hennig, C. (2022c). An empirical comparison and characterisation of nine popular clustering methods. *Advances in Data Analysis and Classification 16*, 201–229

7. Ullmann, T., C. Hennig, and A.-L. Boulesteix (2022). Validation of cluster analysis results on validation data: A systematic framework. *WIREs Data Mining and Knowledge Discovery 12*(3), e1444

8. Batool, F. and C. Hennig (2021). Clustering with the average silhouette width. *Computational Statistics & Data Analysis 158*, 107190

9. Akhanli, S. E. and C. Hennig (2020). Comparing clusterings and numbers of clusters by aggregation of calibrated clustering validity indexes. *Statistics and Computing 30*(5), 1523–1544

10. Hausdorf, B. and C. Hennig (2020). Species delimitation and geography. *Molecular Ecology Resources 20*(4), 950–960

11. Espinosa, J. and C. Hennig (2019). A constrained regression model for an ordinal response with ordinal predictors. *Statistics and Computing 29*, 869–890

12. Hennig, C. and W. Sauerbrei (2019). Exploration of the variability of variable selection based on distances between bootstrap sample results. *Advances in Data Analysis and Classification 13*, 933–963

13. van Dongen, N. N. N., J. B. van Doorn, Q. F. Gronau, D. van Ravenzwaaij, R. Hoekstra, M. N. Haucke, D. Lakens, C. Hennig, R. D. Morey, S. Homer, A. Gelman, J. Sprenger, and E.-J. Wagenmakers (2019). Multiple perspectives on inference for two simple statistical scenarios. *The American Statistician 73*, 328–339

14. Hennig, C. (2019b). An evaluation of the IFCS cluster benchmarking data analysis challenge. *Archives of Data Science, Series B 1*, 1–24

15. Hennig, C., C. Viroli, and L. Anderlucci (2019). Quantile-based clustering. *Electronic Journal of Statistics 13*, 4849–4883

16. Hennig, C. (2018). Some thoughts on simulation studies to compare clustering methods. *Archives of Data Science, Series A 5*, 1–21

17. Tzeng, S., C. Hennig, Y.-F. Li, and C.-J. Lin (2018). Dissimilarity for functional data clustering based on smoothing parameter commutation. *Statistical Methods in Medical Research 74*, 187–191

18. Müllensiefen, D., C. Hennig, and H. Howells (2018). Using clustering of rankings to explain brand preferences with personality and socio-demographic variables. *Journal of Applied Statistics 45*, 1009–1029

19. Gelman, A. and C. Hennig (2017). Beyond subjective and objective in statistics (with discussion). *Journal of the Royal Statistical Society. Series A: Statistics in Society 180*, 967–1033

20. Coretto, P. and C. Hennig (2017a). Consistency, breakdown robustness, and algorithms for robust improper maximum likelihood clustering. *Journal of Machine Learning Research 18*, 1–39

21. Akhanli, S. and C. Hennig (2017). Some issues in distance construction for football players performance data. *Archives of Data Science, Series A 2*

22. Hennig, C. and C. Viroli (2016a). Quantile-based classifiers. *Biometrika 103*, 435–446

23. Nurinsiyah, A., H. Fauzia, C. Hennig, and B. Hausdorf (2016). Native and introduced land snail species as ecological indicators in different land use types in Java. *Ecological Indicators 70*, 557–565

24. Coretto, P. and C. Hennig (2016). Robust improper maximum likelihood: Tuning, computation, and a comparison with other methods for robust Gaussian clustering. *Journal of the American Statistical Association 111*, 1648–1659

25. de Amorim, R. and C. Hennig (2015). Recovering the number of clusters in data sets with noise features using feature rescaling factors. *Information Sciences 324*, 126–145

26. Williams, P. and C. Hennig (2015a). Effect of web page menu orientation on retrieving information by people with learning disabilities. *Journal of the Association for Information Science and Technology 66*, 674–683

27. Hennig, C. (2015b). What are the true clusters? *Pattern Recognition Letters 64*, 53–62

28. Hennig, C. and C.-J. Lin (2015). Flexible parametric bootstrap for testing homogeneity against clustering and assessing the number of clusters. *Statistics and Computing 25*, 821–833

29. Williams, P. and C. Hennig (2015b). Optimising web site designs for people with learning disabilities. *Journal of Research in Special Educational Needs 15*, 25–36

30. Fransen, H., A. May, M. Stricker, J. Boer, C. Hennig, Y. Rosseel, M. Ocke, P. Peeters, and J. Beulens (2014). A posteriori dietary patterns: How many patterns to retain? *Journal of Nutrition 144*, 1274–1282

31. Anderlucci, L. and C. Hennig (2014). The clustering of categorical data: A comparison of a model-based and a distance-based approach. *Communications in Statistics-Theory and Methods 43*, 704–721

32. Bevan, A., J. Conolly, C. Hennig, A. Johnston, A. Quercia, L. Spencer, and J. Vroom (2013). Measuring chronological uncertainty in intensive survey finds. a case study from Antikythera, Greece. *Archaeometry 55*, 312–328

33. Hennig, C. and T. Liao (2013). How to find an appropriate clustering for mixed-type variables with application to socio-economic stratification (with discussion). *Journal of the Royal Statistical Society Series C-Applied Statistics 62*, 309–369

34. Sarantaridis, D., C. Hennig, and D. Caruana (2012). Bioaerosol detection using potentiometric tomography in flames. *Chemical Science 3*, 2210–2216

35. Coretto, P. and C. Hennig (2011). Maximum likelihood estimation of heterogeneous mixtures of Gaussian and uniform distributions. *Journal of Statistical Planning and Inference 141*, 462–473

36. Hampel, F., C. Hennig, and E. Ronchetti (2011). A smoothing principle for the Huber and other location M-estimators. *Computational Statistics & Data Analysis 55*, 324–337

37. Hausdorf, B. and C. Hennig (2010). Species delimitation using dominant and codominant multilocus markers. *Systematic Biology 59*, 491–503

38. Coretto, P. and C. Hennig (2010). A simulation study to compare robust clustering methods based on mixtures. *Advances in Data Analysis and Classification 4*, 111–135

39. Hennig, C., D. Muellensiefen, and J. Bargmann (2010). Within-subject comparison of changes in a pretest-posttest design. *Applied Psychological Measurement 34*, 291–309

40. Hennig, C. (2010b). Methods for merging Gaussian mixture components. *Advances in Data Analysis and Classification 4*, 3–34

41. Hennig, C. (2009d). Mathematical models and reality - a constructivist view. *Foundations of Science 15*, 29–48

42. Hennig, C. (2009a). A constructivist view of the statistical quantification of evidence. *Constructivist Foundations 5*, 39–54

43. Hennig, C. (2008). Dissolution point and isolation robustness: Robustness criteria for general cluster analysis methods. *Journal of Multivariate Analysis 99*, 1154–1176

44. Hausdorf, B. and C. Hennig (2007). Null model tests of clustering of species, negative co-occurrence patterns and nestedness in meta-communities. *Oikos 116*, 818–828

45. Hennig, C. and M. Kutlukaya (2007). Some thoughts about the design of loss functions. *REVSTAT 5*, 19–39

46. Hausdorf, B. and C. Hennig (2007). Null model tests of clustering of species, negative co-occurrence patterns and nestedness in meta-communities. *Oikos 116*, 818–828

47. Hennig, C. (2007d). Falsification of propensity models by statistical tests and the goodness-of-fit paradox. *Philosophia Mathematica 15*, 166–192

48. Hennig, C. (2007a). Cluster-wise assessment of cluster stability. *Computational Statistics and Data Analysis 52*, 258–271

49. Hausdorf, B. and C. Hennig (2006a). Biogeographical tests of the vicariance model in mediterranean land snails. *Journal of Biogeography 33*, 1202–1211

50. Hennig, C. and B. Hausdorf (2006b). A robust distance coefficient between distribution areas incorporating geographic distances. *Systematic Biology 55*, 170–175

51. Hausdorf, B. and C. Hennig (2005). The influence of recent geography, palaeography and climate on the composition of the faune of the central Aegean islands. *Biological Journal of the Linnean Society 84*, 785–795

52. Hennig, C. (2005a). Classification and outlier identification for the Gaia mission. *Neural Network World 4*, 335–342

53. Hennig, C. (2004a). Asymmetric linear dimension reduction for classification. *Journal of Computational and Graphical Statistics 13*, 930–945

54. Hennig, C. and B. Hausdorf (2004). Distance-based parametric bootstrap tests for clustering of species ranges. *Computational Statistics and Data Analysis 45*, 875–895

55. Repsilber, D., C. Hennig, and F. Scholz (2004). On sources of variation in expression of phosphoenolpyruvate-carboxylase in norway spruce (picea abies (l.) karst.): Pepc genotype, genetic background and growth temperature. *Forest Genetics 11*, 73–82

56. Hausdorf, B. and C. Hennig (2004). Does vicariance shape biotas? biogeographical tests of the vicariance model. *Journal of Biogeography 31*, 1751–1757

57. Hennig, C. (2004b). Breakdown points for maximum likelihood estimators of location-scale mixtures. *Annals of Statistics 32*, 1313–1340

58. Hennig, C. (2003a). Clusters, outliers, and regression: fixed point clusters. *Journal of Multivariate Analysis 86*, 183–212

59. Hennig, C. and L. Latecki (2003). The choice of vantage objects for image retrieval. *Pattern Recognition 36*, 2187–2196

60. Hausdorf, B. and C. Hennig (2003b). Nestedness of north-west european land snail ranges as a consequence of differential immigration from pleistocene glacial refuges. *Oecologia 135*, 102–109

61. Hausdorf, B. and C. Hennig (2003a). Biotic element analysis in biogeography. *Systematic Biology 52*, 717–723

62. Hennig, C. and N. Christlieb (2002). Validating visual clusters in large datasets: fixed point clusters of spectral features. *Computational Statistics and Data Analysis 40*, 723–739

63. Hennig, C. (2002b). Fixed point clusters for linear regression: computation and comparison. *Journal of Classification 19*, 249–276

64. Hennig, C. (2001). Ein konstruktivistischer Blick auf mathematische Modelle. *Zeitschrift für systemische Therapie 19*, 147–159

65. Mischnick, P. and C. Hennig (2001). A new model for the substitution patterns in the polymer chain of polysaccharide derivatives. *Biomacromolecules 2*, 180–184

66. Hennig, C. (2000a). Identifiablity of models for clusterwise linear regression. *Journal of Classification 17*, 273–296

67. Hennig, C. (1995). Efficient high-breakdown-point estimators in robust regression: Which function to choose? *Statistics and Decisions 13*, 221–241

4.3 Proceedings and collections publications

1. Hennig, C. (2023d). Some issues in robust clustering. In P. Brito, J. G. Dias, B. Lausen, A. Montanari, and R. Nugent (Eds.), *Classification and Data Science in the Digital Age*, pp. accepted for publication. Springer, Berlin

2. Hennig, C. (2023c). Probability models in statistical data analysis: Uses, interpretations, frequentism-as-model. In E. Chernoff (Ed.), *Handbook of the History and Philosophy of Mathematical Practice - Practical, Historical and Philosophical Instances of Probability*, pp. Accepted for publication. Cham: Springer Nature

3. d'Angella, G. and C. Hennig (2022). A comparison of different clustering approaches for high-dimensional presence-absence data. In A. Bekker, J. T. Ferreira, M. Arashi, and D.-G. Chen (Eds.), *Innovations in Multivariate Statistical Modeling: Navigating*

Theoretical and Multidisciplinary Domains, pp. 299–318. Cham: Springer International Publishing

4. Hennig, C. (2020c). Minkowski distances and standardisation for clustering and classification on high-dimensional data. In T. Imaizumi, A. Nakayama, and S. Yokoyama (Eds.), *Advanced Studies in Behaviormetrics and Data Science*, pp. 103–118. Springer, Singapore

5. Hennig, C. (2019a). Cluster validation by measurement of clustering characteristics relevant to the user. In C. H. Skiadas and J. R. Bozeman (Eds.), *Data Analysis and Applications 1: Clustering and Regression, Modeling - Estimating, Forecasting and Data Mining*, pp. 1–24. ISTE Ltd., London

6. Hennig, C. and S. Akhanli (2017). Football and the dark side of cluster analysis. In H.-J. Mucha (Ed.), *Big Data Clustering: Data Preprocessing, Variable Selection and Dimension Reduction*, Number 6 in WIAS Reports, pp. 81–87. WIAS Berlin

7. Lin, C.-J., C. Hennig, and C.-L. Huang (2016). Clustering and a dissimilarity measure for methadone dosage time series. In A. Wilhelm and H. Kestler (Eds.), *Analysis of Large and Complex Data*, Studies in Classification Data Analysis and Knowledge Organization, pp. 31–41. Jacobs Univ, Bremen: Springer-Verlag Berlin

8. Hennig, C. (2014). How many bee species? A case study in determining the number of clusters. In M. Spiliopoulou, L. SchmidtThieme, and R. Janning (Eds.), *Data Analysis, Machine Learning and Knowledge Discovery*, Studies in Classification Data Analysis and Knowledge Organization, pp. 41–49. Univ Hildesheim, Hildesheim: Springer-Verlag Berlin

9. Anderlucci, L. and C. Hennig (2012). Clustering of categorical data: a comparison of different approaches. *Quaderni di Statistica 14*, 1–4

10. Hennig, C. (2010c). Ridgeline plot and clusterwise stability as tools for merging Gaussian mixture components. In H. Locarek-Junge and C. Weihs (Eds.), *Studies in Classification, Data Analysis, and Knowledge Organization*. Springer

11. Hennig, C. (2009e). Merging Gaussian mixture components - an overview. In *Classification and clustering: Models, software and applications*, pp. 33–43. WIAS-Berlin

12. Hennig, C. (2009c). Dissolution and isolation robustness of fixed point clusters. In A. Okada, T. Imaizumi, H.-H. Bock, and W. Gaul (Eds.), *Studies in Classification, Data Analysis, and Knowledge Organization*, pp. 27–40. Springer

13. Hennig, C. and P. Coretto (2008). The noise component in model-based cluster analysis. In C. Preisach, H. Burkhard, L. Schmidt-Thieme, and R. Decker (Eds.), *Studies in Classification, Data Analysis and Knowledge Organization*, pp. 127–138. Springer

14. Hennig, C. and D. Muellensiefen (2006). Modeling memory for melodies. In M. Spiliopoulou, R. Kruse, C. Borgelt, A. Nürnberger, and W. Gaul (Eds.), *Studies in Classification, Data Analysis, and Knowledge Organization*, Volume 30, pp. 732–739

15. Hennig, C. and B. Hausdorf (2006a). Design of dissimilarity measures: A new dissimilarity between species distribution areas. In V. Batagelj, H. Bock, A. Ferligo, and A. Ziberna (Eds.), *Data Science and Classification*, Studies in Classification Data Analysis and Knowledge Organization, pp. 29–+. Univ Ljubljana, Ljubljana, SLOVENIA: Springer-Verlag Berlin

16. Hausdorf, B. and C. Hennig (2006b). Biotic element analysis and vicariance biogeography. In M. Ebach and R. Tangney (Eds.), *Biogeography in a Changing World*, Number 4 in Systematics Association Special Volumes, pp. 95–116. CRC

17. Hennig, C. (2005d). Robustness of ML estimators of location-scale mixtures. In *Innovations in Classification, Data Science, and Information Systems.*, pp. 128–137. Springer

18. Hennig, C. (2005b). Fuzzy and crisp mahalanobis fixed point clusters. In D. Baier, R. Decker, and L. Schmidt-Thieme (Eds.), *Data Analysis and Decision Support*, pp. 47–56. Springer

19. Hennig, C. (2005c). A method for visual cluster validation. In C. Weihs and W. Gaul (Eds.), *Classification - The Ubiquitous Challenge*, pp. 153–160. Springer

20. Hennig, C. (2003b). How wrong models become useful - and correct models become dangerous. In M. Schader, W. Gaul, and M. Vichi (Eds.), *Studies in Classification, Data Analysis, and Knowledge Organization*, pp. 235–243. Springer

21. Hennig, C. (2002a). Confronting data analysis with constructivist philosophy. In K. Jajuga, A. Sokolowski, and H.-H. Bock (Eds.), *Studies in Classification, Data Analysis, and Knowledge Organization*, pp. 235–244. Springer

22. Hennig, C. (2000b). What clusters are generated by normal mixtures? In H. Kiers, J.-P. Rasson, P. Groenen, and M. Schader (Eds.), *Studies in Classification, Data Analysis, and Knowledge Organization*, pp. 53–58. Springer

23. Christlieb, N., C. Hennig, and L. Wisotzky (2000). Non-classical quasar selection methods. In *Beiträge zur AG-DANK-Herbsttagung 6.11.1999*, pp. 41–53. Universität Hamburg

24. Hennig, C. (1999). Models and methods for clusterwise linear regression. In W. Gaul and H. Locarek-Junge (Eds.), *Studies in Classification, Data Analysis, and Knowledge Organization*, pp. 179–187. Springer

25. Hennig, C. (1998). Clustering and outlier identification: Fixed point cluster analysis. In A. Rizzi, M. Vichi, and H.-H. Bock (Eds.), *Studies in Classification, Data Analysis, and Knowledge Organization*, pp. 37–42. Springer

26. Hennig, C. (1997). Fixed point clusters and their relation to stochastic models. In R. Klar and O. Opitz (Eds.), *Studies in Classification, Data Analysis, and Knowledge Organization*, pp. 20–28. Springer

4.4 Book reviews, discussion contributions, letters

1. Hennig, C. (2023a). The ambition of absolute agreement in mathematics, and deviations from it. Open peer commentary of "Random Walks as a Royal Road to E-STEAM in Math Education" by Amaranta Valdes-Zorrilla, Daniela Diaz-Rojas, Leslie Jimenez, Jorge Soto-Andrade. *Constructivist Foundations 18*, 279–281

2. Hennig, C. (2022a). The controversy over p-values as an illustration of the difficulty of statistics: response to Mayo (2022). *Conservation Biology 36*(5), e13987

3. Hennig, C. (2022b). Discussion of "Assumption-lean inference for generalised linear model parameters" by Stijn Vansteelandt, Oliver Dukes. *Journal of the Royal Statistical Society 84*, 698–699

4. Hennig, C. (2021a). Discussion of "Centered partition processes: Informative priors for clustering" by Sally Paganin, Amy H. Herring, Andrew F. Olshan, and David B. Dunson. *Bayesian Analysis 16*, 359–360

5. Hennig, C. (2021b). Discussion of "Testing by betting: A strategy for statistical and scientific communication" by Glenn Shafer. *Journal of the Royal Statistical Society, Series A Statistics in Society 184*, 446–447

6. Hennig, C. (2020b). Discussion on the meeting "Signs and sizes:understanding and replicating statistical findings". *Journal of the Royal Statistical Society. Series A Statistics in Society 183*, 450 – 451

7. Hennig, C. (2020a). Book review of "Ten Great Ideas about Chance" by Persi Diaconis and Brian Skyrms. *Philosophia Mathematica 28*, 282–285

8. Hennig, C. and C. Viroli (2017). Discussion of "Random-projection ensemble classification" by Timothy I. Cannings and Richard J. Samworth. *Journal of the Royal Statistical Society. Series B Statistical Methodology 79*, 996 – 997

9. Hennig, C. (2013a). Discussion of "Model-based clustering with non-normal mixture distributions" by S. X. Lee and G. J. McLachlan. *Statistical Methods and Applications 22*, 455–458

10. Hennig, C. (2013b). Open peer review of "Quantifying shapes" by G. L. Noyce, M. B. Küssner and P. Sollich. *Empirical Musicology Review 8*, 158–160

11. Hennig, C. (2012a). Book review of D.Mayo & A.Spanos, eds. 2009. Error and Inference. *Theoria: An International Journal for Theory, History and Foundations of Science 27*, 245–251

12. Hennig, C. (2011). Book review of J.Williamson, "In Defence of Objective Bayesianism". *Philosophia Mathematica 19*, 219–225

13. Hennig, C. (2010a). Discussion of N.Meinshausen, P.Bühlmann, "Stability selection". *Journal of the Royal Statistical Society, Series B 72*, 456

14. Hennig, C. (2009b). Discussion of D.E.Tyler, F.Critchley, L.Dümbgen, H.Oja, "Invariant coordinate selection". *Journal of the Royal Statistical Society, Series B 71*, 579

15. Hennig, C. (2007e). Letter regarding M.Simkin "My statistician could have painted that! a statistical inquiry into modern art". *Significance 4*, 140–141

16. Hennig, C. (2007c). Discussion of R. Taplin "Enhancing statistical education by using role-plays of consultations". *Journal of the Royal Statistical Society, Series A 170*, 293–293

17. Hennig, C. (2007b). Discussion of Handcock,M.S.,Raftery,A.E.,Tantrum,J.M. "Model-based clustering for social networks". *Journal of the Royal Statistical Society, Series A 170*, 338–339

4.5 Software (R-packages)

1. Coretto, P. and C. Hennig (2017b). otrimle

2. Hennig, C. and C. Viroli (2016b). quantileDA

3. Hennig, C. (2015a). fpc

4. Hennig, C. and B. Hausdorf (2015). prabclus

5. Hennig, C. (2012b). smoothmest

6. Hennig, C. (2007f). trimcluster

4.6 Edited journal issues

1. Hennig, C., I. van Mechelen, and N. Dean (2019). Special issue on the IFCS cluster benchmarking challenge 2017. *Archives of Data Science, Series B 1*, 1

2. Boehning, D., C. Hennig, G. McLachlan, and P. McNicholas (2014). The 2nd special issue on advances in mixture models. *Computational Statistics & Data Analysis 71*, 1–2