# Curriculum Vitae
# Univ.Prof. Dr. Friedrich Leisch

March 3, 2011

## Personal Data

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| Born: | July 31, 1968 in Vienna, Austria |
| Nationality: | Austrian |

## Education

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| 1978–1986 | High School, BG & BRG Mödling, Austria |
| 1987–1993 | University studies in Applied Mathematics ("Technische Mathematik"), Vienna University of Technology, Dipl.-Ing. (corrsponding to M.Sc.), with distinction |
| 1999 | Dr.techn. (corresponding to Ph.D.) in Applied Mathematics, Vienna University of Technology, with distinction |
| 2005 | Habilitation in Statistics, Vienna University of Technology. |

## Career History and Visiting Positions

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| 1993–1994 | Freelance mathematician, Systema Management Consulting GmbH, Vienna, Austria |
| 1994–2006 | Assistant Professor, Department of Statistics and Probability Theory, Vienna University of Technology, Austria |
| 1995 | Kurt Gödel scholarship for research at Knowledge based Engineering Systems Group, University of South Australia, Adelaide, Australia (9 months) |
| 2002–2003 | Assistant Professor, Department of Statistics and Decision Support Systems, University of Vienna (6 months), Austria |
| 2006–2011 | Professor, Department of Statistics, University of Munich, Germany. Head of Department 2010. |
| **2011–now** | **Professor, Institute of Applied Statistics and Computing, University of Natural Ressources and Life Sciences, Vienna, Austria. Head of Institute.** |

## Scientific Cooperations

**Statistical Computing:** R project for statistical computing (`http://www.R-project.org`): member of core development team since 1997, editor of R News 2001–2003, secretary general of the R Foundation since 2002.

Omega project for statistical computing (`http://www.omegahat.org`): member of core development team since 1999.

Bioconductor project for statistical software in bioinformatics (`http://www.bioconductor.org`): member of core development team since 2001.

**Wirtschaftsuniversität Wien:** Center of Excellence "Adaptive Information Systems and Modelling in Economics and Management Science (SFB 010)" (`http://www.wu-wien.ac.at/am`): member 1997–2004, board member 1999–2004.

**Medizinuniversität Wien:** Member of research group "Psychiatric Genetics", University Hospital of General Psychiatry, Vienna General Hospital (AKH Wien), 1998–2007.

**Universität für Bodenkultur Wien:** Cooperation partner of the Austrian Center of Biopharmaceutical Technology (`http://www.acbt.at`) since 2004.

**University of Wollongong:** Professorial Research Fellow, School of Marketing, University of Wollongong, Australia.

## Other Career-Related Activities

**Research Visits:** Knowledge-Based Engineering Systems Group, University of South Australia, 2001 (1 month)
Marketing Research Innovation Center, University of Wollongong, Australia, 2004, 2007 & 2009 (1 month each)

**Memberships:** International Association for Statistical Computing (board member 2007–2011), Österreichische Statistische Gesellschaft (board member, head of working group "Computational Statistics" since 2003)

**Editor:** Associate Editor of "Computational Statistics", (Springer-Verlag) 2005–2006, Editor-in-Chief since 2007
Editor of "R News" 2001–2003.

**Reviews:** for the journals Advances in Statistical Analysis, Annals of Operations Research, Applied Artificial Intelligence, Bioinformatics, Communications in Statistics (Theory and Methods), Computational Statistics, Computational Statistics and Data Analysis, Econometric Theory, Electrophoresis, Empirical Economics, Engineering Intelligent Systems, IEE Proceedings of Vision, Image and Signal Processing, IEEE Computational Intelligence Magazine, IEEE Computing in Science & Engineering, IEEE Transactions on Neural Networks, IEEE Transactions on Pattern Analysis & Machine Intelligence, IEEE Transactions on Signal Processing, IEEE Transactions on Systems, Man, and Cybernetics, Information Science, Journal on Bioinformatics and Systems Biology, Journal of Computational and Graphical Statistics, Journal of Discrete Algorithms, Journal of Econometrics, Journal of Statistical Software, Mathematical Modelling of Systems, Neural Computation, Neural Processing Letters, Neurocomputing, Pattern Analysis and Applications, Pattern Recognition, Physics Letters A, Public Library of Science ONE, R News, Sequential Analysis, Statistical Applications in Genetics and Molecular Biology, Statistics and Computing, Statistical Modelling, Statistical Papers, The Econometrics Journal, Zeitschrift für betriebswirtschaftliche Forschung

**Awards:** Co-awarded Schizophrenia Research Award 2001 & 2003 (Austrian Society for Neuropsychopharmacology and Biological Psychiatry),
WU Best Paper Award 2003 (City of Vienna),
Poster Award of the 4th International Forum on Mood and Anxiety Disorders 2003,
Charles R. Goeldner Article of Excellence 2004 (Journal of Travel Research)

**Grants:** FFF project 806259 "eDirect Marketing Solutions" (jointly with UPPER Network GmBH): Austrian Industrial Research Promotion Fund, 2003

FWF project P17382-N12 "Identification and Estimation of Finite Mixture Models": Austrian Science Fund, 2004–2007, EUR 96.000.

ARC Linkage International Grant LX0559628 "Advanced Issues in Market Segmentation Research" (jointly with Sara Dolnicar): Australian Research Council, 2005–2007, AUD 22.460, EUR 14.038.

ARC Linkage International Grant LX0881890 "Response Style Heterogeneity in Empirical Marketing Research" (jointly with Sara Dolnicar): Australian Research Council, 2008–2010, AUD 40.404, EUR 26.936.

ARC Discovery Project DP110101347 "Market segmentation methodology: attacking the 'Too Hard' basket" (jointly with Sara Dolnicar and Bettina Grün), Australian Research Council, 2011–2016, AUD 1.460.000, EUR 1.042.857 (approx. EUR 200.000 budgeted for Leisch).

(exchange rates at time of project approval)

**Conference Organization:** Member of organzing committee of DSC 1999, 2001 & 2003, ICANN 2001, useR! 2004 & 2006 (all Vienna, Austria), useR! 2008 (Dortmund, Germany), Reisensburg meeting "Statistical Computing" 2006, 2007, 2008 & 2009 (Günzburg, Germany).

Member of scientific program committee of DSC 2007 (Auckland, New Zealand), useR! 2009 (Rennes, France)

**Research Interests:** Statistical computing, market segmentation, biostatistics, econometrics, classification, cluster analysis, time series analysis; software development and statistical applications in economics, management science and biomedical research.

# Publications

## Methodological Articles in Refereed Journals

1. Andreas Weingessel, Horst Bischof, Kurt Hornik, and Friedrich Leisch. Adaptive combination of PCA and VQ networks. *IEEE Transactions on Neural Networks*, 8(5):1208–1211, 1997

2. Friedrich Leisch, Lakhmi C. Jain, and Kurt Hornik. Cross-validation with active pattern selection for neural network classifiers. *IEEE Transactions on Neural Networks*, 9(1):35–41, 1998

3. Sara Dolnicar and Friedrich Leisch. Behavioral market segmentation using the bagged clustering approach based on binary guest survey data: Exploring and visualizing unobserved heterogeneity. *Tourism Analysis*, 5(2–4):163–170, 2000

4. Friedrich Leisch, Kurt Hornik, and Chung-Ming Kuan. Monitoring structural changes with the generalized fluctuation test. *Econometric Theory*, 16:835–854, 2000

5. Adrian Trapletti, Friedrich Leisch, and Kurt Hornik. Stationary and integrated autoregressive neural network processes. *Neural Computation*, 12(10):2427–2450, 2000

6. Adrian Trapletti, Alois Geyer, and Friedrich Leisch. Forecasting exchange rates using cointegration models and intra-day data. *Journal of Forecasting*, 21:151–166, 2002

7. Achim Zeileis, Friedrich Leisch, Kurt Hornik, and Christian Kleiber. `strucchange`: An R package for testing for structural change in linear regression models. *Journal of Statistical Software*, 7(2):1–38, 2002

8. Sara Dolnicar and Friedrich Leisch. Winter tourist segments in Austria: Identifying stable vacation styles using bagged clustering techniques. *Journal of Travel Research*, 41(3):281–292, 2003

9. David Meyer, Christian Buchta, Alexandros Karatzoglou, Friedrich Leisch, and Kurt Hornik. A simulation framework for heterogeneous agents. *Computational Economics*, 22(2):285–301, October 2003

10. David Meyer, Friedrich Leisch, and Kurt Hornik. The support vector machine under test. *Neurocomputing*, 55:169–186, September 2003

11. Sara Dolnicar and Friedrich Leisch. Segmenting markets by bagged clustering. *Australasian Marketing Journal*, 12(1):51–65, 2004

12. Sara Dolnicar and Friedrich Leisch. Delivering the right tourist service to the right people—a comparison of segmentation approaches. *The Journal of Quality Assurance in Hospitality and Tourism*, 5(2):189–207, 2004

13. Robert C Gentleman, Vincent J Carey, Douglas M Bates, Ben Bolstad, Marcel Dettling, Sandrine Dudoit, Byron Ellis, Laurent Gautier, Yongchao Ge, Jeff Gentry, Kurt Hornik, Torsten Hothorn, Wolfgang Huber, Stefano Iacus, Rafael Irizarry, Friedrich Leisch, Cheng Li, Martin Maechler, Anthony J Rossini, Gunther Sawitzki, Colin Smith, Gordon Smyth, Luke Tierney, Jean YH Yang, and Jianhua Zhang. Bioconductor: Open software development for computational biology and bioinformatics. *Genome Biology*, 5(10):R80.1–16, 2004

14. Friedrich Leisch. FlexMix: A general framework for finite mixture models and latent class regression in R. *Journal of Statistical Software*, 11(8):1–18, 2004

15. David Meyer, Friedrich Leisch, Torsten Hothorn, and Kurt Hornik. StatDataML: An XML format for statistical data. *Computational Statistics*, 19(3):493–503, 2004

16. Torsten Hothorn, Friedrich Leisch, Achim Zeileis, and Kurt Hornik. The design and analysis of benchmark experiments. *Journal of Computational and Graphical Statistics*, 14(3):675–699, 2005

17. Achim Zeileis, Friedrich Leisch, Christian Kleiber, and Kurt Hornik. Monitoring structural change in dynamic econometric models. *Journal of Applied Econometrics*, 20:99–121, 2005

18. Friedrich Leisch. A toolbox for k-centroids cluster analysis. *Computational Statistics and Data Analysis*, 51(2):526–544, 2006

19. Bettina Grün and Friedrich Leisch. Fitting finite mixtures of generalized linear regressions in R. *Computational Statistics & Data Analysis*, 51(11):5247–5252, July 2007

20. Bettina Grün and Friedrich Leisch. Identifiability of finite mixtures of multinomial logit models with varying and fixed effects. *Journal of Classification*, 25(2):225–247, 2008

21. Bettina Grün and Friedrich Leisch. Flexmix version 2: Finite mixtures with concomitant variables and varying and constant parameters. *Journal of Statistical Software*, 28(4):1–35, 2008

22. Manuel J. A. Eugster and Friedrich Leisch. From Spider-man to Hero – archetypal analysis in R. *Journal of Statistical Software*, 30(8):1–23, 2009

23. Bettina Grün and Friedrich Leisch. Dealing with label switching in mixture models under genuine multimodality. *Journal of Multivariate Analysis*, 100(5):51—-861, 2009

24. Theresa Scharl and Friedrich Leisch. gcExplorer: Interactive exploration of gene clusters. *Bioinformatics*, 25(8):1089–1090, 2009

25. Theresa Scharl, Ingo Voglhuber, and Friedrich Leisch. Exploratory and inferential analysis of gene cluster neighborhood graphs. *BMC Bioinformatics*, 10(1):288, 2009

26. Ilhami Visne, Erkan Dilaveroglu, Klemens Vierlinger, Martin Lauss, Ahmet Yildiz, Andreas Weinhaeusel, Christa Noehammer, Friedrich Leisch, and Albert Kriegner. RGG: A general GUI framework for R scripts in bioinformatics. *BMC Bioinformatics*, 10(1):74, 2009

27. Sara Dolnicar and Friedrich Leisch. Evaluation of structure and reproducibility of cluster solutions using the bootstrap. *Marketing Letters*, 21:83–101, 2010

28. Manuel J. A. Eugster and Friedrich Leisch. Exploratory analysis of benchmark experiments – an interactive approach. *Computational Statistics*, 2010. Accepted for publication on 2010-06-08

29. Friedrich Leisch. Neighborhood graphs, stripes and shadow plots for cluster visualization. *Statistics and Computing*, 20(4):457–469, 2010

30. Theresa Scharl, Bettina Grün, and Friedrich Leisch. Mixtures of regression models for time-course gene expression data: Evaluation of initialization and random effects. *Bioinformatics*, 26(3):370–377, 2010

31. Manuel J. A. Eugster and Friedrich Leisch. Weighted and robust archetypal analysis. *Computational Statistics and Data Analysis*, 55(3):1215–1225, 2011

32. Torsten Hothorn and Friedrich Leisch. Case studies in reproducibility. *Briefings in Bioinformatics*, 2011. Accepted for publication on 2010-12-01

## Applied Articles in Refereed Journals

1. Ursula Bailer, Friedrich Leisch, Kurt Meszaros, Elisabeth Lenzinger, Ulrike Willinger, Rainer Strobl, Christian Gebhardt, Elisabeth Gerhard, Karoline Fuchs, Werner Sieghart, Siegfried Kasper, Kurt Hornik, and Harald N. Aschauer. Genome scan for susceptibility loci for schizophrenia. *Neuropsychobiology*, 42:175–182, 2000

2. Christian Gebhardt, Friedrich Leisch, Petra Schüssler, Karoline Fuchs, Thomas Stompe, Werner Sieghart, Kurt Hornik, Siegfried Kasper, and Harald N. Aschauer. Non-association of dopamine D4 and D2 receptor genes with personality in healthy individuals. *Psychiatric Genetics*, 10(3):131–137, 2000

3. Angela Heiden, Petra Schüssler, Ulrike Itzlinger, Friedrich Leisch, Joachim Scharfetter, Christian Gebhardt, Karoline Fuchs, Matthäus Willeit, Linda Nilsson, Ellenore Miller-Reiter, Thomas Stompe, Kurt Meszaros, Werner Sieghart, Kurt Hornik, Siegfried Kasper, and Harald N. Aschauer. Association studies of candidate genes in bipolar disorders. *Neuropsychobiology*, 42(suppl 1):18–21, 2000

4. Mara Stamenkovic, Harald N. Aschauer, F. Riederer, S. D. Schindler, Friedrich Leisch, Eva Resinger, Alexander Neumeister, Kurt Hornik, and Siegfried Kasper. Study of family history in seasonal affective disorder. *Neuropsychobiology*, 44:65–69, 2001

5. Ursula Bailer, Friedrich Leisch, Kurt Meszaros, Elisabeth Lenzinger, Ulrike Willinger, Rainer Strobl, Angela Heiden, Christian Gebhardt, Elisabeth Döge, Karoline Fuchs, Werner Sieghart, Siegfried Kasper, Kurt Hornik, and Harald N. Aschauer. Genome scan for susceptibility loci for schizophrenia and bipolar disorder. *Biological Psychiatry*, 52:40–52, 2002

6. Monika Schlögelhofer, Harald Eder, Ulrike Itzlinger, Georg Wiesegger, Ursula Bailer, Friedrich Leisch, Kurt Hornik, Gudrun Jörgl, Ulrike Willinger, and Harald N. Aschauer. Bibliotherapie — kognitive Therapie in Buchform als Selbsthilfe bei Patienten mit teilremittierter Depression. *Journal für Neurologie, Neurochirurgie und Psychiatrie*, 1:33–35, 2003

7. Ursula Bailer, Martina de Zwaan, Friedrich Leisch, Alexandra Strnad, Claudia Lennkh-Wolfsberg, Nadia El-Giamal, Kurt Hornik, and Siegfried Kasper. Guided self-help versus cognitive-behavioral group therapy in the treatment of bulimia nervosa. *Journal of Eating Disorders*, 35(4):522–537, 2004

8. Alexandra Schosser, Karoline Fuchs, Friedrich Leisch, Ursula Bailer, Kurt Meszaros, Elisabeth Lenzinger, Ulrike Willinger, Rainer Strobl, Angela Heiden, Christian Gebhardt, Siegfried Kasper, Werner Sieghart, Kurt Hornik, and Harald N. Aschauer. Possible linkage of schizophrenia and bipolar affective disorder to chromosome 3q29: A follow-up. *Journal of Psychiatric Research*, 38:357–364, 2004

9. Ursula Bailer, Georg Wiesegger, Friedrich Leisch, Karoline Fuchs, I. Leitner, M. Letmaier, A. Konstantinidis, J. Stastny, Werner Sieghart, Kurt Hornik, B. Mitterauer, Siegfried Kasper, and Harald N. Aschauer. No association of clock gene T3111C polymorphism and affective disorders. *European Neuropsychopharmacology*, 15:51–55, 2005

10. Daniela D. Pollak, Theresa Scharl, Friedrich Leisch, Kurt Herkner, Santiago R. Villar, Harald Hoeger, and Gert Lubec. Strain-dependent regulation of plasticity-related proteins in the mouse hippocampus. *Behavioural Brain Research*, 165(2):240–246, 2005

11. Daniela D. Pollak, Julius John, Theresa Scharl, Friedrich Leisch, Angela Schneider, Harald Hoeger, and Gert Lubec. Strain-dependent regulation of neurotransmission and actin–remodelling proteins in the mouse hippocampus. *Genes, Brain & Behavior*, 5(2):200–204, 2006

12. Ortrun Veichtlbauer, Achim Zeileis, and Friedrich Leisch. The impact of interventions on a pre-industrial austrian alpine population. *Collegicum Antropologicum*, 30(1):1–11, 2006

13. Alexandra Schosser, Harald N. Aschauer, Dieter B. Wildenauer, Sibylle G. Schwab, Margot Albus, Wolfgang Maier, Monika Schloegelhofer, Friedrich Leisch, Kurt Hornik, Sarah S. Murray, and Christoph Gasche. Homozygosity of the interleukin-10 receptor 1 g330r allele is associated with schizophrenia. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*, 144B(3):347–350, 2007

14. Alexandra Schosser, Karoline Fuchs, Theresa Scharl, Friedrich Leisch, Ursula Bailer, Siegfried Kasper, Werner Sieghart, Kurt Hornik, and Harald N. Aschauer. Additional support for linkage of schizophrenia and bipolar disorder to chromosome 3q29. *European Neuropsychopharmacology*, 17(6–7):501–505, 2007

15. Sara Dolnicar and Friedrich Leisch. Selective marketing for environmentally sustainable tourism. *Tourism Management*, 29(4):672–680, 2008

16. Sara Dolnicar and Friedrich Leisch. An investigation of tourists' patterns of obligation to protect the environment. *Journal of Travel Research*, 46:381–391, 2008

17. Jochen Kindler, Alexandra Schosser, Mara Stamenkovic, Monika Schloegelhofer, Friedrich Leisch, Kurt Hornik, Harald Aschauer, and Christoph Gasche. Tourette's syndrome is not associated with interleukin-10 receptor 1 variants on chromosome 11q23.3. *Psychiatry Research*, 157:235–239, 2008

18. Claudia Schmied, Susanne Waiblinger, Theresa Scharl, Friedrich Leisch, and Xavier Boivin. Stroking of different body regions by a human: Effects on behaviour and heart rate of dairy cows. *Applied Animal Behaviour Science*, 109(1):25–38, 2008

19. Evelin Absmanner, Cornelia Rouha-Mülleder, Theresa Scharl, Friedrich Leisch, and Josef Troxler. Effects of different housing systems on the behaviour of beef bulls – An on–farm assessment on Austrian farms. *Applied Animal Behaviour Science*, 118:12–19, 2009

20. Theresa Scharl, Gerald Striedner, Florentina Poetschacher, Friedrich Leisch, and Karl Bayer. Interactive visualization of clusters in microarray data: An efficient tool for improved metabolic analysis of e. coli. *Microbial Cell Factories*, 8(37), 2009

21. Sara Dolnicar, Bettina Grün, and Friedrich Leisch. Quick, simple and reliable: Forced binary survey questions. *International Journal of Market Research*, 2010. Accepted for publication on 2010-06-23

22. Alexandra Schosser, Karoline Fuchs, Theresa Scharl, Monika Schloegelhofer, Jochen Kindler, , Nilufar Mossaheb, Rainer M. Kaufmann, Friedrich Leisch, Siegfried Kasper, Werner Sieghart, and Harald N. Aschauer. Interaction between serotonin 5-HT2A receptor gene and dopamine transporter (DAT1) gene polymorphisms influences personality trait of persistence in austrian caucasians. *The World Journal of Biological Psychiatry*, 11(2):417–424, 2010

23. Teresa Möller, Sara Dolnicar, and Friedrich Leisch. The sustainability – profitability trade-off in tourism: Can it be overcome? *Journal of Sustainable Tourism*, 19(2):155–169, 2011

24. Jochen Kindler, Ursula Bailer, Martina de Zwaan, Karoline Fuchs, Friedrich Leisch, Bettina Grün, Alexandra Strnad, Mirjana Stojanovic, Julia Windisch, Claudia Lennkh-Wolfsberg, Nadja El-Giamal, Werner Sieghart, Siegfried Kasper, and Harald Aschauer. No association of the neuropeptide Y (Leu7Pro) and ghrelin gene (Arg51Gln, Leu72Met, Gln90Leu) single nucleotide polymorphisms with eating disorders. *Nordic Journal of Psychiatry*, 2011. Accepted for publication on 2010-09-14

## Articles in Non-refereed Journals

1. Friedrich Leisch. Sweave, part I: Mixing R and LaTeX. *R News*, 2(3):28–31, December 2002

2. Friedrich Leisch. Sweave, part II: Package vignettes. *R News*, 3(2):21–24, October 2003

3. Friedrich Leisch and Anthony J. Rossini. Reproducible statistical research. *Chance*, 16(2):46–50, 2003

4. Bettina Grün and Friedrich Leisch. FlexMix: An R package for finite mixture modelling. *R News*, 7(1):8–13, April 2007

## Articles in Conference Proceedings

1. Friedrich Leisch, Lakhmi C. Jain, and Kurt Hornik. NN classifiers: Reducing the computational cost of cross-validation by active pattern selection. In *Artificial Neural Networks and Expert Systems*, volume 2. IEEE Computer Society Press, Los Alamitos, CA, 1995

2. Friedrich Leisch, Lakhmi C. Jain, and Kurt Hornik. Performance measures for NN classifiers. In Lakhmi C. Jain, editor, *Edited Proceedings of ETD2000*. IEEE Computer Society Press, Los Alamitos, CA, 1995

3. Friedrich Leisch and Kurt Hornik. ARC-LH: A new adaptive resampling algorithm for improving ANN classifiers. In Michael C. Mozer, Michael I. Jordan, and Thomas Petsche, editors, *Advances in Neural Information Processing Systems*, volume 9, pages 522–528. The MIT Press, 1997

4. Friedrich Leisch and Kurt Hornik. Error-dependent resampling for artificial neural network classifiers. In Bernd Kröplin, editor, *Neuronale Netze in den Ingenieurwissenschaften*, pages 1–14. Institut für Statik und Dynamik der Luft- und Raumfahrtkonstruktionen (ISD), Universität Stuttgart (Pfaffenwaldring 27, 70569 Stuttgart, Germany), 1997. ISBN 3-930683-18-0

5. Friedrich Leisch and Kurt Hornik. Combining neural network voting classifiers and error correcting output codes. In Ivan Frollo and Anna Plackova, editors, *MEASUREMENT '97*, pages 266–269. Institute of Measurement Science, Slovak Academy of Sciences (Dúbravska cesta 9, 842 19 Bratislava, Slovak Republic), 1997. ISBN 80-967402-1-0

6. Friedrich Leisch, Adrian Trapletti, and Kurt Hornik. On the stationarity of autoregressive neural network models. In Ludwig Cromme and Thorsten Kolb, editors, *CoWAN 98: Cottbuser Workshop Aspekte Neuronalen Lernens*, Cottbus, Germany, 1998. Shaker Verlag

7. Friedrich Leisch, Andreas Weingessel, and Evgenia Dimitriadou. Competitive learning for binary valued data. In Lars Niklasson, Mikael Bodén, and Tom Ziemke, editors, *Proceedings of the 8th International Conference on Artificial Neural Networks (ICANN 98)*, volume 2, pages 779–784, Skövde, Sweden, September 1998. Springer

8. Friedrich Leisch and Kurt Hornik. Stabilization of $k$-means with bagged clustering. In *Proceedings of the 1999 Joint Statistical Meetings, Statistical Computing Section*, pages 174–179, 1999

9. Friedrich Leisch, Adrian Trapletti, and Kurt Hornik. Stationarity and stability of autoregressive neural network processes. In M. S. Kearns, S. A. Solla, and D. A. Cohn, editors, *Advances in Neural Information Processing Systems*, volume 11, pages 267–273. MIT Press, USA, 1999

10. Sara Dolničar and Friedrich Leisch. Behavioral market segmentation of binary guest survey data with bagged clustering. In Georg Dorffner, Horst Bischof, and Kurt Hornik, editors, *Artificial Neural Networks – ICANN 2001*, volume 2130 of *LNCS*, pages 111–118. Springer Verlag, 2001

11. Vaijayanti Joshi, Lakhmi C. Jain, Udo Seiffert, Kathleen Zyga, Richard Price, and Friedrich Leisch. Neural techniques in logo recognition. In Ajith Abraham and Mario Köppen, editors, *Hybrid Information Systems*, Advances in Soft Computing, pages 25–32. Physica Verlag, Heidelberg, 2002. ISBN 3-7908-1480-6

12. Friedrich Leisch. Sweave: Dynamic generation of statistical reports using literate data analysis. In Wolfgang Härdle and Bernd Rönz, editors, *Compstat 2002 — Proceedings in Computational Statistics*, pages 575–580. Physica Verlag, Heidelberg, 2002. ISBN 3-7908-1517-9

13. David Meyer, Friedrich Leisch, Torsten Hothorn, and Kurt Hornik. StatDataML: An XML format for statistical data. In Wolfgang Härdle and Bernd Rönz, editors, *Compstat 2002 — Proceedings in Computational Statistics*, pages 545–550. Physica Verlag, Heidelberg, 2002. ISBN 3-7908-1517-9

14. Ajaykumar Pradhan, Lakhmi C. Jain, Arthur Filippidis, and Friedrich Leisch. Fusion of fuzzy system and conventional technique to evaluate weather and terrain effects on the vehicle operations. In Ajith Abraham and Mario Köppen, editors, *Hybrid Information Systems*, Advances in Soft Computing, pages 195–206. Physica Verlag, Heidelberg, 2002. ISBN 3-7908-1480-6

15. Friedrich Leisch and Sara Dolnicar. Development of a posteriori market segments over time: A tracking procedure. In Michael Saren and Alan Wilson, editors, *Proceedings of the 32nd European Marketing Academy Conference*, page 3.9.4, 2003

16. Friedrich Leisch. Sweave and beyond: Computations on text documents. In Kurt Hornik, Friedrich Leisch, and Achim Zeileis, editors, *Proceedings of the 3rd International Workshop on Distributed Statistical Computing, Vienna, Austria*, 2003. ISSN 1609-395X

17. Sara Dolnicar, Bettina Grün, and Friedrich Leisch. Time efficient brand image measurement — is binary format sufficient to gain the market insight required? In Jose L. Munuera, editor, *Proceedings of the 33rd European Marketing Academy Conference*, 2004

18. Sara Dolnicar and Friedrich Leisch. Testing for structural change over time of brand attribute perceptions in market segments. In Hamparsum Bozdogan, editor, *Statistical Data Mining and Knowledge Discovery*, chapter 17, pages 297–307. Chapman & Hall/CRC, Boca Raton, Florida, 2004

19. Bettina Grün and Friedrich Leisch. Bootstrapping finite mixture models. In Jaromir Antoch, editor, *Compstat 2004 — Proceedings in Computational Statistics*, pages 1115–1122. Physica Verlag, Heidelberg, 2004. ISBN 3-7908-1554-3

20. Friedrich Leisch. Exploring the structure of mixture model components. In Jaromir Antoch, editor, *Compstat 2004 — Proceedings in Computational Statistics*, pages 1405–1412. Physica Verlag, Heidelberg, 2004. ISBN 3-7908-1554-3

21. Daniela Lexer, Kristin Hagen, Friedrich Leisch, Rupert Palme, Josef Troxler, and Susanne Waiblinger. Zeitbudgets, Sozialverhalten und Kortisolmetabolitenkonzentrationen bei Fleckvieh- und Braunviehkühen, die in einem Roboter oder im Fischgrätenmelkstand gemolken werden. In *Aktuelle Arbeiten zur artgemäßen Tierhaltung 2004 — 36. Tagung Angewandte Ethologie bei Nutztieren der DVG*, pages 115–123, KTBL-Schrift 437, Darmstadt, Germany, 2005. ISBN 3-7843-2183-6

22. Bettina Grün and Friedrich Leisch. Fitting finite mixtures of linear regression models with varying & fixed effects in R. In Alfredo Rizzi and Maurizio Vichi, editors, *Compstat 2006— Proceedings in Computational Statistics*, pages 853–860. Physica Verlag, Heidelberg, Germany, 2006

23. Friedrich Leisch and Bettina Grün. Extending standard cluster algorithms to allow for group constraints. In Alfredo Rizzi and Maurizio Vichi, editors, *Compstat 2006—Proceedings in Computational Statistics*, pages 885–892. Physica Verlag, Heidelberg, Germany, 2006

24. Theresa Scharl and Friedrich Leisch. The stochastic QT–clust algorithm: Evaluation of stability and variance on time–course microarray data. In Alfredo Rizzi and Maurizio Vichi, editors, *Compstat 2006—Proceedings in Computational Statistics*, pages 1015–1022. Physica Verlag, Heidelberg, Germany, 2006

25. Theresa Scharl and Friedrich Leisch. Jackknife distances for clustering time–course gene expression data. In *2006 JSM Proceedings*, pages 346–353. American Statistical Association, Alexandria, USA, 2006

26. Bettina Grün and Friedrich Leisch. Testing for genuine multimodality in finite mixture models: Application to linear regression models. In Hans-Joachim Lenz and Reinhold Decker, editors, *Advances in Data Analysis, Proceedings of the 30th Annual Conference of the Gesellschaft für Klassifikation e.V., Freie Universität Berlin, March 8–10, 2006*, Studies in Classification, Data Analysis, and Knowledge Organization, pages 209–216. Springer-Verlag, 2007

27. Friedrich Leisch. R behind the scenes: using S the (un)usual way. In *Proceedings of the 56th Session of the International Statistical Institute, IPM36*, Lisbon, Portugal, 2007

28. Friedrich Leisch. Modelling background noise in finite mixtures of generalized linear regression models. In Paula Brito, editor, *Compstat 2008—Proceedings in Computational Statistics*, pages 385–396. Physica Verlag, Heidelberg, Germany, 2008

29. Friedrich Leisch. Creating R packages: A tutorial. In Paula Brito, editor, *Compstat 2008—Proceedings in Computational Statistics*. Physica Verlag, Heidelberg, Germany, 2008

30. Theresa Scharl and Friedrich Leisch. Using neighborhood graphs for the investigation of e. coli gene clusters. In Mikka Ahdesmäki, Korbinian Strimmer, Nicole Radde, Jörg Rahnenführer, Konstantin Klemm, Harri Lähdesmäki, and Olli Yli-Harja, editors, *Proceedings of the 5th International Workshop on Computational Systems Biology, WCSB 2008 (June 11-13, 2008, Leipzig, Germany)*, pages 157–160. Tampere University of Technology, Tampere, Finland, 2008

31. Theresa Scharl and Friedrich Leisch. Visualizing gene clusters using neighborhood graphs in R. In Paula Brito, editor, *Compstat 2008—Proceedings in Computational Statistics*, pages 51–58. Physica Verlag, Heidelberg, Germany, 2008

32. Sebastian Kaiser and Friedrich Leisch. A toolbox for bicluster analysis in R. In Paula Brito, editor, *Compstat 2008—Proceedings in Computational Statistics*, pages 201–208. Physica Verlag, Heidelberg, Germany, 2008

33. Manuel J. A. Eugster and Friedrich Leisch. Bench plot and mixed effects models: First steps toward a comprehensive benchmark analysis toolbox. In Paula Brito, editor, *Compstat 2008—Proceedings in Computational Statistics*, pages 299–306. Physica Verlag, Heidelberg, Germany, 2008

## Book Chapters

1. Sara Dolnicar and Friedrich Leisch. Behavioral market segmentation using the bagged clustering approach based on binary guest survey data: Exploring and visualizing unobserved heterogeneity. In Josef A. Mazanec, Geoffrey I. Crouch, J. R. Brent Ritchie, and Arch G. Woodside, editors, *Consumer Psychology of Tourism, Hospitality, and Leisure*, volume 2, pages 243–252. CAB International, UK, 2001. ISBN 0-85199-535-7

2. Kurt Hornik and Friedrich Leisch. Neural network models. In Daniel Peña, George C. Tiao, and Ruey S. Tsay, editors, *A Course in Time Series Analysis*, Wiley Series in Probability and Statistics, chapter 13, pages 348–362. John Wiley & Sons, New York, 2001. ISBN 0-471-36164-X

3. Kurt Hornik and Friedrich Leisch. Vienna and R: Love, marriage and the future. In Rudolf Dutter, editor, *Festschrift 50 Jahre Österreichische Statistische Gesellschaft*, pages 61–70. Österreichische Statistische Gesellschaft, 2002. ISSN 1026-597X

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## Abstracts

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