

Curriculum Vitae

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Samuel Müller

Contact Details

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Employment

01/2010 – ongoing, *Senior Lecturer*, School of Mathematics and Statistics, University of Sydney (USyd), Australia.

01/2008 – 12/2009, *Lecturer*, School of Mathematics and Statistics, USyd.

07/2006 – 01/2008, *Lecturer*, School of Mathematics and Statistics, University of Western Australia (UWA), Australia.

11/2004 – 06/2006, *Lecturer* (Oberassistent), Department of Mathematical Statistics and Actuarial Science, University of Bern (UNIBE), Switzerland.

11/2003 – 10/2004, *Postdoctoral Researcher*, Mathematical Sciences Institute (MSI), The Australian National University (ANU), Canberra, Australia.

12/2002 – 10/2003, *Research and Teaching Assistant*, Department of Mathematical Statistics and Actuarial Science, UNIBE.

Education

PhD in Mathematics, 11/2002, Department of Mathematical Statistics and Actuarial Science, UNIBE. Advisor: Prof. Jürg Hüsler

Diploma (MSc) in Statistics, 06/1998, Minors in Mathematics and Economics, respectively. Department of Mathematical Statistics and Actuarial Science, UNIBE. Advisor: Prof. Jürg Hüsler

Selected academic visits after 2005

11/2011, Department of Statistics, *Texas A&M University*, College Station, USA, 5 weeks

09/2011, MSI, ANU, Canberra, Australia, 5 weeks

07/2011, IMSV, UNIBE, Switzerland, 4 weeks

01/2009, Department of Statistics, *Texas A&M University*, College Station, USA, 3 weeks

02/2007, IMSV, UNIBE, Switzerland, 1 week

02/2006, MSI, ANU, Canberra, Australia, 3 weeks

04/2005, MSI, ANU, Canberra, Australia, 3 weeks

01/2005, MODAL'X, *Université de Paris X*, Nanterre, France, 1 week

Teaching at USyd

MATH1005 Statistics, 1st year service course (2008)

MATH1905 Statistics Advanced, 1st year service course (2009-10)

STAT3012 Applied Linear Models, 3rd year statistics course (2008-11)

MSH6 Robust Statistics, 4th year honours half-course (2009-2011)

Teaching before 2008

Calculus, Statistics and Probability, 1st year service course at UWA (2006-07)

Elementary Statistics, 1st year service course at the Swiss College of Agriculture (2002)

Statistical Analysis of Experiments, 2nd year statistics course at UWA (2007)

Mathematical Statistics I & II, 3rd year two-semester statistics course at UNIBE (2006, 2005)

Computer Intensive Methods in Statistics, 4th year honours course at UWA (2007)

Exact Tests and the Bootstrap, postgraduate half-course at UNIBE (2003, 2005)

Introduction to Probability and Statistics, postgraduate course at UNIBE (2002, 2004)

Postdoctoral researchers

01/2011 – present, Janice Scealy (jointly with AH Welsh, ANU).

Postgraduate and honours supervision

PhD theses: 4 ongoing, 2 descendant.

Honours theses: 0 ongoing, 7 descendants.

08/2011 – present, Secondary supervision of Kaushala Samudini Jayawardan, *Model Building for Clinical and Expression Data*, PhD Thesis, USyd.

03/2011 – present, Primary supervision of Chong You, *Model Building for Mixed Models*, PhD Thesis, USyd.

03/2010 – present, Secondary supervision of Garth Tarr, *Robust Statistics*, PhD Thesis, USyd.

07/2009 – present, Primary supervision of Kevin Murray, *Model Selection*, PhD Thesis, USyd.

08/2011, Anna Campain, *Challenges Associated with Clinical Studies and the Integration of Gene Expression Data*, PhD Thesis, USyd.

- 11/2010, Chong You, *Model Selection for Presence and Absence Data*, Honours Thesis, USyd.
- 09/2010, Kristen Marie Feher, *Characterising the Correlation Structure of High Dimensional Genomic Datasets using a Random Matrix Theory Approach*, PhD Thesis, UWA.
- 11/2009, Houng (Leanne) Chhay, *Tail Index and Quantile Estimation for Small Samples*, Honours Thesis, USyd.
- 11/2009, Patrick Nathan Tang, *Optimal Selection of m in the m -out-of- n Bootstrap for Regression Models*, Honours Thesis, USyd.
- 04/2006, Stéphanie Zeier, *Outlier Detection in Finance*, Honours Thesis, UNIBE.
- 04/2006, Thomas Reusch and Werner Zürcher, *Planning and Interim Analysis of a Fundraising Study*, Honours Thesis, UNIBE.
- 11/2005, Sabine Güsewell, *Variation Partitioning to Measure Confounded Effects in Ecological Data*, Honours Thesis, UNIBE.
- 11/2005, Roland Ammann, *Prediction of Fever in Neutropenia in Children with Cancer*, Honours Thesis, UNIBE.

External funding

- \$350,000, 2011-2013, *ARC DP110101998 Building Models for Complex Data*, with AH Welsh.
- \$8,500, 01/2009, *Visiting Research Fellowship* in the Department of Statistics, Texas A&M University, College Station, USA.
- \$650, 10/2007, *Small Travel Grant* from the European Commission (EC) for the Oberwolfach (Germany) conference ID 0743.
- \$4,400, 02/2006, *Visiting Research Fellowship* in the CMA, MSI, ANU.
- \$2,000, 04/2005, *Visiting Research Fellowship* in the CMA, MSI, ANU.
- \$65,000, 11/2003-10/2004, *Swiss National Foundation Research Fellowship*.

Publications

Books

1. Hüsler J, Müller S (2001). Final report: [Swiss] national company survey 1995, multiple imputation of volumes of sales (in German only ‘Schlussbericht Betriebszaehlung 1995 (BZ 95). Mehrfach imputierte Umsatzzahlen’). *Bundesamt für Statistik: Methodenbericht 338-0002*, Neuenburg, 44 pages.

Journal articles

2. Carroll RJ, Chatterjee N, Martinez JG, **Müller S**, Sampson JN (**to appear; accepted on 25 Nov 2011**). Empirical Performance of Crossvalidation with Oracle Methods in a Genomics Context. *The American Statistician*, 16 pages.
3. Tarr G, **Müller S**, Weber NC (**to appear, accepted on 04 Sep 11**). A Robust Scale Estimator Based on Pairwise Means. *Journal of Nonparametric Statistics*, 13 pages
4. Feher K, Whelan J, **Müller S** (**2011**). Assessing Modularity using a Random Matrix Theory Approach. *Statistical Applications in Genetics and Molecular Biology* **10**: Iss. 1, Article 44, 36 pages. [C 0, IF 1.842]
5. **Müller S**, Chhay H (**2011**). Partially Smooth Tail-Index Estimation for Small Samples. *Computational Statistics* **26**, 491-505. [C 0, IF 0.731]
6. Firmin L, **Müller S**, Rösler KM (**2011**). A Method to Measure the Distribution of Latencies of Motor Evoked Potentials in Man. *Clinical Neurophysiology* **122**, 176-182. [C 0, IF 3.122]
7. Tuft KT, Crowther MS, Connell K, **Müller S**, McArthur C (**2011**). Predation Risk and Competitive Interactions Affect Foraging of an Endangered Refuge-Dependent Herbivore. *Animal Conservation* **14**, 447-457. [C 0, IF 2.358]
8. Martinez JG, Carroll RJ, **Müller S**, Chatterjee N, Sampson JN (**2010**). A Note on the Effect on Power of Score Tests via Dimension Reduction by Penalized Regression under the Null. *International Journal of Biostatistics*, **6**: Iss. 1, Article 12, 12 pages. [C 0, IF N/A]
9. **Müller S**, Welsh AH (**2010**). On Model Selection Curves. *International Statistical Review* **78**, 240-256. [C 0, IF 0.844]
10. **Müller S**, Rufibach K (**2009**). Smooth Tail Index Estimators. *Journal of Statistical Computation and Simulation* **79**, 1155-1167. [C 2, IF 0.353]
11. **Müller S**, Vial C (**2009**). Partially Linear Model Selection by the Bootstrap. *Australian & New Zealand Journal of Statistics* **51**, 183-200. [C 0, IF 0.650]
12. **Müller S**, Welsh AH (**2009**). Robust Model Selection in Generalized Linear Models (with online supplement). *Statistica Sinica* **19**, 1155-1170. [C 1, IF 0.699]
13. **Müller S**, Rufibach K (**2008**). On the Max-Domain of Attraction of Distributions with Log-Concave Densities. *Statistics & Probability Letters* **78**, 1440-1444. [C 1, IF 0.328]
14. **Müller S**, Bastos Conforto A, Z'Graggen WJ, Kaelin-Lang A (**2006**). Estimating the Number of Motor Units Using Random Sums with Independently Thinned Terms. *Mathematical Biosciences* **202**, 29-41. [C 1, IF 1.186]
15. Hüsler J, Li D, **Müller S** (**2006**). Weighted Least Squares Estimation of the Extreme Value Index. *Statistics & Probability Letters* **76**, 920-930. [C 2, IF 0.328]
16. **Müller S** (**2005**). Two-Stage Support Estimation. *Australian & New Zealand Journal of Statistics* **47**, 463-472. [C 0, IF 0.373]

17. **Müller S**, Welsh AH (2005). Outlier Robust Model Selection in Linear Regression. *Journal of the American Statistical Association* **100**, 1297-1310. [C 14, IF 2.086]
18. **Müller S**, Hüsler J (2005). Iterative Estimation of the Tail Index. *Methodology and Computing in Applied Probability* **7**, 139-148. [C 1, IF 0.463]
19. Karoussis IK, **Müller S**, Slavi GE, Heitz-Mayfield LJA, Brägger U, Lang NP (2004). Association Between Periodontal and Peri-Implant Conditions: a 10-Year Prospective Study. *Clinical Oral Implants Research* **15**, 1-7. [C 48, IF 2.148]
20. **Müller S** (2003). Tail Estimation Based on Numbers of Near m -Extremes. *Methodology and Computing in Applied Probability* **5**, 197-210. [C 3, IF 0.463]
21. Borner MM, Dietrich D, Stupp R, Morant R, Honegger H, Wernli M, Hermann R, Pestalozzi BC, Saletti P, Hanselmann S, **Müller S**, Brauchli P, Castiglione-Gertsch M, Goldhirsch A, Roth AD (2002). Phase II Study of Capecitabine and Oxaliplatin in First- and Second-Line Treatment of Advanced or Metastatic Colorectal Cancer. *Journal of Clinical Oncology* **20**, 1759-1766. [C 104, IF 9.9]
22. Wittwer M, Flück M, Hoppeler H, **Müller S**, Deplanches D, Billeter R (2002). Prolonged Unloading of Rat Soleus Muscle Causes Distinct and Co-ordinated Adaptations of the Gene Profile. *The FASEB Journal, Express Article* 10.1096/fj.01-0792fje. [C 62, IF 6.791]
23. Aeberli D, **Müller S**, Schmutz R, Schmid H-P (2001). Predictive Value of Radiological Criteria for Disintegration Rates of Extracorporeal Shock Wave Lithotripsy. *Urologia Internationalis* **66**, 127-130. [C 2, IF 0.820]
24. Glaus A, **Müller S** (2001). Messung der Müdigkeit bei Krebskranken im Deutschen Sprachraum: Die Entwicklung des Fatigue Assessment Questionnaires. *Pflege* **14** (3), 161-170. [C 12, IF N/A]
25. Glaus A, **Müller S** (2000). Hämoglobin und Müdigkeit bei Tumorpatienten: Untrennbare Zwillinge? *Schweizerische Medizinische Wochenschrift* **130**. 471-477. [C 10, IF 0.255]
26. Schmid J, Ambühl M, Decrouez D, **Müller S**, Ramseyer K (1999). A Quantitative Fabric Analysis Approach to the Discrimination of White Marbles. *Archaeometry* **41** (2), 239-252. [C 6, IF 0.883]
27. Wüthrich M, **Müller S**, Kunz S, Potterat J, Kern O (1998). Analyse der Struktur und der Entwicklung der Bruttolöhne in Vorsorgeeinrichtungen. *Mitteilungen der Schweizerischen Aktuarvereinigung, Heft* **1**, 55-82. [C 0, IF N/A]

Conference proceedings

28. **Müller S**, Welsh AH (2007). Robust Model Selection in Generalized Linear Models. In: *Oberwolfach Report 50/2007*. Reassessing the Paradigms of Statistical Model-Building. (Gather U, Hall P, Künsch H-R) 42-43. Available at http://www.mfo.de/programme/schedule/2007/43/OWR_2007_50.pdf.

29. Müller S, Welsh AH (2005). Robust Model Selection in Linear Regression Models. In: *Bulletin of the International Statistical Institute 55th Session*, ISBN 1877040282 (CD), 2 pages.
30. Müller S (2003). Iterated Tail Index Estimation. In: *Bulletin of the International Statistical Institute 54th Session (cd)*, 2 pages.
31. Schmid J, Ambühl M, Decrouez D, Müller S, Ramseyer K (2000). The use of Quantitative Fabric Analysis for a Better Discrimination of White Marbles. In: *Proceedings of the First International Conference on the Archaeology of Paros and the Cyclades Paros*. Paria Lithos: Parian Quarries, Marble and Workshop of Sculpture. (Schilardi, D. U., Katsonopoulou, D.), 569-575.

Non-refereed journal articles

32. Müller S (2011). Solution to Puzzle Corner 19: Serious Summation. *Gazette of the Australian Mathematical Society* **38**:20–20.
33. Müller S (2010). Solution to Puzzle Corner 15: Fair Game. *Gazette of the Australian Mathematical Society* **37**:71–71.
34. Müller S (2009). Solution to Puzzle Corner 9: Lucky Lottery Problem. *Gazette of the Australian Mathematical Society* **36**:13–13.

Reports

35. Müller S, Rufibach, K (2006). Smoothed Semi-Parametric Tail Index Estimation. *Institute of Mathematical Statistics, University of Bern, Technical Report*, **58**, 1-20.
36. Müller S, Rufibach K (2006). A Comparison of Human and Pseudo-Uniform Random Numbers. *Institute of Mathematical Statistics, University of Bern, Technical Report*, **55**, 1-14.
37. Assoulin D, Dietrich D, Müller S, Schaller M (2001). Der Grundwasserspiegel und seine Abhängigkeit vom Niederschlag. *Universität Bern, Institut für mathematische Statistik und Versicherungslehre*, 75 pages.

Theses

38. Müller S (2002). Endpoint, tail index, and support estimation in extreme value theory. *PhD Thesis in Mathematics, Faculty of Science, University of Berne*, 117 pages.
39. Müller S (1998). The robustness of the Friedman test. *MSc Thesis in Statistics, Faculty of Science, University of Berne*, 33 pages.

Software

40. Rufibach K, Müller S (2007). smoothtail: Smooth estimation of GPD shape parameter. *R package version 1.1.2*.

Presentations

Invited (26): conference talks (4), seminar/colloquium (22)

Contributed (19): conference talks (15), conference posters (4)

Selected presentations after 2005

December 28-30, **2011**, Statistical Concepts and Methods for the Modern World, Colombo, Sri Lanka. *Graphical Tools for Model Selection* in Invited Session 1 “Dimension Reduction and Variable Selection Methods”.

June 28 - July 2, **2010**, ICORS 2010 – International Conference on Robust Statistics, Prague, Czech Republic. *Robust Model Selection Curves*.

November 29 - December 3, **2009**, Biometrics on the Lake – Australasian Region Conference, Taupo, New Zealand. *Visualising Model Selection Criteria for Presence and Absence Data in Ecology*.

June 28 - July 1, **2009**, The 1st Institute of Mathematical Statistics Asia Pacific Rim Meeting, Seoul. *Smooth Tail Index Estimation*. Joint work with Kaspar Rufibach & Houng Chhay.

July 14-19, **2008**, 7th World Congress in Probability & Statistics, Singapore. *Partially Linear Model Selection by the Bootstrap*. Joint work with Céline Vial.

October 21-27, **2007**, Workshop on ‘Reassessing the Paradigms of Statistical Model Building’, MFO Oberwolfach, Germany. *Robust Model Selection in Generalized Linear Models*. Joint work with: Alan H. Welsh.

May 24, **2006**, Colloquium, Institute for Mathematical Stochastics, University of Göttingen, Germany. *Model Selection in Regression Type Models*.

May 20, **2005**, Swiss Statistics Seminar, invited as ‘promising young scientist’, Bern, Switzerland. *Linear and Partially Linear Model Selection*.

April 5-12, **2005**, 55th Session of the International Statistical Institute (ISI 2005), Sydney, Australia. *Robust Model Selection in Linear Regression Models*. Joint work with: Alan H. Welsh.

Conference organization

July 1-4, **2012**, 2nd IMS APRM, Tokio. *Organiser of the invited paper session ‘Mixed Models’* (jointly with Alan H Welsh).

December 28-30, **2011**, Statistical Concepts and Methods for the Modern World, Colombo, Sri Lanka. *Organiser of the invited paper session ‘Model Building for Complex Data’*.

December 6-10, **2010**, ASC 2010, Fremantle, Australia. *Chair of contributed paper session ‘Inference’*.

July 14-19, **2008**, 7th World Congress in Probability & Statistics, Singapore. *Chair of contributed paper session ‘Goodness of Fit’*.

Honors and Awards

Nominated in the ‘Individual Teaching’ category for the Faculty Teaching Award 2007, Faculty of Engineering, Computing and Mathematics, University of Western Australia.

Faculty Award in Mathematics, 1999, University of Bern, Switzerland.

Refereeing

Annals of Statistics, Bernoulli, Biometrical Journal, Biometrika, Computational Statistics & Data Analysis, Extremes, Hacettepe Journal of Mathematics and Statistics, International Journal of Biostatistics, International Statistical Review, Journal of the American Statistical Association, Journal of the Korean Statistical Society, Journal of the Royal Statistical Society: Series A, Journal of Statistical Computation and Simulation, Journal of Statistical Planning and Inference, Statistics.

Research interests

Statistical model building – focused but not restricted to robust selection methods for linear, generalized linear and partially linear regression models; mixed-models; using resampling schemes.

Applied statistics – such as on modeling ecological, neurological or medical data.

Robust methods – estimation of spread, building of statistical models.

Extreme value theory – particularly on tail-index and support estimation.

Professional memberships

International Biometric Society (IBS) – Australasian Region

Institute of Mathematical Statistics (IMS)

Statistical Society of Australia Incorporated (SSAI).

Professional service

Since 01/2012: Deputy Postgraduate Director.

Since 04/2011: Assessor for the ARC. 1 assessment since 2011.

Since 02/2009: Reviewer for Mathematical Reviews (MR). 2 reviews since 2009.

01/2008-06/2011: 3rd year student advisor for statistics (School of Mathematics & Statistics, USyd)

01/2009-12/2010: Member (Level A-C Representative) of the School Management Committee (School of Mathematics & Statistics, USyd)

01/2007 – 01/2008: Member of the School Teaching and Learning Committee (School of Mathematics & Statistics, UWA)

01/2007–01/2008: 2nd/3rd year student advisor for statistics (School of Mathematics & Statistics, UWA)

01/2006 – 12/2007: Treasurer of the Austrian–Swiss Region of the International Biometric Society

Confidential referees

Available upon request.