

Timo Schmid

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| CONTACT INFORMATION | Freie Universität Berlin Institute of Statistics Garystr. 21 14195 Berlin, Germany | <i>Voice:</i> (0049) 30 838 51084 <i>Fax:</i> (0049) 30 838 455791 <i>E-mail:</i> timo.schmid@fu-berlin.de <i>WWW:</i> www.wiwiss.fu-berlin.de/fachbereich/vwl/Schmid |
| RESEARCH INTERESTS | Computational statistics, poverty mapping, small area estimation, spatial and spatio-temporal statistics, survey statistics, statistical modelling. | |
| EDUCATION | University of Trier, Trier, Germany Ph.D., Statistics, January, 2012 <ul style="list-style-type: none">• Dissertation topic: <i>Spatial robust small area estimation applied on business data</i>• Advisors: Prof. Dr. Ralf Münnich (University of Trier, Germany) Prof. Dr. Ray Chambers (University of Wollongong, Australia)• Mark: Summa cum laude Eberhard Karls Universität Tübingen, Tübingen, Germany M.Sc. (Diploma), Mathematics, January, 2008 <ul style="list-style-type: none">• Master topic: <i>Numerical range of power-bounded operators</i>• Advisor: Prof. Dr. Rainer Nagel (Eberhard Karls Universität, Tübingen, Germany)• Mark: 1.0 | |
| HONORS AND AWARDS | Ph.D. scholarship of the Foundation of German Economy (Stiftung der Deutschen Wirtschaft). Eberhard Karls Universität Tübingen: Honors in Mathematics. | |
| ACADEMIC EXPERIENCE | Freie Universität Berlin, Berlin, Germany <i>Associate Professor</i> May, 2017 - present <i>Assistant Professor</i> October, 2012 - May, 2017 <i>Postdoctoral Research Fellow</i> April, 2012 - September, 2012 <ul style="list-style-type: none">• Head of the statistical consultancy <i>fu:stat</i> of the Freie Universität Berlin.• Ongoing research in statistical modelling, spatial and survey statistics.• Research/consulting projects.• Teaching in graduate and undergraduate classes. University of Trier, Trier, Germany <i>Doctoral Research Fellow</i> April, 2010 - April, 2012 <ul style="list-style-type: none">• Research for FP7-SSH-2009-6-BLUE-ETS: BLUE-Enterprise and Trade Statistics.• Teaching experience included service as co-instructor. | |
| SELECTED PUBLICATIONS | <ol style="list-style-type: none">1. <i>From start to finish: A framework for the production of small area official statistics</i>, with A. Luna, N. Rojas-Perilla, N. Tzavidis and L.-C. Zhang, Journal of the Royal Statistical Society: Series A (Statistics in Social Sciences), 2018, Read paper, forthcoming.2. <i>The R package emdi for estimating and mapping regionally disaggregated indicators</i>, with A.-K. Kreutzmann, S. Pannier, N. Rojas-Perilla, M. Templ and N. Tzavidis, Journal of Statistical Software, 2018, forthcoming. | |

3. *Modelling the distribution of health related quality of life of advanced melanoma patients in a longitudinal multi-center clinical trial*, with R. Borgoni, P. Del Bianco, N. Salvati and N. Tzavidis, **Statistical Methods in Medical Research**, 2018, 27 (2), 549 – 563.
4. *Robust small area estimation under spatial non-stationarity*, with C. Baldermann and N. Salvati, **International Statistical Review**, 2018, 86 (1), 136 – 159.
5. *Constructing socio-demographic indicators for National Statistical Institutes using mobile phone data: Estimating literacy rates in Senegal*, with F. Bruckschen, N. Salvati and T. Zbiranski, **Journal of the Royal Statistical Society: Series A** (Statistics in Social Sciences), 2017, 180 (4), 1163 – 1190.
6. *Estimating the density of ethnic minorities and aged people in Berlin: Multivariate kernel density estimation applied to sensitive geo-referenced administrative data protected via measurement error*, with M. Gross, U. Rendtel, S. Schmon and N. Tzavidis, **Journal of the Royal Statistical Society: Series A** (Statistics in Social Sciences), 2017, 180 (1), 161 – 183.
7. *Outlier robust small area estimation under spatial correlation*, with R. Chambers, R. Münnich and N. Tzavidis, **Scandinavian Journal of Statistics**, 2016, 43 (3), 806 – 826.
8. *Longitudinal analysis of the strengths and difficulties questionnaire scores of the millennium cohort study children in England using quantile and M-quantile multilevel models*, with E. Flouri, E. Midouhas, N. Salvati and N. Tzavidis, **Journal of the Royal Statistical Society: Series A** (Statistics in Social Sciences), 2016, 179 (2), 427 – 452.
9. *Simulation tools for small area estimation: Introducing the R-Package saeSim*, with S. Warnholz, **Austrian Journal of Statistics**, 2016, 45, 55 – 69.
10. *Spatial robust small area estimation*, with R. Münnich, **Statistical Papers**, 2014, 55, 653 – 670.

PAPERS IN
PREPARATION

1. *Data-Driven Transformations in small area estimation*, with N. Rojas-Perilla, S. Pannier and N. Tzavidis, Working paper, submitted, 2018.
2. *Semiparametric M-quantile random effect model for indoor radon concentration*, with R. Borgoni, A. Caragni and N. Salvati, Working paper, 2018, submitted.
3. *Bayesian smoothing and benchmarking for small area estimation with application to rental prices in Berlin*, with R. Steorts and N. Tzavidis, Working paper, 2018, submitted.

SELECTED
CONFERENCE
PRESENTATIONS

1. *Applications of Mixed Models Methodology for Small Area Estimation in Mexico*, with N. Rojas-Perilla and N. Tzavidis, **Invited session**, Statistische Woche 2015, Hamburg.
2. *A Unit-level Quantile Nested Error Regression Model for Domain Prediction with Continuous and Discrete Outcomes*, with N. Salvati, N. Tzavidis and B. Weidenhammer, **Invited session**, ISI 2015, Rio de Janeiro, Brazil.
3. *Applications of Mixed Models Methodology for Small Area Estimation in Mexico*, with N. Tzavidis, **Invited session**, ISI 2015, Rio de Janeiro, Brazil.
4. *Estimating the Density of Ethnic Minorities and Aged People in Berlin: Bayesian Measurement Error Multivariate Kernel Density Estimation Applied to Sensitive Administrative Data*, with M. Gross, U. Rendtel, S. Schmon and N. Tzavidis, **Invited talk**, InGRID Workshop - Local statistics for decisionmaking on well-being and vulnerability, June 2015, Livorno, Italy.
5. *Bias-corrected outlier robust small domain predictors under spatial correlation*, with R. Chambers, R. Münnich and N. Tzavidis, **Invited session**, ERCIM2014, Pisa, Italy.
6. *New developments in SAE of complex deprivation indicators*, with N. Salvati, N. Tzavidis and B. Weidenhammer, **Invited session**, ERCIM2014, Pisa, Italy.
7. *Small-Area-Modelle unter Einbeziehung räumlicher Informationen*, with C. Baldermann, **Invited session**, Statistische Woche 2014, Hannover, Germany.

8. *Korrektur von Rundungsfehlern durch Anonymisierungstechniken in bivariater Kerndichteschätzung*, with M. Gross, U. Rendtel and S. Schmon, Statistische Woche 2014, Hannover, Germany.
9. *On the use of a data-driven tuning constant in M-Quantile regression*, with N. Salvati and N. Tzavidis, Statistische Woche 2014, Hannover, Germany.
10. *A robust unit-level model for small area estimation allowing for spatial non-stationarity*, with C. Baldermann and N. Salvati, SAE 2014, Poznan, Poland.
11. *Domain prediction for counts using microsimulation via quantiles*, with N. Salvati, N. Tzavidis and B. Weidenhammer, **Invited session**, SAE 2014, Poznan, Poland.
12. *Bias correction of robust small area estimators under spatial correlation*, with R. Chambers, R. Münnich and N. Tzavidis, **Invited session**, LinStat2014, Linköping, Sweden.
13. *On the use of a data-driven tuning constant in M-Quantile regression*, with N. Salvati and N. Tzavidis, **Invited talk**, Southampton Research Seminar, 2014, Southampton, UK.
14. *Full bias-correction of spatial robust small area estimators in the context of business data*, Statistische Woche 2013, Berlin, Germany.
15. *Spatial quantile regression using the asymmetric Laplace distribution with applications to small area estimation*, with M. Geraci, N. Tzavidis and B. Weidenhammer, Statistische Woche 2013, Berlin, Germany.
16. *Full-bias correction of spatial robust small area estimators*, SAE 2013, Bangkok, Thailand.
17. *Spatial robust small area methods in the context of Italian business data*, with R. Münnich, **Invited session**, ITACOSM 2013, Milano, Italy.
18. *A robust random effect block bootstrap for spatially clustered data*, with R. Chambers and P. Mokhtarian, DAGStat 2013, Freiburg, Germany.
19. *Spatial robust small area estimation applied on business data*, Goulburn 17, 2011, Goulburn, Australia.
20. *Spatial robust small area estimation applied on business data*, with R. Münnich and T. Zimmermann, EESW 2011, Neuchatel, Switzerland.
21. *Analysis of business data using spatial robust small area estimators*, with R. Münnich, DStatG 2011, Leipzig, Germany.
22. *Spatial robust small area estimation applied on business data*, with R. Münnich, SAE 2011, Trier, Germany.
23. *Parametric bootstrap MSE estimation for the spatial robust EBLUP*, with R. Münnich, ITACOSM 2011, Pisa, Italy.
24. *Spatial small area estimation to enhance quality and create new knowledge out of business data*, with R. Münnich, NTTS 2011, Brussels, Belgium.
25. *Spatial robust small area estimation*, with R. Münnich, ERCIM 2010, London, UK.

GRANTS AND
STATISTICAL
CONSULTING

Economic and Social Research Council

Co-investigator

January, 2016 - May, 2019

The project focuses on developing innovations in small area estimation methodologies.

Principal investigator: Nikos Tzavidis (University of Southampton)

Volume: £ 815,000

Further information

DFG - German Research Foundation

Principal investigator

April, 2016 - July, 2018

The main objective of the project is to develop an adequate methodology for high quality estimates

for the Household Finance and Consumption Survey (HFCS) for the German Central Bank.
Volume: € 162,970

MIUR-DAAD Joint Mobility Program

Principal investigator

May, 2016 - April, 2018

The aim of the project is to investigate multidimensional poverty by using small area estimation.

Volume: € 40,000

Bill and Melinda Gates Foundation

Principal investigator

June, 2015 - December, 2016

The main objective is to construct socio-demographic indicators based on mobile phone data from Senegal.

Volume: € 40,000

Welsh Government

Co-Principal investigator

June, 2016 - December, 2016

The primary objective is to investigate discontinuities in the National Survey.

Principal investigator: Paul Smith (University of Southampton)

Volume: £ 25,000

Berlin Senate for Urban Development

Principal investigator

January, 2016 - April, 2016

The aim of the project is to estimate on spatially disaggregated level where students live in Berlin.

Volume: € 11,000

Center for Research Strategy (E-Club), Freie Universität Berlin

Co-Principal investigator

July, 2015 - March, 2016

The main objective is to develop a novel statistical method to analyze large functional magnetic resonance imaging datasets.

Principal investigator: Dirk Ostwald (Freie Universität Berlin)

Volume: € 13,800

National Statistical Institute Mexico

Co-Principal investigator

January, 2015 - December, 2015

The aim of the project is to produce small area estimates of income related indicators for municipalities in Mexico.

Principal investigator: Nikos Tzavidis (University of Southampton)

Volume: £ 15,000

Statistical consulting unit *fu:stat* of the Freie Universität Berlin

Head of consulting unit

October, 2012 - present

Statistical consulting for companies, statistical courses and support for students.

Volume: € 100,000 (per year)

TEACHING AND SUPERVISION

Lectures:

- Poverty mapping, Master level, 30 students, Winter term 2016/17.
- Statistics II, Bachelor level, 250 students, Winter term 2015/16, Evaluation: 1.20.
- Statistics I, Bachelor level, 500 students, Summer term 2015, **Best teaching award** of the department, Evaluation: 1.36.
- Small Area Estimation, Master level, 25 students, Summer term 2015.
- Statistical Modelling, Bachelor level, 80 students, Winter term 2014/15, Evaluation: 1.18.
- Statistical Modelling, Bachelor level, 85 students, Winter term 2013/14, Evaluation: 1.20.
- Mathematical Statistics, Master level, 30 students, Summer term 2013, Evaluation: 1.31.

- Statistics II, Bachelor level, 250 students, Winter term 2012/13, **Best teaching award** of the department, Evaluation: 1.19.

Seminars:

- Statistical Consulting, Master level, Winter term 2014/15.
- Computational Statistics, Master level, Summer term 2014.
- Statistical Consulting, Master level, Winter term 2013/14.
- Spatial Statistics, Master level, Summer term 2013.

Supervision of Ph.D. candidates:

Finalized:

- Claudia Baldermann, *Robust small area estimation under spatial non-stationarity for unit-level models*, 2017.
- Marcus Gross, *Measurement error models applied to survey statistics*, 2016.
- Natalia Rojas-Perilla, *The use of data-driven transformations and their applicability in small area estimation*, 2018.
- Sebastian Warnholz, *Small area estimation using robust extensions to area level models*, 2016.
- Beate Weidenhammer, *On the consistency of quantile regression in linear mixed models*, 2016.

Ongoing:

- Ann-Kristin Kreutzmann, *Estimation of disaggregated indicators with application to the Household Finance and Consumption Survey (HFCS)*.
- Sören Pannier, *Small area estimation based on alternative data sources*.
- Felix Skarke, *tba*.
- Paul Walter, *Statistical methods for interval censored data*.
- Nora Würz, *tba*.

External examiner:

- Steve Donbavand, *Mapping poverty: the application and evaluation of model-based approaches to poverty level estimation within small areas*, 2015, University of Southampton, UK.
- Innocent Ngaruye, *Small area estimation for multivariate repeated measure data*, 2014, Linköping University, Sweden.

PROFESSIONAL
EXPERIENCE

A.T. Kearney, Munich, Germany

Consultant

April, 2008 - March, 2010

Implementation of several consulting projects, including modelling of affluent clients for an international bank, benchmarking of costs for mobile operators, and advice on analysis of airline economics data.

Roland Berger Strategy Consultants, Munich, Germany

Summer researcher

August, 2006 - October, 2006

Carried out a consulting project for a German telecommunication company

COMPUTER SKILLS

- Languages: R, C++, \LaTeX , SAS, JMP, STATA and SPSS.
- R packages: emdi, saeSim.
- Algorithms: Extensive experience programming/evaluating of simulations; parallel computing.
- Operating Systems: Unix/Linux, Windows.

PROFESSIONAL
SERVICE

Editor: AStA Wirtschafts- und Sozialstatistisches Archiv

Journal reviewer: Among other, Annals of Applied Statistics, Biometrical Journal, Computational Statistics and Data Analysis, European Journal of Operational Research, International Statistical Review, Journals of the Royal Statistical Society, Journal of Official Statistics, Journal of Multivariate Analysis, Mathematical Population Studies, Scandinavian Journal of Statistics, Statistical Papers, Statistics in Transition, Survey Research Methods.

Memberships: German Statistical Society (DStatG), International Association of Survey Statisticians (IASS), International Statistical Institute (ISI), Royal Statistical Society (RSS).

Boards: Board Member of the German Statistical Society (DStatG), IASS Council Member (2015-2019), ISI Young Statisticians Committee.

OFFER OF
PROFESSORSHIP

Universität des Saarlandes, Saarbrücken, Germany

Associate Professor

August, 2017

Offer of an Associate Professorship in quantitative methods and statistics at the Universität des Saarlandes.

Freie Universität Berlin, Berlin, Germany

Associate Professor

March, 2017

Offer of an Associate Professorship in applied statistics at the Freie Universität Berlin.

University of Manchester, Manchester, UK

Associate Professor

May, 2016

Offer of a permanent Associate Professorship in social statistics at the University of Manchester.