

# Annamaria Guolo

Department of Economics  
University of Verona  
via Dell'Artigliere, 19  
37129, Verona

Email: [annamaria.guolo@univr.it](mailto:annamaria.guolo@univr.it)  
Home: <http://annamariaguolo.weebly.com>

## Current Position

Since October 1, 2008, Assistant Professor in Statistics (13-D1), Department of Economics, University of Verona. On leave in the period August 2013–March 2014.

## Previous Positions Held

June 2008–September 2008. Associate Researcher (Post-doc), Department of Statistics, University of Padova. Research theme: *Measurement error correction techniques: likelihood, robustness and applications* (renewal). Supervisor: Prof. Alessandra Salvan.

June 2006–May 2008. Associate Researcher (Post-doc), Department of Statistics, University of Padova. Research theme: *Measurement error correction techniques: likelihood, robustness and applications*. Supervisor: Prof. Alessandra Salvan.

2003–2005. PhD scholarship, Department of Statistics, University of Padova.

## Education

2003–2005. **Ph. D. in Statistics**, University of Padova. Thesis: *Measurement Error Correction Techniques in Matched Case-Control Studies*. Supervisor: Dr. Alessandra R. Brazzale. Co-supervisors: Prof. Alessandra Salvan and Dr. Alberto Salvan. Final dissertation held on February 21, 2006.

1997–2002. **Laurea in Statistics and Economics**, Faculty of Statistics, University of Padova. Score: 110/110 cum laude. Thesis: *Likelihood and Asymptotics in Mixed Effects Models* (in Italian). Supervisor: Prof. Alessandra Salvan. Co-supervisor: Dr. Alessandra R. Brazzale. Final dissertation held on March 12, 2002.

## Research Activity

### *Research Interests*

Higher-order asymptotics. Implementation of statistical software in the R programming language. Likelihood-based inference. Measurement error correction methods. Meta-analysis and meta-regression. Mixed effects models. Computational statistics. Implementation of statistical software.

### *Award*

2008. *Winner of the Research Prize* (First Edition) of the Department of Statistics, University of Padova, with the paper:

Guolo, A. (2008). A flexible approach to measurement error correction in case-control studies. *Biometrics*, **64** (4), 1207–1214.

*Participation in Funded Research Projects*

Member of the local research unit of the University of Verona, PRIN 2008 (2 years long): *Approximate likelihood methods for high-dimensional dependencies*. National coordinator: Prof. Paolo Vidoni. Local coordinator: Prof. Marco Minozzo.

Member of the local research unit of the University of Padova, PRIN 2006 (2 years long): *New likelihood methods for complex statistical models*. National coordinator: Prof. Paolo Vidoni. Local coordinator: Prof. Alessandra Salvan.

Member of the local research unit of the University of Padova, PRIN 2003 (2 years long): *Inference in case of model uncertainty and applications*. National coordinator: Prof. Walter Racugno. Local coordinator: Prof. Alessandra Salvan.

*Scientific Societies*

Member of the American Statistical Association. Member of the Institute of Mathematical Statistics. Member of the Royal Statistical Society.

**Publications**

1. **Guolo, A.** (2014). The SIMEX approach to measurement error correction in meta-analysis with baseline risk as covariate. *Statistics in Medicine*, **33** (12), 2062–2076.
2. **Guolo, A.** and Varin, C. (2014). Beta regression for time series analysis of bounded data, with application to Canada Google Flu Trends. *Annals of Applied Statistics*, **8** (1), 74–88.
3. **Guolo, A.** (2013). Flexibly modelling the baseline risk in meta-analysis. *Statistics in Medicine*, **32** (1), 40–50.
4. Tura, A., Grassi, A., Winhofer, Y., **Guolo, A.**, Pacini, G., Mari, A., and Kautzky-Willer, A. (2012). Progression to type 2 diabetes in women with former gestational diabetes: time trajectories of metabolic parameters. *PlosOne*, **7** (11): e50419.
5. **Guolo, A.** and Varin, C. (2012). The R package metaLik for likelihood inference in meta-analysis. *Journal of Statistical Software*, **50** (7), 1–14.
6. **Guolo, A.** (2012). Higher-order likelihood inference in meta-analysis and meta-regression. *Statistics in Medicine*, **31** (4), 313–327.
7. **Guolo, A.** (2011). Pseudo-likelihood inference for regression models with misclassified and mis-measured variables. *Statistica Sinica*, **21**, 1639–1663.
8. **Guolo, A.** (2011). Measurement error correction in exploiting gene-environment independence in family-based case-control studies. *Scandinavian Journal of Statistics*, **38** (2), 237–251.
9. Adimari, A. and **Guolo, A.** (2010). A note on the asymptotic behaviour of empirical likelihood statistics. *Statistical Methods and Applications*, **19** (4), 463–476.
10. Toniato, A., Boschini, I., Bernante P., Bernante, P., Foletto, M., **Guolo, A.**, Pelizzo, M.R., Opocher, G., Ballotta, E., and Mantero, F. (2009). Factors influencing the rising rates of adrenal surgery: analysis of a 25-year experience. *Surgical Endoscopy*, **23** (3), 503–507.
11. Fassina, A., Corradin, M., Murer, B., Furlan, C., **Guolo, A.**, Ventura, L., and Montisci, M. (2009). Detection of silica particles in lung tissue by environmental scanning electron microscopy. *Inhalation Toxicology*, **21** (2), 133–140.

12. **Guolo, A.** (2008). A flexible approach to measurement error correction in case-control studies. *Biometrics*, **64** (4), 1207–1214.
13. **Guolo, A.** and Brazzale, A.R. (2008). A simulation-based comparison of techniques to correct for measurement error in matched case-control studies. *Statistics in Medicine*, **27** (19), 3755–3775.
14. **Guolo, A.** (2008). Robust Techniques for Measurement Error Correction: A Review. *Statistical Methods in Medical Research*, **17** (6), 555–580.
15. Merante Boschini, I., Toniato, A., Piotto, A., Ide, E. C., Casara, D., **Guolo, A.**, Rubello, D., and Pelizzo, M.R. (2008). 99Tc Nanocolloid sentinel node procedure in thyroid carcinoma. *Langenbecks Archives of Surgery*, **393** (5), 705–708.
16. Toniato, A., Merante Boschini, I., Piotto, A., Pelizzo, M.R., **Guolo, A.**, Foletto, M., and Casalide, E. (2008). Complications in thyroid surgery for carcinoma: one institution's surgical experience. *World Journal of Surgery*, **2** (4), 572–575.
17. Li, Y., **Guolo, A.**, Hoffmann, F.O., and Carroll, R.J. (2007). Shared uncertainty in measurement error problems, with application to the Nevada Test Site fallout data. *Biometrics*, **63** (4), 1226–1236.
18. Toniato, A., Merante Boschini, I., Bernante, P., Opocher, G., **Guolo, A.**, Pelizzo, M.R., and Mantero, F. (2007). Laparoscopic adrenalectomy for pheochromocytoma: is it really more difficult?. *Surgical Endoscopy*, **21** (8), 1323–1326.
19. Toniato, A., Merante Boschini, I., Bernante, P., Opocher, G., **Guolo, A.**, Pelizzo, M.R., and Mantero, F. (2007). Is the laparoscopic adrenalectomy for pheochromocytoma the best treatment?. *Surgery*, **141** (6), 723–727.
20. **Guolo, A.**, Brazzale, A.R., and Salvan, A. (2006). Improved inference on a scalar fixed effect of interest in nonlinear mixed-effects models. *Computational Statistics & Data Analysis*, **51** (3), 1602–1613.
21. Pelizzo, M.R., Toniato, A., Merante Boschini, I., Piotto, A., Bernante, P., Pagetta, C., Palazzi, M., **Guolo, A.**, Preo, P., Nibale, O., and Ribello, D. (2005). Locally advanced differentiated thyroid carcinoma: a 35-year mono-institutional experience in 280 patients. *Nuclear Medicine Communications*, **26** (11), 965–968.

### Software

R package `metaLik` for first- and higher-order likelihood inference in meta-analysis and meta-regression. Co-authored with Dr. C. Varin, Ca' Foscari University of Venice. Publicly available on CRAN <http://cran.r-project.org/web/packages/metaLik>.

### Talks and Seminars

September 19-21, 2011. *Pseudo-likelihood inference for measurement error models with emphasis on misclassification problems*. Invited talk. S.Co. 2011 Conference, University of Padova.

August 15-18, 2011. *Higher-order likelihood inference in meta-analysis using R*. UseR! Conference, University of Warwick.

May 23-25, 2011. *Pseudo-likelihood inference for regression models with mismeasured covariates*. Workshop, PRIN 2008: New Robust Methods for the Analysis of Complex Data, University of Verona.

May 3, 2011. *Higher-order likelihood inference in meta-analysis*. Invited seminar. University of Toronto.

August 9-13, 2010. *Pseudo-likelihood inference for regression models with misclassified and mismeasured variables*. IMS 2010 Conference, Gothenburg, Sweden.

May 15-17, 2009. *Measurement error correction in exploiting gene-environment independence in family-based case-control studies*. Final Meeting of PRIN Project: New Likelihood Methods for Statistical Complex Models & Multiple Testing: Theory and Applications, Cagliari.

March 25, 2009. *A flexible approach to measurement error correction in case-control studies*. Invited seminar. Department of Statistics, University of Padova.

June 9-10, 2008. *Measurement error correction in exploiting gene-environment independence in family-based case-control studies*. Workshop, PRIN 2006: New Likelihood Methods for Statistical Complex Models, University of Udine.

April 7-9, 2008. *A flexible approach to measurement error correction in case-control studies*. Invited talk. Workshop on Skew Symmetric Probability Distributions, Bertinoro.

October 16, 2007. *Likelihood methods for measurement error problems – Concepts and Applications in Case-Control Studies*. Invited seminar. Department of Statistical Sciences, University of Udine.

September 12-14, 2007. *Measurement error correction techniques in case-control studies*. Invited talk. Sixth Scientific Meeting of CLADAG, Macerata.

July 2-6, 2007. *A flexible approach to measurement error correction in case-control studies*. 22th International Workshop on Statistical Modelling, Barcelona.

March 27-30, 2007. *Likelihood-based methods for measurement error correction in matched case-control studies*. Statistics Under One Umbrella, Bielefeld.

September 2-6, 2006. *Empirical evaluation of measurement error correction techniques for matched case-control studies*. International Conference on Environmental Epidemiology & Exposure, ISEE-ISEA, Paris.

May 29-30, 2006. *Measurement error correction techniques: likelihood and applications to case-control studies*. Final Workshop, PRIN 2003: Inference in case of model uncertainty and applications, Venezia.

October 6-8, 2005. *A comparison of measurement error correction techniques for matched case-control studies*. SFB 386 Workshop on Model Selection and Validation, Munich.

September 21-23, 2005. *Effects of exposure to electromagnetic fields: measurement problems and correction techniques*. Conference of the Italian Statistical Society (SIS), Messina.

September 15-17, 2005. *Advances in small sample parametric inference for linear mixed effects models*. Conference on Complex Models and Computational Intensive Methods for Estimation and Prediction, Bressanone.

July 8-12, 2002. *Second-order likelihood-based inference in nonlinear mixed effects models*. 17th International Workshop on Statistical Modelling, Chania, Crete.

## Professional Activities

### *Review Activity for Scientific Journals*

American Journal of Political Sciences, AStA Advances in Statistical Analysis, Bioelectromagnetics, Biometrical Journal, Biometrics, BMC Medical Research Methodology, Brazilian Journal of Probability and Statistics, Canadian Journal of Statistics, Communications in Statistics – Theory and Methods, Computational Statistics, Computational Statistics & Data Analysis, Journal of Statistical Software, Journal of the Royal Statistical Society Series A, Scandinavian Journal of Statistics, Statistics in Medicine, Statistical Methods in Medical Research.

*Review Activity for Research Applications*

2013: Referee for an Application to the Research Foundation Flanders, FWO.

2013: Referee for a FIRB project, Italian Ministry for Education, University and Research.

updated June 3, 2014