Nicola SARTORI

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Born in Schio (Vicenza), Italy, on the 31st of May, 1972. Nationality: Italian.

Address

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Education

October 1998 – February 2002	Ph.D. student at the Department of Statistical Sciences of the University of Padova, Italy.
	Supervisor: Professor Alessandra Salvan. Thesis title: Likelihood Treatment of Incidental Nuisance Parameters.
October 1991 – November 1997	Undergraduate student in Statistical Sciences at the Department of Statistics of the University of Padova, Italy.
	Master exam (*Laurea*) in Statistics and Demography. Score: 110/110 *cum laude*. Supervisor: Professor Alessandra Salvan. Thesis title: Parametri di disturbo e verosimiglianza profilo modificata (in Italian).

Positions Held

December 2018 – today	Professor at the Department of Statistical Sciences of the University of Padova
December 2011 – December 2018	Associate Professor at the Department of Statistical Sciences of the University of Padova
October 2010 – November 2011	Assistant Professor at the Department of Statistical Sciences of the University of Padova.
January 2004 – September 2010	Assistant Professor at the Department of Statistics of the Ca' Foscari University of Venice.
January 2002 – December 2003	Associate Researcher (Post-doc) at the Department of Statistical Sciences of the University of Padova.

Visiting periods

October 2018 – June 2019	Visiting Professor at the Department of Statistical Sciences, University of Toronto, Canada.
March 2018 (1 week)	The Alan Turing Institute, London.
September 2014 – December 2014	Visiting Lecturer, Department of Statistical Science, University College London.
February 2010 (10 days)	Department of Statistics, University of Toronto.
October 2006 – December 2006	Academic Visitor at the Chair of Statistics of the Ecole Polytechnique Fédérale de Lausanne.
January 2001 – July 2001	Predoctoral Fellow at the Department of Statistics, Northwestern University, Evanston, Illinois.
October 1999 – December 2000	Visiting Scholar at the Department of Statistical Sciences, University of Toronto, Canada.

Research Interests

Likelihood and pseudo likelihood methods; Likelihood asymptotics; Statistical treatment of nuisance parameters; Statistical computing; Skew distributions.

Publications: Books

1. Salvan, A., Sartori, N. and Pace, L. (2020). *Modelli Lineari Generalizzati*. Springer-Verlag.

Publications: Journals

1. Pace, L., Salvan, A. and Sartori, N. (2022+). Confidence sequences with composite likelihoods. *The Canadian Journal of Statistics*, to appear.
2. Kenne Pagui, C. E., Salvan, A. and Sartori, N. (2022). Improved estimation in negative binomial regression. *Statistics in Medicine*, **41**, 2403-2416.
3. Bellio, R., Kosmidis, I., Salvan, A. and Sartori, N. (2022+). Parametric bootstrap inference for stratified models with high-dimensional nuisance specifications. *Statistica Sinica*, to appear (`doi:10.5705/ss.202021.0027`).
4. Ruli, E., Sartori, N. and Ventura, L. (2020). Robust approximate Bayesian inference. *Journal of Statistical Planning and Inference*, **205**, 10-22.
5. Kosmidis, I., Kenne Pagui, E. C. and Sartori, N. (2020). Mean and median bias reduction in generalized linear models. *Statistics and Computing*, **30**, 43-59.
6. McCormack, A., Reid, N., Sartori, N. and Theivendran, S. A. (2019). A directional look at F-tests. *The Canadian Journal of Statistics*, **47**, 619-627.
7. Pace, L., Salvan, A. and Sartori, N. (2019). Efficient composite likelihood for a scalar parameter of interest. *Stat*, **8**, e222.
8. Di Caterina, C., Cortese, G. and Sartori, N. (2019). Monte Carlo modified profile likelihood for clustered data. *Electronic Journal of Statistics*, **13**, 432-464.
9. Kyriakou, S., Kosmidis, I. and Sartori, N. (2019). Median bias reduction in random-effects meta-analysis and meta-regression. *Statistical Methods in Medical Research*, **28**, 1622-1636.
10. Tiberi, S., Scarpa, B. and Sartori, N. (2018). A composite likelihood approach to predict the sex of the baby. *Statistical Methods in Medical Research*, **27**, 3386-3396.
11. Kenne Pagui, E. C., Salvan, A. and Sartori, N. (2017). Median bias reduction of maximum likelihood estimates. *Biometrika*, **104**, 923-938.

12. Ruli, E., Sartori, N. and Ventura, L. (2016). Improved Laplace approximation for marginal likelihoods. *Electronic Journal of Statistics*, **10**, 3986–4009.

13. Fraser, D.A.S., Reid, N. and Sartori, N. (2016). Accurate directional inference for vector parameters. *Biometrika*, **103**, 625–639.

14. Cortese, G. and Sartori, N. (2016). Integrated likelihoods in parametric survival models for highly clustered censored data. *Lifetime Data Analysis*, **22**, 382–404.

15. Bartolucci, F., Bellio, R., Salvan, A. and Sartori, N. (2016). Modified profile likelihood for panel data models. *Econometric Reviews*, **35**, 1271–1289.

16. Ruli, E., Sartori, N. and Ventura, L. (2016). Approximate Bayesian Computation using composite score functions, *Statistics and Computing*, **26**, 679–692.

17. Cattelan, M. and Sartori, N. (2016). Empirical and simulated adjustments of composite likelihood ratio statistics. *Journal of Statistical Computation and Simulation*, **86**, 1056–1067.

18. De Bin, R., Sartori, N. and Severini, T. A. (2015). Integrated likelihoods in models with stratum nuisance parameters. *Electronic Journal of Statistics*, **9**, 1474–1491.

19. Pace, L., Salvan, A. and Sartori, N. (2015). Calibrating pseudo likelihood ratios. *Australian and New Zealand Journal of Statistics*, **57**, 347–361.

20. Kenne Pagui, E. C., Salvan, A. and Sartori, N. (2015). On full efficiency of the maximum composite likelihood estimator. *Statistics and Probability Letters*, **97**, 120–124.

21. Kenne Pagui, E. C., Salvan, A. and Sartori, N. (2014). Combined composite likelihood. *The Canadian Journal of Statistics*, **42**, 525–543.

22. Davison, A.C., Fraser, D.A.S., Reid, N. and Sartori, N. (2014). Accurate directional inference for vector parameters in linear exponential families. *Journal of the American Statistical Association*, **109**, 302–314.

23. Ruli, E., Sartori, N. and Ventura, L. (2014). Marginal posterior simulation via higher-order tail area approximations. *Bayesian Analysis*, **9**, 129–146.

24. Simonato, F., Ventura, L., Sartori, N., Cappellesso, R., Busund, L.T., Fassan, M. and Fassina, A. (2013). Detection of MicroRNAs in archival cytology urine smears. *PLOS ONE*, **8**(2): e57490.

25. Ventura, L., Sartori, N., and Racugno, W. (2013). Objective Bayesian higher-order asymptotics in models with nuisance parameters. *Computational Statistics and Data Analysis*, **60**, 90–96.

26. Pace, L., Salvan, Alessandra and Sartori, N. (2011). Adjusting composite likelihood ratio statistics. *Statistica Sinica*, **21**, 129–148.

27. Sartori, N., Severini, T.A. and Marras, L. (2010). An alternative specification of generalized linear mixed models. *Computational Statistics and Data Analysis*, **54**, 575–584.

28. Davison, A. C. and Sartori, N. (2008). The Banff Challenge: statistical detection of a noisy signal. *Statistical Science*, **23**, 354–364.

29. Bellio, R. and Sartori, N. (2006). Practical use of modified maximum likelihoods for stratified data. *Biometrical Journal*, **48**, 876–886.

30. Sartori, N. (2006). Bias prevention of maximum likelihood estimates for scalar skew normal and skew t distributions. *Journal of Statistical Planning and Inference*, **136**, 4259–4275.

31. Sartori, N., Salvan, Alb. and Thomaseth, K. (2005). Multiple imputation of missing values in a cancer mortality analysis with estimated exposure dose. *Computational Statistics and Data Analysis*, **49**, 937–953.

32. Sartori, N., Thomaseth, K. and Salvan, Alb. (2004). Local influence analysis when interfacing toxicokinetic and proportional hazard models. *Statistics in Medicine*, **23**, 2399–2412.

33. Sartori, N. and Severini, T. A. (2004). Conditional likelihood inference in generalized linear mixed models. *Statistica Sinica*, **14**, 349–360.

34. Bellio, R. and Sartori, N. (2003). Extending conditional likelihood in models for stratified binary data. *Statistical Methods and Applications*, **12**, 121–132.

35. Sartori, N. (2003). Modified profile likelihoods in models with stratum nuisance parameters. *Biometrika*, **90**, 533–549.

36. Sartori, N. (2003). A note on likelihood asymptotics for normal linear regression. *Annals of the Institute of Statistical Mathematics*, **55**, 187–195.

37. Sartori, N., Salvan, Ale. and Pace, L. (2003). A note on directed adjusted profile likelihoods. *Journal of Statistical Planning and Inference*, **110**, 1–9.

38. Salvan, Alb., Thomaseth, K., Bortot, P. and Sartori, N. (2001). Use of a toxicokinetic model in the analysis of cancer mortality in relation to the estimated absorbed dose of dioxin. *The Science of the Total Environment*, **274**, 21–35.

39. Salvan, Alb., Thomaseth, K., Bortot, P. and Sartori, N. (1999). Uncertainty in estimating exposure using a toxicokinetic model: the example of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). *Annals of the New York Academy of Sciences*, **895**, 125–140.

40. Sartori, N., Bellio, R., Salvan, Ale. and Pace, L. (1999). The directed modified profile likelihood in models with many nuisance parameters. *Biometrika*, **86**, 735–742.

Publications: Books and Proceedings

1. Kenne Pagui E. C., Salvan A. and Sartori N. (2020). Adjusted scores for inference in negative binomial regression. *Proceedings of SIS 2020, Meeting of the Italian Statistica Society*, 1219-1223. ISBN: 9788891910776

2. Schiavon, L. and Sartori, N. (2019). Bias reduced estimation of a fixed effects model for Expected Goals in association football. In G. Arbia, S. Peluso, A. Pini and G. Rivellini (Eds.) *Book of short papers of Smart Statistics for Smart Applications - SIS2019*, 1051-1056.

3. Di Caterina, C., Cortese, G. e Sartori, N. (2018). Monte Carlo modified profile likelihood in survival models for clustered censored data. *Book of Abstracts of the 11th International Conference of the ERCIM Working Group on Computational and Methodological Statistics (CMStatistics 2018)*, Pisa, Italia, December 14–16.

4. Di Caterina, C. and Sartori, N. (2018). Modified profile likelihood in models for clustered data with missing values. *Proceedings of the 49th SIS Scientific Meeting of the Italian Statistica Society*, University of Palermo, Italy, June 20–22. ISBN: 9788891910233

5. Ruli, E., Sartori, N. and Ventura, L. (2018). Posterior distributions with non explicit objective priors. *Proceedings of the 49th SIS Scientific Meeting of the Italian Statistica Society*, University of Palermo, Italy, June 20–22. ISBN: 9788891910233

6. Kenne Pagui E. C., Michielon, E., Salvan A. and Sartori N. (2017). Median unbiased estimator for the two-parameter logistic model. *Proceeding of the 32nd international workshop on statistical modelling*, Vol. 2, 203–206, Groningen, 3–7 July.

7. Di Caterina, C., Cortese, G. and Sartori N. (2017). Monte Carlo modified profile likelihood in survival models for clustered censored data. *Proceeding of the 32nd international workshop on statistical modelling*, Vol. 2, 193–196, Groningen, 3–7 July.

8. Sartori, N. (2017). Introduction to "Saddlepoint Expansions for Directional Test Probabilities". In *Inference, Asymptotics, and Applications. Selected Papers of Ib Michael Skovgaard, with Introductions by his Colleagues (Nancy Reid and Torben Martinussen editors)*, World Scientific, 75–78.

9. Kenne Pagui, E. C., Salvan, A. and Sartori, N. (2016). Median bias reduction of maximum likelihood estimates. *Proceedings of the 31st International Workshop on Statistical Modelling*, Vol. 1, 145–149, Rennes, France, July 4–8.

10. Ruli, E., Sartori, N. and Ventura, L. (2016). Approximate Robust Bayesian Inference with an application to linear mixed models. *Proceedings of the 48th SIS Scientific Meeting of the Italian Statistica Society (Monica Pratesi and Cira Pena editors)*, University of Salerno, Italy, June 8–10, ISBN: 9788861970618.

11. Kenne Pagui, E. C., Salvan, A. and Sartori, N. (2016). Median bias reduction of maximum likelihood estimates in binary regression models. *Proceedings of the 48th SIS Scientific Meeting of the Italian Statistica Society (Monica Pratesi and Cira Pena editors)*, University of Salerno, Italy, June 8–10, ISBN: 9788861970618.

12. Sartori, N., R. Bellio, I. Kosmidis and A. Salvan (2016). Bootstrap prepivoting in the presence of many nuisance parameters. *Proceedings of the 48th SIS Scientific Meeting of the Italian Statistica Society (Monica Pratesi and Cira Pena editors)*, University of Salerno, Italy, June 8–10, ISBN: 9788861970618.

13. Sartori, N. (2014). Accurate likelihood inference with many nuisance parameters. *Book of Abstracts of the 7th International Conference of the ERCIM Working Group on Computational and Methodological Statistics*, Pisa, December 6–8, 10 ISBN: 978-84-937822-4-5.

14. Ventura, L., Ruli, E. and Sartori, N. (2014). Approximate Bayesian computation with robust estimating equations. *Book of Abstracts of the 7th International Conference of the ERCIM Working Group on Computational and Methodological Statistics*, Pisa, December 6–8, 60 ISBN: 978-84-937822-4-5.

15. Ruli, E., Sartori, N. and Ventura, L. (2014). Approximate Bayesian Computation with proper scoring rules. *Proceedings of the 47th SIS Scientific Meeting of the Italian Statistica Society*, Cagliari, June 10–14. ISBN: 978-88-8467-874-4.

16. Bellio, R., Di Caterina, C. and and Sartori, N. (2013). Monte Carlo modified likelihood for panel data models. *Book of Abstracts of the 6th International Conference of the ERCIM Working Group on Computational and Methodological Statistics*, London, December 14–16, 165. ISBN: 978-84-937822-3-8.

17. Cattelan, M. and Sartori, N. (2013). Empirical and simulated adjustments of composite likelihood ratio statistics. *Book of Abstracts of the 6th International Conference of the ERCIM Working Group on Computational and Methodological Statistics*, London, December 14–16, 162 ISBN: 978-84-937822-3-8.

18. Pace, L., Salvan, A. and Sartori, N. (2013). Adjusted pseudo composite likelihood ratios. *Proceedings of the 28th International Workshop on Statistical Modelling (Muggeo V.M.R., Capursi V., Boscaino G., Lovison G., editors)*, Vol. 2, 723-726, Palermo, Italy, July 8–12. ISBN 978-88-96251-49-2.

19. Ventura, L., Sartori, N., and Racugno, W. (2011). A class of strong matching priors for higher-order Bayesian inference. *Proceedings of the 7th Conference on Statistical Computation and Complex Systems*, Padova, September 19–21. ISBN: 978 88 6129 753 1.

20. Sartori, N., Marras, E. and Severini, T.A. (2007), An alternative parameterization of random effects in generalized linear mixed effects with canonical link. *Atti del convegno "Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione"*, Venezia, September 6–8, 433–438.

21. Sartori, N. (2006). Local Influence Analysis. In *Encyclopedia of Biopharmaceutical Statistics*. ISBN: 0-8247-4262-1. New York, Dekker.

22. Marras, E., Sartori, N. e Ventura, L. (2005), Modified estimating equations in models with stratum nuisance parameters. *Atti del convegno "Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione"*, Bressanone, September 15–17, 263–268.

23. Bellio, R. and Sartori, N. (2004). Application of the modified profile likelihood in stratified models. *Proceedings of the 19th International Workshop on Statistical Modeling*, Firenze, July 4–8, 310–314.

24. Bellio, R., Rizzi, L. and Sartori, N. (2003). Some aspects of misspecification in mixed-efffects models. *Atti del convegno "Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione"*, Treviso, September 4–6, 51–56.

25. Sartori, N, Salvan, A. and Thomaseth, K. (2003). Multiple imputation of missing values in a dose-response analysis of cancer mortality in relation to estimated absorbed dose of dioxin. *Atti del convegno "Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione"*, Treviso, September 4–6, 368–373.

26. Bellio, R. and Sartori, N. (2002). Extending conditional likelihood for clustered data. *Atti della XLI Riunione della Società Italiana di Statistica*, Milan, June 5-7, 357–360.

27. Sartori, N., Thomaseth, K. and Salvan, Alb. (2001). An analytical sensitivity approach to interfacing toxicokinetic and risk models. *Proceedings of the 16th International Workshop on Statistical Modeling*, Odense, July 2–6, 505-508.

28. Salvan, Alb., Thomaseth, K., Sartori, N. and Bortot, P. (2001). Cancer mortality and occupational exposure to dioxin: an analysis based on a toxicokinetic model. *Book of abstracts of the 11th Annual Conference of the Society of Risk Analysis-Europe*, Lisbona, May 23–27.

29. Salvan, Alb., Thomaseth, K., Bortot, P. and Sartori, N. (2000). Kinetic modeling of human exposure to dioxin: use in risk assessment. *Book of abstracts of the Conference on Toxicology and Risk Assessment Approaches in the 21st Century*, King Island, Ohio, USA, April 10–13, pp. 56-57.

30. Salvan, Alb., Thomaseth, K., Bortot, P. and Sartori, N. (1999). Uncertainty in estimation of occupational exposure to dioxin using a toxicokinetic model. *Epidemiology*, **10**, 4 Supplement, S80.

Work in progress, working papers and papers submitted in journals

- Huang, C., Di Caterina, C. and Sartori, N. (2021). Directional testing for high-dimensional multivariate normal distributions. `https://arxiv.org/abs/2107.09418`. Submitted.
- Di Caterina, C., Reid, N. and Sartori, N. (2021). Directional tests for Gaussian graphical models. `https://arxiv.org/abs/2103.15394`. Submitted.
- Lambardi di San Miniato, M., Reid, N. and and Sartori, N. (2021). Adjusting for nuisance parameters when all parameters are of interest. In preparation.
- Lambardi di San Miniato, M. and Sartori, N. (2021). Adjusted composite likelihood for robust Bayesian meta-analysis. `https://arxiv.org/abs/2104.01920`. Submitted.
- Kenne Pagui, C. E., Salvan, A. and Sartori, N. (2020). Efficient implementation of median bias reduction. `https://arxiv.org/abs/2004.08630`.
- Kenne Pagui, C. E., Salvan, A. and Sartori, N. (2019). Mean and median bias reduction for binary regression with misclassified response. In preparation.
- Ruli, E., Sartori, N. and Ventura, L. (2019). Posterior distributions with implicit objective priors. In preparation.
- Bellio, R., Kosmidis, I. and Sartori, N. (2016). Fixed-effects estimation of two-parameter logistic models. In preparation.

Software

- `MLGdata`: Datasets for Use with Salvan, Sartori and Pace (2020), *Modelli Lineari Generalizzati*, Springer-Verlag, available on CRAN.
- `HOTA`: R code for marginal posterior simulation via higher-order tail area approximations (joint with E. Ruli and L. Ventura), available at `http://homes.stat.unipd.it/sites/homes.stat.unipd.it.lauraventura/files/HOTA-BA.zip`.
- `panelMPL`: R package for modified profile likelihood estimation for fixed-effects panel data models (joint with R. Bellio), available at `http://ruggerobellio.weebly.com/software.html`.
- `iLaplace`: R package for improved Laplace approximation for integrals of unimodal functions (joint with E. Ruli and L. Ventura), available on CRAN.
- `mbrglm`: R package for median bias reduction in binary regression (with E. C. Kenne Pagui and A. Salvan), available on CRAN.
- `mbrbetareg`: R code for median bias reduction in beta regression (joint with E. C. Kenne Pagui), available on GitHub.
- `brglm2`: Bias Reduction in Generalized Linear Models (author: I. Kosmidis; contributor, jointly with K. Konis and E. C. Kenne Pagui), available on CRAN.
- `robustBLME`: Robust Bayesian Linear Mixed-Effects Models using ABC (joint with E. Ruli and L. Ventura), available on CRAN.

Talks and other presentations

September 2019: *Mean and median bias reduction in generalized linear models* (joint with E. C. Kenne Pagui and I. Kosmidis). Invited seminar at the Department of Mathematics, University of Oslo, September 17.

September 2019: *Modified maximum likelihood estimation through adjusted scores* (joint with M. Lambardi di San Miniato and N. Reid). Invited talk in the session "Methods and Theory: Modern Fisherian perspectives on inference" of the RSS International Conference 2019, Belfast, September 2-5.

November 2018: *Mean and median bias reduction in generalized linear models* (joint with E. C. Kenne Pagui and I. Kosmidis). Invited seminar at the Department of Statistical Sciences, University of Toronto, November 29.

June 2018: *Approximate Bayesian analysis with adjusted composite likelihoods with an application to meta-analysis with binary outcomes* (joint with M. Lambardi di San Miniato). Invited talk at the "Likelihood-free methods of inference" invited session of the "4th Conference of the International Society for Nonparametric Statistics", Salerno, June 11-15.

November 2017: *Likelihood. . . and beyond.* Invited talk at Statalk 2017 (organized by the young section of the Italian Statistical Society), Department of Statistical Sciences, University of Padova, November 17.

December 2016: *Median bias reduction of maximum likelihood estimates* (joint with E. C. Kenne Pagui and A. Salvan). Invited seminar at the Department of Decision Sciences, Bocconi University of Milan, December 1st.

September 2016: *Median bias reduction of maximum likelihood estimates* (joint with E. C. Kenne Pagui and A. Salvan). Invited talk at "Workshop on Higher-Order Asymptotics and Post-Selection Inference (WHOA-PSI)", Washington University, St. Louis, September 30 - October 2.

June 2016: *Bootstrap prepivoting in the presence of many nuisance parameters* (joint with R. Bellio, I. Kosmidis and A. Salvan). Talk in the solicited session "Recent developments in computational statistics" of the "48th scientific meeting of the Italian Statistical Society", University of Salerno, Italy, June 8-10.

December 2014: *Accurate likelihood inference with many nuisance parameters.* Talk in the invited session "Handling nuisance parameters: Advances towards optimal inference" of the "7th International Conference of the ERCIM WG on Computational and Methodological Statistics (ERCIM 2014)", University of Pisa, Italy, December 6-8.

October 2014: *Accurate directional inference for vector parameters* (joint with A. C. Davison, D. A. S. Fraser and N. Reid). Invited seminar at Department of Statistical Science, University College London, October 23.

May 2014: *Likelihood based inference for fixed-effects panel data models.* Invited seminar at Department of Economics, KU Leuven, May 16.

December 2013: *Monte Carlo modified likelihood for panel data models* (joint with R. Bellio and C. Di Caterina). "6th International Conference of the ERCIM WG on Computational and Methodological Statistics (ERCIM 2013)", University of London, UK, December 14-16.

November 2013: *Accurate directional inference for vector parameters* (joint with A. C. Davison, D. A. S. Fraser and N. Reid). Invited seminar at Department of Statistical Sciences, University of Rome "La Sapienza", November 29.

November 2012: *Calibrating hybrid composite likelihood ratios for a parameter of interest* (joint with L. Pace and A. Salvan). Invited seminar at Collegio Carlo Alberto, Torino, November 23.

May 2012: *Calibrating hybrid composite likelihood ratios for a parameter of interest* (joint with L. Pace and A. Salvan). Invited seminar at the Department of Decision Sciences of the Bocconi University of Milan, May 17.

May 2009: *Directional tests for contingency tables* (joint with A.C. Davison, D.A.S. Fraser and N. Reid). Final meeting of the research projects PRIN 2006 "New likelihood-based inferential methods for complex statistical models" e "Multiple testing: theory and applications", Pula (Cagliari), May 15–17.

March 2008: *An Sweave tutorial. Mixing R and $\LaTeX$.* Seminar at the Department of Statistical Sciences of the University of Padova, March 14.

September 2007: *An alternative parameterization of random effects in generalized linear mixed effects with canonical link* (joint with L. Marras e T.A. Severini). Conference "Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione", Venice, September 6–8.

July 2007: *Improved likelihood inference for vector parameters with discrete data.* Invited seminar at "Joint Statistical Meeting 2007", Salt Lake City, Utah, USA, July 29 – August 2nd.

May 2007: *Likelihood Inference for a Problem in Particle Physics.* Invited seminar at "Swiss Seminars, spring 2007" at Bern University Switzerland, May 11.

December 2006: *Local influence analysis when interfacing toxicokinetic and proportional hazard models.* Invited seminar at the Department of Mathematics, Ecole Polytechnique Fédérale de Lausanne (EPFL), December 1st.

November 2006: *Sweave = R·$\LaTeX^2$. A brief tutorial.* Seminar at the Department of Mathematics, Ecole Polytechnique Fédérale de Lausanne (EPFL), November 21.

November 2006: *Modified profile likelihood for stratified data: alternative or complement to random effects?* (joint with R. Bellio). Invited seminar at the Department of Mathematics, Ecole Polytechnique Fédérale de Lausanne (EPFL), November 17.

November 2006: *Practical use of modified profile likelihoods for panel data* (joint with R. Bellio). Invited seminar at the Department of Econometrics, Université de Genève, November 11.

November 2005: *Modified maximum likelihoods for stratified data* (coautore: R. Bellio). Invited seminar at the "Meeting of The Danish Society for Theoretical Statistics" held at the Royal Veterinary and Agricultural University (KVL), Copenhagen, November 29–30.

May 2005: *Modified maximum likelihood for the shape parameter of scalar skew normal and skew t distributions.* Seminar at the Department of Economics and Quantitative Methods, University of Pavia.

January 2005: *PhD? It's not so bad when you consider the alternative hypothesis.* Seminar at the inaugural of the "Scuola di Dottorato in Scienze Statistiche", Department of Statistics, University of Padova.

November 2003: *Applications of the modified profile likelihood in stratified models* (joint with R. Bellio). Talk at the joint final meeting of the research groups "Costruzione e Scelta di Modelli" and "Reti Bayesiane e Modelli Grafici: sviluppi metodologici e computazionali per le applicazioni", Padova, November, 14–16.

September 2003: *Multiple imputation of missing values in a dose-response analysis of cancer mortality in relation to estimated absorbed dose of dioxin* (joint with A. Salvan and K. Thomaseth). Conference "Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione", Treviso, September 4–6.

February 2003: *Riduzione della distorsione: meglio prevenire che correggere. Le distribuzioni normale e t asimmetriche.* Seminar at the final meeting of the research group "Estensioni della distribuzione di probabilità gaussiana e loro applicazioni", Padova, February 7-8.

January 2003: *Estensioni della verosimiglianza condizionata per dati binari raggruppati* (joint with R. Bellio). Presented at the "Inaugurazione del XVIII ciclo del dottorato di ricerca in Statistica e del dottorato di ricerca in Statistica Applicata alle Scienze Economiche e Sociali. In ricordo di Antonio C. Capelo", Padova, January 10-11.

September 2002: *Bias reduction: better prevent than correct. The skew normal distribution.* Seminar at the Department of Statistics, University of Udine.

July 2002: *Riduzione della distorsione: meglio prevenire che correggere. La distribuzione normale asimmetrica.* Seminar at the meeting of the research group "Estensioni della distribuzione di probabilità gaussiana e loro applicazioni", Padova, July 4.

July 2001: *Modifications to the profile likelihood in models with incidental nuisance parameters.* "Workshop on Random Effects, Model Checking and Asymptotics", Royal Veterinary University, Copenhagen, Danimarca, July 9–11.

Posters

July 2017: *Median bias reduction in meta-analysis and meta-regression.* (joint with S. Kyriakou and I. Kosmidis). "Greek Stochastichs ι", Milos, Greece, July 14-17.

July 2017: *Monte Carlo modified profile likelihood in survival models for clustered censored data.* (joint with C. Di Caterina and G. Cortese). "32nd International Workshop on Statistical Modelling", Groningen, Nederlands, July 3-7.

July 2017: *Median unbiased estimation of the two-parameters logistic model.* (joint with E. C. Kenne Pagui, E. Michielon and A. Salvan). "32nd International Workshop on Statistical Modelling", Groningen, Nederlands, July 3-7.

August 2016: *Monte Carlo modified profile likelihood for panel data models.* (joint with C. Di Caterina). "22nd International Conference on Computational Statistics", Oviedo, Spain, August 23-26.

June 2015: *Improved Laplace approximation for marginal likelihoods.* (joint with E. Ruli and L. Ventura) (winner of the poster competition). "11th O-Bayes workshop", Valencia, Spain, June 1–5.

June 2015: *Robust Bayesian inference via ABC.* (joint with E. Ruli and L. Ventura). "11th O-Bayes workshop", Valencia, Spain, June 1–5.

July 2013: *Adjusted pseudo composite likelihood ratios.* (joint with L. Pace and A. Salvan). "28th International Workshop on Statistical Modelling", Palermo, Italy, July 8–12.

May 2013: *ABC with unbiased estimating functions.* (joint with E. Ruli and L. Ventura). "ABC in Rome", Rome, Italy, May 30–31.

June 2011: *A class of strong matching priors for higher-order Bayesian inference.* (joint with L. Ventura and W. Racugno). "Hierarchical Models and Markov Chains Monte Carlo - Conference in honour of Professor Adrian F.M. Smith", Crete, Greece, June 1–6.

July 2004: *Application of the modified profile likelihood in stratified models.* (joint with R. Bellio). "19th International Workshop on Statistical Modelling", Firenze, Italy, July 4–8.

July 2001: *An analytical sensitivity approach to interfacing toxicokinetic and risk models.* (joint with Alb. Salvan, K. Thomaseth). "16th International Workshop on Statistical Modelling", Odense, Denmark, July 2–6.

May 2001: *Cancer mortality and occupational exposure to dioxin: an analysis based on a toxicokinetic model* (joint with Alb. Salvan, K. Thomaseth, P. Bortot). "11th Annual Conference of the Society of Risk Analysis (SRA) - Europe", Lisbon, Portugal, May 23–27.

July 2000: *A note on higher-order asymptotics for inference on the normal distribution.* International workshop "Inference and Asymptotics", Monte Verità, Ascona, Svizzera, July 9–14.

Research Grants

2019 – 2020: *Inference in high-dimensional models.* Principal Investigator of the project supported by the Department of Statistical Sciences of the University of Padova (SID2018).

2017 – 2019: *Likelihood-free methods of inference.* Member of the national project supported by the Italian Ministry of Instruction, University and Research (MIUR). National Principal Investigator: Prof. B. Liseo. Padova Unit Principal Investigator: Prof. L. Ventura.

09/2014 – 12/2014: *Improving estimation and inference in models with many nuisance parameters.* Grant for visiting the Department of Statistical Science of University College London (Visiting Scholar Grant Programme 2013, Fondazione Cassa di Risparmio di Padova e Rovigo).

2014 – 2016: *Neo-Fisherian and Bayesian inference for intractable likelihoods: modern approaches with application in Life Sciences.* Principal Investigator of the project supported by the University of Padova (PRAT2013).

2011 – 2012: *On the use of advanced statistical techniques in medical research.* Participant of project Excellen Grant 2011/12, Fondazione Cassa di Risparmio di Padova e Rovigo (Principal Investigator: Laura Ventura).

2009 – 2012: *Approximate likelihood methods for complex dependence structures.* Member of the national project supported by the Italian Ministry of Instruction, University and Research (MIUR). National Principal Investigator: Prof. P. Vidoni. Venice Unit Principal Investigator: Prof. C. Gaetan.

2007 – 2009: *New likelihood methods for complex models.* Local Principal Investigator of the Venice Unit for the national project supported by the Italian Ministry of Instruction, University and Research (MIUR). National Principal Investigator: Prof. P. Vidoni.

2001 – 2005: *Model building and model choice.* Member of the national project supported by the Italian Ministry of Instruction, University and Research (MIUR). National Principal Investigator: Prof. W. Racugno. Padova Unit Principal Investigator: Prof. A. Salvan.

2001 – 2003: *Extension of the Gaussian distribution and their applications.* Member of the national project supported by the Italian Ministry of University and Scientific and Technological Research (MURST). National (and local) Principal Investigator: Prof. A. Azzalini.

2002 – 2007: *SETIL.* Member of the Italian multicentric case-control study on etiological factors for childhood leukemia, non Hodgkin lymphoma and neuroblastoma supported by the Italian Association for Cancer Research, the Ministry of University and Scientific and Technological Research, the Ministry of Public Health, the National Research Council, the National Institute of Occupational Safety and Prevention, and local administrations. Principal Investigator: Dr. C. Magnani.

1999 – 2001: *Extreme value theory and higher-order likelihood asymptotics.* Member and Principal Investigator (since October 2000) of the project for young researchers supported by the University of Padova.

Research contracts

April 2002 – December 2003: contract with the Institute for Bioengeenering (ISIB), National Research Council (CNR), Padova. Objective: development and implementation of non-standard methods for statistical analysis in the context of the SETIL epidemiological study.

February – May 2000: contract with the LADSEB laboratory, CNR, Padova. Objective: sensitivity analysis when interfacing toxicokinetic and risk models.

April – July 1999: contract with the Department of Statisics, University of Padova. Objective: port to Matlab of the *Skew Normal* library for S-Plus.

August – December 1998: contract with the LADSEB laboratory, CNR, Padova. Objective: comparative analysis of several methods for the multiple imputation of missing values.

July – August 1998: contract with the Department of Statistics, University of Udine. Objective: simulation studies to evaluate the effects of nuisance parameters on the distribution of likelihood-based methods.

February – June 1998: contract with the LADSEB laboratory, CNR, Padova. Objective: implementation of multiple imputation algorithms for missing values.

Teaching Experience

Undergraduate level (in Italian)

Faculty of Economics, Ca' Foscari University of Venice:
Statistics I (2004 – 2007), *Statistics II* (2004 – 2008), *Introductory Statistics with R* (2006), *Computational Statistics* (2009).

Faculty/Department of Statistics, University of Padova:
Statistical Models 1 (2011 – 2015), *Statistical Models 2* (2008), *Advanced Computational Statistics* (2009 – today), Statistics (advanced course) (2019 – today).

Department of Biology, University of Padova:
Applied Statistics (2017).

Graduate level (in English)

Ph.D. in Economics, Ca' Foscari University of Venice:
Statistics (2006 – 2008), *Probability Theory* (2009).

Ph.D. in Statistics, University of Padova:
Theory and Methods of Inference (jointly with A. Salvan) (2009 – today).

Ph.D. in Statistics, University of Bologna:
Likelihood inference: asymptotic theory (short course) (2014).

Ph.D. in Statistics, University of Rome "La Sapienza":
Likelihood asymptotics (short course) (2015).

Ph.D. in Statistics, University of Bologna:
Likelihood asymptotics (short course) (2016).

Other (in English)

Generali (in partnership with University of Trieste), Technical Excellence Program:
R: an environment for statistical modeling and graphics with actuarial applications (three-days short course, jointly with N. Torelli and G. Millo) (2014, 2015, 2018)

Supervised undergraduate students

Supervision of 33 undergraduate students ("Laurea Triennale") and 25 master level students ("Laurea Magistrale"), both at Ca' Foscari University Venice and University of Padova.

Ph.D. students

<u>2020 – 2022</u>: Caizhu Huang (Ph.D.). *Likelihood based inference for large dimensional frameworks* (tentative title).

<u>2018 – 2020</u>: Michele Lambardi di San Miniato (Ph.D.). *Adjusting for nuisance parameters when all parameters are of interest.* (co-supervisor N. Reid). Currently Post doc ("Assegnista di Ricerca") at University of Udine.

<u>2016 – 2018</u>: Luca Maestrini (Ph.D.). *Inference for likelihood variational approximations* (co-supervisors A. Salvan, M. Wand). Currently Post doc at University of Technology Sydney.

<u>2013 – 2017</u>: Claudia Di Caterina (Ph.D.). *Bias reduction in prominent model settings* (co-supervisor I. Kosmidis). Currently Senior Assistant Professor ("Ricercatore di tipo B") at University of Verona.

<u>2011 – 2014</u>: Erlis Ruli (Ph.D.). *Recent advances in Approximate Bayesian Computation methods* (main supervisor L. Ventura, co-supervisor Nicola Sartori). Currently Senior Assistant Professor ("Ricercatore di tipo B") at University of Padova.

<u>2010 – 2013</u>: Euloge Clovis Kenne Pagui (Ph.D.). *Combined composite likelihoods* (co-supervisor A. Salvan). Currently Assistant Professor ("Ricercatore di tipo A") at University of Padova.

<u>2009 – 2012</u>: Riccardo De Bin (Ph.D.). *Integrated likelihood for the treatment of nuisance parameters* (co-supervisors A. Salvan and T.A. Severini). Currently Associate Professor at University of Oslo, Norway.

Post-docs

<u>2008 – 2010</u>: Moreno Bevilacqua (Post-doc). *Estimating equations and composite likelihoods for dependent data* (joint supervisor C. Varin). Currently Full Professor at University of Valparaiso, Chile.

<u>2012 – 2014</u>: Giuliana Cortese (Post-doc). *Integrated likelihood for frequentist inference.* Currently Associate Professor at University of Padova.

<u>2013 – 2015</u>: Euloge Clovis Kenne Pagui (Post-doc). *Composite likelihood methods.*

<u>2015 – 2016</u>: Euloge Clovis Kenne Pagui (Post-doc). *Median bias reduction.*

<u>2017 – 2018</u>: Claudia Di Caterina (Post-doc). *Approximate likelihood inference with high-dimensional models.*

Administrative and professional activities and memberships

<u>2004 – today</u>: Elected member of the International Statistical Institute.

<u>2008 – today</u>: Member of the Royal Statistical Society.

<u>10/2020 – today</u>: Coordinator of the PhD program in Statistical Sciences, Department of Statistical Sciences of the University of Padova.

<u>10/2019 – 09/2020</u>: President of the Master program in Statistical Sciences (Laura Magistrale in Scienze Statistiche), Department of Statistical Sciences of the University of Padova.

<u>03/2017 – 09/2018</u>: Coordinator of the PhD program in Statistical Sciences, Department of Statistical Sciences of the University of Padova.

<u>2012 – 2017</u>: Vice-coordinator of the PhD program in Statistical Sciences, Department of Statistical Sciences of the University of Padova.

<u>2012 – today</u>: Member of the Academic Board ("Consiglio direttivo") of the PhD program in Statistical Sciences, Department of Statistical Sciences of the University of Padova.

<u>2010 – today</u>: Member of the Teaching Staff Board ("Collegio dei docenti") of the PhD program in Statistical Sciences, Department of Statistical Sciences of the University of Padova.

<u>2014 – 2018</u>: Member of the Scientific Committee of the Department of Statistical Sciences, University of Padova.

<u>2015 – 2020</u>: Member of the Scientific Committee of Area n. 15 (Scienze Economiche e Statistiche), University of Padova.

<u>2011 – 2020</u>: Member of the Admission Committee for the "Laurea Magistrale" in Statistical Sciences, University of Padova.

<u>2011</u>: Member of Organizing Committee of the *7th Conference on Statistical Computation and Complex Systems*, Padova, September 19–21.

<u>2013 – 2020</u>: Member of the Curricula Committee ("Commissione Piani di Studio") for the "Laurea Magistrale" in Statistical Sciences, University of Padova.

<u>2006 – 2010</u>: Member of the Teaching Staff Board of the (PhD) School of Advanced Studies in Economics, Ca' Foscari University of Venice.

<u>2015 – today</u>: Associate Editor for *STAT* - The ISI's Journal for the Rapid Dissemination of Statistics Research.

<u>2017 – today</u>: Associate Editor for *Journal of Statistical Planning and Inference*.

<u>1999 – today</u>: Referee for many international journals, among which *Annals of Statistics, Biometrika, Journal of the American Statistical Association, Annals of the Institute of Statistical Mathematics, Brazilian Journal of Probability and Statistics, Communications in Statistics, Computational Statistics and Data Analysis, Journal of Econometrics, Journal of Multivariate Analysis, Journal of Statistical Planning and Inference, Statistical Methods and Applications, Statistics in Medicine, Statistical Science, Statistica Sinica, Electronic Journal of Statistics*.

Languages

Italian (mother tongue), English (fluent), French (basic)