Nicholas Tibor Longford

Born on 20th June 1955 in Vel'ké Kapušany, Czechoslovakia (now Slovakia)

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Education

Leeds University, Leeds	1982	PhD.	Statistics
Sussex University, Brighton	1979	MSc.	Statistics
Charles University, Prague, Czechoslovakia	1978	Prom. Math.	Mathematics/ Statistics

Employment History

1/2023–	Statistical Consultant (self-employed), SNTL, Statistics Research and Consulting, Whyteleafe, Surrey
1–12/2022	Senior Data Scientist, Data Science Division, Marks & Spencer, London
9/2015–11/21	Senior Statistician, School of Public Health, Imperial College London
6/2004–9/15	Statistical Consultant (self-employed), SNTL, Statistics Research and Consulting, Barcelona, Spain
9/2006–9/09	Adjunct Professor, Department of Economics and Business, Universitat Pompeu Fabra, Barcelona, Spain
9/1995–6/04	Senior Research Fellow, Department of Medical Statistics, De Montfort University, Leicester
1994–95	Senior Research Scientist, Division of Statistics and Psychometric Research, Educational Testing Service, Princeton, NJ, USA
1990–94	Research Scientist, Division of Statistics and Psychometric Research, Educational Testing Service, Princeton, NJ, USA
1986–90	See *Visiting Appointments*, p. 2.
1983–86	Research Fellow, Centre for Applied Statistics, Lancaster University, Lancaster
1983	Statistician, Division of Research and Development, Boots plc, Nottingham
1982–83	Statistician, Institute of Hearing Research, Medical Research Council, Nottingham

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[1]All places are in the UK, unless stated otherwise

Visiting Appointments and Secondments[2]

May–June 2013 Oct.–Nov. 2014 March 2017	Visiting Professor, Universidad del Valle, Cali, Colombia
May–June 2011 May–June 2012 Febr.–April 2013	Visiting Professor, CEPS/INSTEAD, Esch-Belval, Luxembourg
May–June 2009 April–May 2010 Jan.–Febr. 2017	Visiting Professor, Department of Statistics, Sapienza University of Rome, Italy
June 2005–Dec. 2006	Visiting Professor, Department of Economics and Business, Universitat Pompeu Fabra, Barcelona, Spain
July–Nov. 2003	Academic Visitor, Institute of Information Science and Technology, Massey University, New Zealand
Jan.–Febr. 2002 Jan.–Febr. 2007	Visiting Professor, Department of Statistics, University of Khartoum, Sudan
2001–2004	Secondment to the Office for National Statistics, London (part-time)
March–July 1995	Visiting Professor, Department of Economics and Business, Universitat Pompeu Fabra, Barcelona, Spain
June–July 1994	Visitor, Department of Statistics, University of Adelaide, Australia
May–June 1994	Visiting Professor, Zentrum für Umfragen, Methoden, und Analysen, Mannheim, Germany
June–July 1991	ESRC Visiting Research Fellow, University of London Institute of Education, London
Jan.–Sept. 1991	Visiting Lecturer, Institute for Electronic Systems, Aalborg University, Aalborg, Denmark
1989–90	Visiting Associate Professor, Department of Mathematics, UCLA, Los Angeles, CA, USA
Jan.–Febr. 1989	Visiting Scientist, Institute of Pure and Applied Mathematics, the Brazilian Academy of Sciences, Rio de Janeiro, Brazil
1986–89	Visiting Research Scientist, Research Statistics Group, Educational Testing Service, Princeton, NJ, USA

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[2]Appointments and visits for periods shorter than one month are not listed

Lecturing Experience[3]

June–July 2014	Summer Course in Statistical Computing, Universitat Pompeu Fabra, Barcelona, Spain
May–June 2013 Oct.–Nov. 2014 March 2017	MSc. in Statistics, Universidad del Valle, Cali, Colombia
May–June 2010	MSc. in Epidemiology and Medical Statistics, King Saud bin Abdelaziz University for Health Sciences, Riyadh, Saudi Arabia (collaboration with Liverpool School of Tropical Medicine)
2007–08	Department of Economics and Business, Universitat Pompeu Fabra, Barcelona, Spain
Sept.–Dec. 2005 Sept.–Dec. 2006	Department of Economics and Business, Universitat Pompeu Fabra, Barcelona, Spain (GPEFM Programme)
Aug.–Nov. 2003	Institute of Information Systems and Technology, Massey University, Palmerston North, New Zealand
Jan.–Febr. 2002 Jan.–Febr. 2007	Department of Statistics, Khartoum University, Sudan (MSc. course in Statistics)
August 1998	Summer University Course in Statistics for Social Sciences, Central European University, Budapest, Hungary
Jan.–Sept. 1991	Institute for Electronic Systems, Aalborg University, Aalborg, Denmark
1989–90	Department of Mathematics, UCLA, Los Angeles, CA

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[3]Courses of lectures given over one week or a shorter period are not listed.

PhD. Graduates (14 students)

1998	Jixian Wang, *Design and Analysis of Pharmacokinetic and Pharmacodynamic Trials* (supervision with B. Jones)
1999	Joanna J. Worth, *Learning Styles and Electronic Library Systems* (supervision with C. Fidler and S. Bennett)
2000	Liaqat Ali, *Towards a Strategic Information Systems Planning for Pakistani Business* (supervision with S. Rogerson and C. Fidler)
2000	Yunus Zakharia, *Management Regimes for Commercial Exploitation of Tropical Forests* (supervision with R. Weddeburn)
2002	Nicole Blackman, *Criteria for Demonstrating the Efficacy of a Medical Test*
2003	Ricky Autar, *Advancing Clinical Practice in the Management of Deep Vein Thrombosis* (supervision with F. Dewhurst)
	Patrick Johnson, *Maximal and Submaximal Oxygen Uptake in Men and Women* (supervision with E. Winter and A. Nevill)
2004	Margaret Ely, *Dealing with Missing Data by Multiple Imputation in an Epidemiological Study of Alcohol Consumption* (UC London, supervision with M. Wadsworth)
	Katy D. Taylor, *Equine Headshaking Syndrome: An Epidemiological Study* (supervision with D. Mills and B. Jones)
2005	Carola Deppe, *Designs for Sensory Multi-session Trials with Preparation Constraints* (supervision with R. Carpenter and B. Jones)
	Ula Nur, *Handling Missing Data in Analyses of the Women's Cohort Study* (Leeds University, supervision with J. Cade and D. Greenwood)
2011	Javier Palacios Fenech, *Adoption and Discontinuance of Innovations* (supervision with M. Greenacre)
2016	Cheryl Battersby, *Epidemiology of Necrotising Enterocolitis* (supervision with N. Modi)
2020	James Webbe, *Improving Knowledge of Outcomes in Neonatology* (supervision with C. Gale)

Also, extensive assistance provided to:

Mercedes Andrade Bejarano, *Monthly Average Temperature Modelling for Valle del Cauca (Colombia).* University of Reading; 2008. (Appointment by University of Reading)

Tiodora H. Siagian, *Assessment of natural hazards to vulnerable populations in Indonesia.* Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia; 2014. (StatMentoring scheme)

Holly Jenkins, *Early newborn care practices and the development and functionality of the human microbiome.* Imperial College London; 2018.

Kjell Helenius, *Centralisation of very preterm deliveries and benchmarking of neonatal care.* University of Helsinki, Finland; 2020.

Christoph Binder, *A mixed lipid emulsion and its effect on brain maturation in extremely low birth-weight infants.* Medical University, Vienna, Austria; 2021.

Consulting Experience (selected projects)[4]

2008–11	World Bank and ECORYS, Rotterdam, the Netherlands (Measurement of poverty and its aspects in Ukraine)
2008–09	Hospital Clínic, University of Barcelona (Technical audit of studies of intermittent prevention treatment of malaria)
2008, 2013	AIS International, Barcelona (A house price index for Mexico)
2005–08	National Standards Association for Ireland, Dublin, Ireland (Audit of the Mail Monitor; Irish Post Office)
2004–05	Home Office, Research Statistics and Development, London (Estimation of Juvenile Reconviction Rates)
2003–05	World Bank and Ukrainian Ministry of Labour and Social Affairs (Small-area estimation of poverty rates)
2003–09	Valuation Consultants, New Zealand (Prediction of house prices)
2001–04	Scottish Homes/Communities Scotland (Surveyor inconsistency)
2001–02	Agilent Technologies (Management of customer relationship)
1–5/2000	UK Department of Trade and Industry (E-commerce: Mapping measures of success)
1999–00	The Planning Unit, De Montfort University, Leicester (Widening participation project)
1999	Consortium for Automotive Recycling (The future of used-car disposal)
1997–98	The National Household Health Expenditure Survey in Malaysia University of Malaya, Kuala Lumpur (Survey analysis)
1995–99	Member of CliniStat, a statistics consulting group at De Montfort University, Leicester
1995–98	Interuniversity Council of Catalonia (Assessing the quality of essay rating)
1994–95	Centers for Disease Control, Atlanta, GA, USA (Adolescent HIV/STD Prevention)
1993–96	Institute for Employment and Labour Market Research, Nürnberg, Germany (Trends in wage differences)

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[4]No projects listed after 2010

Professional Activities

Research Grants and Awards

2017–19	Feeding newborns during therapeutical hypothermia. Research Grant from the National Institute of Health Research (with C. Gale)
2014 2017	Outstanding Reviewer award from the Journal of Educational and Behavioral Statistics
2011–15	Programmatic Research Grant from the Spanish Ministry of Education and Science (with A. Satorra)
2009	Travel grant from the project Access to Research Infrastructure, CEPS/INSTEAD, Differdange, Luxembourg
2006–10	Programmatic Research Grant from the Spanish Ministry of Education and Science (with A. Satorra)
2005–06	Research Grant from the Spanish Ministry of Education and Science for a Sabbatical at Universitat Pompeu Fabra, Barcelona, Spain
2000–04	EURAREA — Enhancing Small-Area Estimation Techniques to Meet European Needs. FP5 Research Grant from Eurostat (member of a consortium)
2000–02	Campion Fellowship 2000 (award from the Royal Statistical Society)
1999–00	Three grants under the Training and Mobility of Researchers Programme of the European Union, Universities of Bergen, Norway, and Cologne, Germany, and CEPS/INSTEAD, Luxembourg
1997–00	Antecedents of midlife alcohol consumption and problems with alcohol (with Prof. M. Wadsworth, UC London). Two grants from the Alcohol Education Research Council, UK
1996–98	Small-area estimation of U. S. state-level means in NAEP (National Assessment of Educational Progress). Grant from NCES, U. S. Department of Education
1994–97	Subjective rating in large-scale educational surveys. Grant from NCES, U. S. Department of Education
1994–95	Statistical models in social sciences (with Prof. A. Satorra, Universitat Pompeu Fabra, Barcelona). Grant from the Spanish Ministry of Education and Science
1992–93	Model-based substitutes for jackknife in NAEP (National Assessment of Educational Progress). Grant from NCES, U. S. Department of Education

Office Held

1994–95	President of the Princeton-Trenton (NJ) Chapter of ASA

Other professional activities

2018–	Editor of *RefStats* (Wiley)
2013–	Reviewer for *Mathematical Reviews*
2017	External PhD. examiner, University of Otago, New Zealand
2016–21	Associate Editor, *Statistical Methods in Medical Research*
2010–21	Associate Editor, *Journal of Educational and Behavioral Statistics*
2008	External PhD. examiner, University of Jyväskylä, Finland
2005–09	Member of the Research Section Committee of the Royal Statistical Society
2004	Associate Editor, *Journal of the Royal Statistical Society*, Series A
2003–04	External PhD. examiner, Massey University, New Zealand
2003–05	Member of the EPSRC Peer Review College
2002	External PhD. examiner, Universitat Pompeu Fabra, Barcelona, Spain
2002–07	Member of the Editorial Board, *British Journal of Mathematical and Statistical Psychology*
2001	External PhD. examiner, Universitat Pompeu Fabra, Barcelona, Spain
2001–04	Member of the Social Statistics Section and the Programme Committees, the Royal Statistical Society
2001–03	Associate Editor, *Journal of the Royal Statistical Society*, Series D (The Statistician)
2000–04	Editor (Member of the Board), *Journal of Multivariate Analysis*
1998	External PhD. examiner, Universitat Politécnica de Catalunya, Barcelona, Spain
1996–04	Supervision of PhD. students at De Montfort University
1995–02	Associate Editor of the *Journal of Educational and Behavioral Statistics*
1994–95	Member of a PhD. Thesis Committee at the Graduate School of Education, Rutgers University, New Brunswick, NJ
1992–95	Supervision of pre- and post-doctoral interns at the Educational Testing Service, Princeton, NJ, U.S.A.

Affiliation

American Statistical Association

Publications[5]

Monographs

Statistics for Making Decisions. Chapman and Hall/CRC, Boca Raton, FL, 2021.

Statistical Studies of Income, Poverty and Inequality in Europe. Computing and Graphics in R *using EU-SILC.* Chapman and Hall/CRC, Boca Raton, FL, 2015.

Statistical Decision Theory. Springer-Verlag, Heidelberg, Germany, 2013.

Studying Human Populations. An Advanced Course in Statistics. Springer-Verlag, New York, 2008.

Missing Data and Small-Area Estimation. Analytical Equipment for the Survey Statistician. Springer-Verlag, New York, 2005.

Models for Uncertainty in Educational Testing. Springer-Verlag, New York, 1995.

Random Coefficient Models. Oxford University Press, Oxford, 1993.

Software

VARCL – Software for variance component analysis of data with nested random effects (maximum likelihood). iec ProGamma, Groningen, the Netherlands, 1993.

In journals with peer review (126 items)

Relaxed calibration of survey weights. *Survey Methodology* **50**, 2024; to appear.

Mortality analysed by propensity score matching: an application to national neonatal audit. *Brazilian Journal of Biometrics* **41**, 311–331, 2023.

Infant body mass index, eczema and atopy at one year of age in relation to mode of delivery. Research Letter. (with M.J. Hyde *et al.*) *Clinical & Experimental Allergy*, 2022. `doi:10.1111/cea.14226`.

Unreported standard errors in meta-analysis. *Statistics in Transition* **22**(4), 1–17, 2021; `doi:10.21307/stattrans-2021-035`.

A mixed-lipid emulsion containing fish oil for the parenteral nutrition of preterm infants: No impact on visual neoronal conduction (with C. Binder *et al.*). *Nutrients (Clinical Nutrition)* **13** 4241, 2021; `https://doi.org/10.3390/nu13124241`.

Early versus later initiation of parenteral nutrition for very preterm infants: a propensity score matched observational study (with S. Uthaya *et al.*). *SSRN Electronic Journal* `doi:10.2139/ssrn.3835131`, 2021.

Outcomes in relation to early parenteral nutrition use in preterm neonates born between 30 and 33 weeks gestation: a propensity score matched observational study (with J.W.H. Webbe *et al.*). *Archives of Disease in Childhood Fetal and Neonatal Edition* **107**, 2021. `doi:10.1136/archdischild-2021-321643`.

Changes in neonatal admissions, care processes and outcomes in England and Wales during the COVID-19 pandemic: a whole population cohort study (with S. Greenbury *et al.*). *BMJ Open*; **11** e054410, 2021. `doi:10.1136/bmjopen-2021-054410`.

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[5]Until 1st January 2016, multi-author items are listed only when NTL is the first or second author.

Nutritional management in newborn babies receiving therapeutic hypothermia: two retrospective observational studies using propensity score matching (with C. Gale *et al.*). *Health Technology Assessment* **25**, 1–106, 2021.

Administration of parenteral nutrition during therapeutic hypothermia: a population-level observational study using routinely collected data held in the National Neonatal Research Database (with C. Gale *et al.*). *Archives of Disease in Childhood* **106**, 2021; https://doi.org/10.1136/archdischild-2020-321399.

Feeding during neonatal therapeutic hypothermia, assessed using routinely collected National Neonatal Research Database data: a retrospective population-based cohort study (with C. Gale *et al.*). *Lancet Child & Adolescent Health* **5**, 2021; https://doi.org/10.1016/S2352-4642(21)00026-2.

Changing clinical characteristics of infants treated for hypoxic ischaemic encephalopathy in England, Wales and Scotland: a population-based study using the National Neonatal Research Database (with L. Hage *et al.*). *Archives of Disease in Childhood*, **106**, e319685, 2021; http://dx.doi.org/10.1136/archdischild-2020-319685.

Effect of surfactant dose on outcomes in preterm infants with respiratory distress syndrome: the OPTI-SURF study (with K.C.W. Goss *et al.*). *BMJ Open* **10**, e038959, 2020; http://dx.doi.org/10.1136/bmjopen-2020-038959.

Performance assessment as an application of causal inference. *Journal of the Royal Statistical Society* Ser. A **183**, 1363–1385, 2020.

Clinical and molecular evidence of accelerated ageing following very preterm birth (with J. Parkinson *et al.*). *Pediatric Research* **87**, 1005–1010, 2020.

Association between early postnatal transfer and birth outside a tertiary hospital with mortality and severe brain injury: a whole-population study of extremely preterm infants (with K. Helenius *et al.*). *British Medical Journal* **367**, l5678, 2020; also in *Obstetric Anesthesia Digest* **40**, 91, 2020.

Outcomes following early parenteral nutrition use in preterm neonates: Protocol for an observational study (with J.W.H. Webbe *et al.*). *BMJ Open* **9**, 1–5, 2019.

A mixed lipid emulsion containing fish oil and its effect on electrophysiological brain maturation in extremely low birth weight infants: A secondary analysis of a randomized clinical trial (with C. Binder *et al.*). *The Journal of Pediatrics* **211**, 46–53e, 2019.

Study protocol: optimising newborn nutrition during and after neonatal therapeutic hypothermia in the United Kingdom: observational study of routinely collected data using propensity matching. (with C. Battersby *et al.*). *British Medical Journal Open* **8** e26739, 2018.

Editorial. Optimising nutrition during therapeutic hypothermia (with S. Ohja *et al.*). *Archives of Disease in Childhood, Fetal and Neonatal Edition*, F1-2, 2018.

Parent, patient and clinician perceptions of outcomes during and following neonatal care: a systematic review of qualitative research (with J.W.H. Webbe *et al.*). *British Medical Journal Pediatrics Open*, 2018.

Efficacy and safety of prostate artery embolization for benign prostatic hyperplasia: an observational study and propensity-matched comparison with transurethral resection of the prostate (the UK-ROPE study), with A.F. Ray *et al. British Journal of Urology (BJU) International* **122**, 270–282, 2018.

Urinary protein markers of renal dysfunction in full-term newborns with disorders of early neonatal period (with J. Hodovanets *et al.*). *Journal of Pediatric and Neonatal Individualized Medicine* **7** e070109, 2018.

Use of pasteurised human donor milk across neonatal networks in England (with C. Battersby *et al.*). *Early Human Development* **118**, 32–36, 2018.

Decision theory for comparing institutions. *Statistics in Medicine* **37**, 437–456, 2018.

Body composition following necrotising enterocolitis in preterm infants (with C. Binder *et al.*). *Neonatology* **113**, 242–248, 2018.

Rapid testing and treatment for sexually transmitted infections improve patient care and yield public health benefits (with G. Whitlock *et al.*). *International Journal of STD & AIDS*, **29**, 474–482, 2018.

Searching for causes of necrotising enterocolitis. An application of propensity matching. *Statistics in Transition* **19**, 71–101, 2018.

Should the dilated ascending aorta be repaired at the time of bicuspid aortic valve replacement? (with S.C. Body *et al.*) *European Journal of Cardio-Thoracic Surgery* **53**, 560–568, 2018.

Causal models for monitoring the progress of infants with low birthweight (with O. Ramírez and C. Giffe). *Revista Brasileira de Biometria* (Brazilian Biometric Journal) **35**, 600–633, 2017.

An index for proximity of two distributions. *Metron* **75**, 181–194, 2017.

A decision-theoretical perspective on bioequivalence and bioavailability. *Journal of Bioequivalence and Bioavailability*, **9**, 437–438, 2017.

Analysis of a marker for cancer of the thyroid with a limit of detection (with J.R. Tovar Cuevas and C. Alvear). *Journal of Applied Statistics* **44**, 2190–2203, 2017.

Inflated assessments of disability. *Journal of Applied Statistics* **44**, 1743–1760, 2017.

Variation in the rates of necrotising enterocolitis in the neonatal networks in England. *Statistics in Medicine* **36**, 1655–1668, 2017.

Estimation under model uncertainty. *Statistica Sinica* **27**, 859–877, 2017.

Development of a gestational age-specific case-definition for neonatal necrotising enterocolitis (with C. Battersby *et al.*). *Journal of American Medical Association Pediatrics* **171**, 256–263, 2017.

Incidence and enteral feed antecedents of severe neonatal necrotising enterocolitis in England 2012–13: a two-year, population surveillance study (with C. Battersby *et al.*). *The Lancet Gastroenterology & Hepatology* **2**, 43–51, 2017.

Duration of post-operative atrial fibrillation after cardiac surgery is associated with worsened long-term survival (with M. I. Sigurdsson *et al.*). *The Annals of Thoracic Surgery* **101**, 2018–2026, 2016.

Comparing two treatments by decision theory. *Pharmaceutical Statistics* **15**, 387–395, 2016.

Decision theory for selecting the winners, ranking and classification. *Journal of Educational and Behavioral Statistics* **41**, 420–442, 2016.

Classification in two-stage screening. *Statistics in Medicine* **34**, 3281–3297, 2015.

Policy-oriented inference and the analyst-client cooperation. An example from small-area estimation. *Statistics in Transition* **16**, 65–82, 2015.

Equating without an anchor for non-equivalent groups of examinees. *Journal of Educational and Behavioral Statistics* **40**, 227–253, 2015.

On the inefficiency of the restricted maximum likelihood. *Statistica Neerlandica* **69**, 171–196, 2015.

Decision theory for the variance ratio in one-way ANOVA with random effects (with M. Andrade Bejarano). *Revista Colombiana de Estadística* **38**, 181–207, 2015.

Policy-related small-area estimation. *South African Journal of Statistics* **49**, 105–119, 2015.

A study of income stability in the Czech Republic by finite mixtures (with J. Bartošová). *Prague Economic Papers*, **23**, 330–348, 2014.

A confusion index for measuring separation and clustering (with J. Bartošová). *Statistical Modelling* **14**, 229–255, 2014.

Tests for spatial and temporal correlation in mixed models for climate data (with M. Andrade Bejarano and D. Tovar-Rios). *Revista Brasileira de Biometria* **32**, 130–142, 2014.

Sample size calculation for comparing two normal random samples using equilibrium priors. *Communications in Statistics — Simulation and Computation* **43**, 2149–2161, 2014.

The international rate of discontinuance of some old products (with J. Palacios Fenech). *Journal of Global Marketing* **27**, 59–73, 2014.

Survey on the clinical assessment and utility of near-infrared cerebral oximetry in cardiac surgery. (Zacharias, D.G., *et al.*) *Journal of Cardiothoracic and Vascular Anesthesia* **28**, 308–316, 2014.

A decision-theoretical alternative to testing many hypotheses. *Biostatistics* **15**, 154–169, 2014.

Screening test items for differential item functioning. *Journal of Educational and Behavioral Statistics* **39**, 3–21, 2014.

The effect of unemployment benefits on labour market behaviour in Luxembourg (with I. Salagean). *Statistics in Transition* **14**, 249–272, 2013.

Searching for contaminants. *Journal of Applied Statistics* **40**, 2041–2055, 2013.

Assessment of precision with aversity to overstatement. *South African Journal of Statistics* **47**, 49–59, 2013.

Screening as an application of decision theory. *Statistics in Medicine* **32**, 849–863, 2013.

Alternatives to the poverty gap for international comparisons. *Ukrainian Journal of Demography and Social Economics* **2**, 132–141, 2012.

Comparing normal random samples, with uncertainty about the priors and utilities. *Scandinavian Journal of Statistics* **39**, 729–742, 2012.

Handling the limit of detection by extrapolation. *Statistics in Medicine* **31**, 3133–3146, 2012.

Mixtures of autoregressions with an improper component for panel data (with P. Durso). *Journal of Classification* **29**, 341–362, 2012.

Small-sample estimators of the quantiles of the normal, lognormal and Pareto distributions. *Journal of Statistical Computation and Simulation* **82**, 1383–1395, 2012.

'Which model?' is the wrong question. *Statistica Neerlandica* **66**, 237–252, 2012.

Poverty and inequality in European regions (with M. G. Pittau, R. Zelli and R. Massari). *Journal of Applied Statistics* **39**, 1557–1576, 2012.

Allocating a limited budget to small areas. *Journal of Indian Society for Agricultural Statistics* **66**, 31-41, 2012.

A revision of school effectiveness analysis. *Journal of Educational and Behavioral Statistics* **37**, 157–179, 2012.

Well-being and obesity of rheumatoid arthritis patients (with C. Nicodemo, M. Núñez and E. Núñez). *Health Services and Outcomes Research Methodology* **11**, 27–43, 2011.

Mixture models with an improper component (with P. Durso). *Journal of Applied Statistics* **38**, 2511–2521, 2011.

An assessment of empirical Bayes and composite estimators for small areas. *Statistical Modelling* **11**, 137–157, 2011.

Outliers in mixed models for monthly average temperatures (with M. Andrade Bejarano). *Austrian Journal of Statistics* **39**, 203–221, 2010.

Bayesian decision making about small binomial rates with uncertainty about the prior. *The American Statistician* **64**, 164–169, 2010.

Small-sample inference about variance and its transformations. *SORT*, Journal of the Catalan Institute of Statistics, **34**, 3–29, 2010.

Estimation of the effect size in meta-analysis with few studies. *Statistics in Medicine* **29**, 421–430, 2010.

Small-area estimation with spatial similarity. *Computational Statistics and Data Analysis* **54**, 1151–1166, 2010.

Efficient estimation of the standardized value. *Journal of Educational and Behavioral Statistics* **34**, 522–529, 2009.

Analysis of all-zero binomial outcomes. *Journal of Applied Statistics* **36**, 1259–1265, 2009.

The impact of handling missing data on alcohol consumption estimates in the UK Women's Cohort Study (with U. Nur, J. E. Cade and D. C. Greenwood). *European Journal of Epidemiology* **24**, 589–595, 2009.

Inference with the lognormal distribution. *Journal of Statistical Planning and Inference* **139**, 2329–2340, 2009.

An application of shrinkage to dealing with extreme values. *Statistics in Transition* **12**, 196–207, 2008.

An alternative analysis of variance. *SORT*, Journal of the Catalan Institute of Statistics **32**, 77–91, 2008.

On standard errors of model-based small-area estimators. *Survey Methodology* **33**, 69–79, 2007. (De l'erreur-type des estimateurs pour petits domaines fondés sur un modèle. *Techniques d'enquête* **33**, 81–92, 2007.)

Stability of household income in European countries in the 1990's (with M. G. Pittau). *Computational Statistics and Data Analysis* **51**, 1364–1383, 2006.

Sample size calculation for small-area estimation. *Survey Methodology* **32**, 87–96, 2006. (Calcul de la taille de l'échantillon pour l'estimation pour petits domains. *Techniques d'enquête* **32**, 97–106, 2006.)

Analysis of a long-term study of neurotic disorder, with insights into the process of non-response (with P. Tyrer, U. Nur and H. Seivewright). *Journal of the Royal Statistical Society* Ser. A **169**, 507–523, 2006.

Using small-area estimates. *Statistics in Transition* **9**, 715–735, 2005.

Dealing with incomplete data in food frequency questionnaires (with U. Nur, D. Greenwood and J. Cade). *Statistics in Transition* **9**, 111–134, 2005.

Editorial: Model selection and efficiency. Is 'Which model ...?' the right question? *Journal of the Royal Statistical Society* Ser. A **168**, 469–472, 2005.

On selection and composition in small-area and mapping problems. *Statistical Methods in Medical Research* **14**, 3–16, 2005.

Missing data and small area estimation in the UK Labour Force Survey. *Journal of the Royal Statistical Society* Ser. A **167**, 341–373, 2004.

An alternative to model selection in ordinary regression. *Statistics and Computing* **13**, 67–80, 2003.

Factors associated with the prevalence of stereotypic behaviour amongst thoroughbred horses passing through auctioneer sales (with D. Mills *et al.*). *Applied Animal Behaviour Science* **78**, 115–124, 2002.

Effects of fatigue on the torque-velocity relation in muscle (with O. Spendiff and E. M. Winter). *British Journal of Sports Medicine* **36**, 431–435, 2002.

Estimation of the rates and composition of employment in Norwegian municipalities. *Journal of Official Statistics* **17**, 391–406, 2001.

Multilevel analysis with messy data. *Statistical Methods in Medical Research* **10**, 429–444, 2001.

Synthetic estimators with moderating influence: Carry-over in cross-over trials revisited. *Statistics in Medicine* **20**, 3189–3203, 2001.

Attitudes to immigration in an international social survey. *Statistics in Transition* **5**, 267–280, 2001.

Simulation-based diagnostics in random coefficient models. *Journal of the Royal Statistical Society* Ser. A **164**, 259–273, 2001.

Handling missing data in diaries of alcohol consumption (with M. Ely, R. Hardy, and M. E. J. Wadsworth). *Journal of the Royal Statistical Society* Ser. A **163**, 381–402, 2000.

On estimating standard errors in multilevel analysis. *The Statistician* **49**, 389–398, 2000.

An alternative definition of individual bioequivalence. *Statistica Neerlandica* **54**, 14–36, 2000.

An experiment in primary health-care provision. *Journal of the Royal Statistical Society* Ser. A **162**, 291–302, 1999.

Statistics vs. statistical science in the regulatory process (with J. A. Nelder). *Statistics in Medicine* **18**, 2311–2320, 1999.

Selection bias and treatment heterogeneity in clinical trials. *Statistics in Medicine* **18**, 1467–1474, 1999.

Multivariate shrinkage estimation of small-area means and proportions. *Journal of the Royal Statistical Society* Ser. A **162**, 227–245, 1999.

Monitoring the university admissions process in Spain (with A. Cuxart i Jardí). *Higher Education in Europe* **23**, 385–396, 1998.

A two-level regression model for comparing growth curves of crossed correlated treatment measures (with M. M. Ojeda). *Biometrical Journal* **40**, 447–454, 1998.

Count data and treatment heterogeneity in 2×2 crossover trials. *Applied Statistics* **46**, 217–229, 1998.

Shrinkage estimation of linear combinations of true scores. *Psychometrika* **62**, 237–244, 1997.

Model-based estimation in surveys with stratified clustered design. *Australian Journal of Statistics* **38**, 333–352, 1996.

Small-area prediction using adjustment for covariates. *Qüestió* **20**, 187–212, 1996. Statistical Institute of Catalonia, Barcelona, Spain.

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