

About the Authors

Alam Jahangir M. is an Assistant Professor in the Economics Department at Truman State University in the United States. His main areas of research interest are: applied macroeconomics, international trade and economic growth and development. Within these areas, his special focus is on firm productivity, allocation of resources, cross-country income and productivity differences. As a faculty member at Truman, he has taught several courses related to his research interest.

Bera Sabyasachi is a graduate student in the School of Statistics at the University of Minnesota.

Burgard Jan Pablo is an Associate Professor at the Trier University in the field of statistics, econometrics and data science. His main research interests are: methods for regional estimation, handling of errors in variables in statistical models and the development of tailor-made quantitative solutions for interdisciplinary empirical problems.

Bonnery Daniel is an Assistant Researcher in the Epidemiology and Modelling group, Department of Plant Sciences, University of Cambridge. Previously, he worked at the INSEE, Ensai, University of Toulouse I Capitole, and at the University of Maryland. His research interest is, broadly, accounting for the selection process in statistics.

Cai Song is an Associate Professor in the School of Mathematics and Statistics at Carleton University, Canada. His research interests include empirical likelihood inference, asymptotic statistical methods, small area estimation, modern survey methodology and statistical computing for big and/or high-dimensional data.

Chatrchi Golshid is a mathematical statistician at Statistics Canada. She received her MSc (2012) and PhD (2019) degrees in Statistics from Carleton University. She is currently working in the Social Statistics Methods Division as a Senior Methodologist. Her research interests include small area estimation and sampling.

Chatterjee Snigdhanu is a Professor in the School of Statistics and the Director of the Institute for Research in Statistics and its Applications (IRSA, <http://irsa.stat.umn.edu/>) at the University of Minnesota. His research interests include statistical foundations of data science and machine learning, high dimensional data geometry, Bayesian statistics, resampling methods, and applications of statistics, artificial intelligence and machine learning in multiple domains.

Cheng Yang is a Senior Mathematical Statistician at the Substance Abuse and Mental Health Services Administration (SAMHSA). He is also an Adjunct Professor of Statistics at the George Washington University. Earlier, he served as a Lead Scientist for the Current Population Survey (CPS), American Time Use Survey (ATUS) and Housing Vacancy Survey (HVS) at the U.S. Census Bureau. His research interests include statistical modelling, survey methodology, small area estimation, labour force statistics and health statistics.

Di Consiglio Loredana, a PhD in Statistical Methods, is a senior researcher at the Italian National Institute, Directorate for Methodology and Statistical Process Design, and currently a project manager for methods of estimation of integrated population census and system of statistical registers. Her main activities and research interest relate to sampling, small area estimation, population size estimation, statistical methods for multi-source statistics and big data for official statistics. She has been involved in numerous international projects and task forces in the fields of small area estimation and use of multi-sources.

Dieckmann Hanna is a Research Associate at the Economic and Social Statistics Department at Trier University. Her research interests include spatial microsimulation and linking micro and macro models.

Dostie Benoit is a Full Professor at the Department of Applied Economics of HEC Montréal. He is also the academic director of the Québec inter-University Centre for Social Statistics (QICSS) and a member of the board of the Canadian Research Data Center Network (CRDCN). He received his PhD in economics from Cornell University in 2001, and is a Fellow at the IZA and CIRANO. His research interests include statistical models for linked employer-employee data, duration models, returns to human capital, firm-sponsored training, productivity, turnover and labour reallocation.

Drechsler Jörg - see co-editors.

Dumitrescu Laura is a Lecturer in the School of Mathematics and Statistics at Victoria University of Wellington. Her main areas of interest include asymptotic inference, complex sampling surveys, small area estimation, longitudinal data analysis and measurement errors.

Gershunskaya Julie is a Mathematical Statistician with the Statistical Methods Staff of the Office of Employment and Unemployment Statistics at the U.S. Bureau of Labor Statistics. Her main areas of interest include robust small area estimation and treatment of influential observations, with the application to the U.S. Current Employment Statistics Program.

Ghosh Malay is a Distinguished Professor of Statistics at the University of Florida. His current research interests include small area estimation, Bayesian variable selection and multiple testing, machine learning and general Bayesian theory. He is

a Fellow of the Institute of Mathematical Statistics and of the American Statistical Association. Dr. Ghosh has supervised over 60 PhD students. He is the recipient of the Jerzy Neyman Medal of the Polish Statistical Society in 2012, the Lifetime Achievement Award of the International Statistical Association in 2017, the Small Area Estimation award in 2019, and more recently, in 2020, the Samuel S. Wilks Memorial Award of the American Statistical Association.

Han Ying has worked as a Statistician at Gallup, Inc., a management consulting company based in Washington, D.C. since 2018, when she received her doctorate degree in Mathematical Statistics from University Maryland, College Park. She provides her expertise in sampling designs and weighting to collect reliable survey data internationally, through phone or face-to-face interviews, and applies statistical methods to answer complex research questions. Her main areas of interest include sampling methodology, record linkage and small area estimation.

Kedem Benjamin is a Professor in the Department of Mathematics, where he is the Director of the Statistics Program, and an affiliate faculty member of the Institute of Systems Research, University of Maryland, College Park. His main areas of interest are time series analysis, semiparametric statistical inference and data fusion, including repeated, out of sample fusion in the estimation of very small tail probabilities, using computer generated data.

Krause Joscha is a post-doctoral Researcher at the Economic and Social Statistics Department at Trier University. His research interests are: statistical modelling, regularized regression analysis, and robust and computational statistics with applications in the fields of social medicine and epidemiology.

Lahiri Partha - see co-editors.

Li Yan is a Professor in the Joint Program in Survey Methodology (JPSM) and in the Department of Epidemiology and Biostatistics at the University of Maryland, College Park, and an Adjunct Research Professor of the Institute of Social Research, University of Michigan, Ann Arbor. A primary research goal of Dr. Li is to combine her background in computer sciences, genetics, and survey methodology with her research experience in cancer epidemiology and genetics, to develop statistical methods that would enhance designing and analyzing complex samples in social and biomedical settings. She is particularly interested in the area of nonprobability sample design/analysis, health disparity, statistical genetics involving statistical inferences using case-control, cohort and cross-sectional studies, and surveys with complex survey designs

Merkle Hariolf is a Research Associate at the Economic and Social Statistics Department at Trier University. His main fields of interest are synthetic datasets and spatial microsimulations.

Molina Isabel is an Associate Professor at the Department of Statistics at Universidad Carlos III de Madrid, where she is also a Deputy Director. Her main areas of interest include small area estimation, especially as applied to poverty mapping, linear and generalized linear mixed models, survey methodology and resampling techniques (bootstrap). Currently, she is a member of two editorial boards: *Survey Methodology* and *Journal of Survey Statistics and Methodology*. She is the co-author of the 2nd edition of the *Small Area Estimation* published by Wiley.

Moura Fernando is a Full Professor at the Statistics Department, Federal University of Rio de Janeiro (UFRJ). Currently he has served as head of Statistics Department of UFRJ. He is an elected member of the International Statistical Institute (ISI). He is also an associate editor of the *International Journal REVSTAT*. He completed his PhD in Statistics at the University of Southampton and has an MSc and a BSc in Statistics and Actuary Science. His main areas of interest include small area estimation, survey methods, Bayesian statistics, statistical modelling and statistical methods applied to actuary science.

Münnich Ralf is the Chair of the Economic and Social Statistics Department at Trier University, and the president of the Research Institute for Official and Survey Statistics. His main research interests are: survey statistics, sampling designs, variance estimation and data quality in complex surveys, Monte Carlo and computer-intensive statistical methods, small area statistics, statistical indicators and statistical foundations of microsimulations.

Neufang Kristina M. is a Research Associate at the Economic and Social Statistics Department at Trier University. Her research interests are dynamic microsimulations and multisource estimation.

Neves André is an Economist in the Brazilian Institute of Geography and Statistics (IBGE). He worked at two structural economic surveys: the Annual Service Survey (PAS) and Annual Trade Survey (PAC). He has currently been involved in the organization of the Monthly Service Survey. He graduated from the National School of Statistical Sciences (ENCE), and his Master's thesis featured population studies and social surveys. Presently, he is a PhD student at ENCE. His main areas of interest are economic statistics and small domain estimation.

Newhouse David is a Senior Economist in the World Bank's poverty and equity global practice, and a fellow at the Institute of Labor Economics. In his scientific work, he has focused on the economic measurement and analysis related to poverty and jobs in developing countries. He currently co-leads the Sub-Saharan Africa team for statistical development, the expansion of the Bank's Global Monitoring Database of harmonised household survey data, and efforts to incorporate satellite imagery into poverty measurement. He holds a PhD in Economics from Cornell University,

and has published over twenty articles in respected field journals on labour, poverty, health and education in developing countries.

Pfeffermann Danny is a Professor of Statistics at the University of Southampton, UK, and Professor Emeritus at the Hebrew University of Jerusalem, Israel. As of 2013, he has been the Government Statistician and Director General of the Central Bureau of Statistics in Israel. He is a past President of the Israel Statistical Society and a past President of the International Association of Survey Statisticians (IASS). For the last 20 years, he has also served as a consultant for the US Bureau of Labor Statistics. Danny Pfeffermann is a fellow of the American Statistical Association and an elected member of the International Statistical Institute (ISI). He received a BA degree in Mathematics and Statistics and MA and PhD degrees in Statistics from the Hebrew University of Jerusalem. He is a recipient of numerous prestigious awards, including Waksberg award in 2011, the West Medal by the Royal Statistical Society in 2017, the Julius Shiskin Memorial Award for Economic Statistics in 2018, and the SAE 2018 Award for his distinguished contribution to the SAE methodology and the advancement of Official Statistics in the Central Bureau of Statistics in Israel.

Pyne Saumyadipta is the Scientific Director of the Public Health Dynamics Laboratory at University of Pittsburgh, USA. His research interests include big data systems in life sciences and health informatics, data fusion, high-dimensional data simulation and modelling to study heterogeneity in populations. He is the President of Health Analytics Network and an Associate Editor of the *Statistics and Applications* journal. Formerly, he has held the P.C. Mahalanobis Chair and was at the same time professor and head of bioinformatics at the C. R. Rao Advanced Institute of Mathematics, Statistics and Computer Science. He co-edited 'Big Data Analytics', published by Springer in 2016, and a 2-volume 'Handbook of Statistics: Disease Modelling and Public Health', published by Elsevier in 2017.

Rao J. N. K. is a Distinguished Research Professor at Carleton University, Ottawa, Canada. In recent years, his research focused on small area estimation (SAE), which resulted in the publication of two books, Rao (2003) and Rao and Molina (2015), through Wiley publishing house. He received the First Award for outstanding contributions to SAE at SAE (2017) conference in Paris. He is also the recipient of the Waksberg Award (2005) for his contributions to survey sampling methodology. He also received honorary doctorates from University of Waterloo (2008) and the Catholic University of Sacred Heart, Italy (2013).

Saegusa Takumi is an Assistant Professor at the Department of Mathematics, University of Maryland, College Park. His main areas of interest include complex sampling in public health, empirical process theory and semiparametric inference.

Silva Denise is a Principal Researcher at the National School of Statistical Sciences (ENCE) from the Brazilian Institute of Geography and Statistics (IBGE). She is also

the president of the International Association of Survey Statisticians (IASS), has been vice-president of the Inter-American Statistical Institute (IASI), and is an elected member of the International Statistical Institute (ISI). She is an associate editor of *International Statistical Review*, *Statistical Journal* of the IAOS and *Revista Brasileira de Estatística*. She has completed her PhD in Statistics at the University of Southampton and has an MSc and a BSc in Statistics. Her main areas of interest are survey methods, statistical modelling for social sciences, small area estimation and time series analysis.

Schmaus Simon is a Research Associate at the Economic and Social Statistics Department at Trier University. His research areas include dynamic microsimulation models and synthetic data generation methods.

Suntornchost Jiraphan is an Assistant Professor at the Department of Mathematics and Computer Science, Faculty of Science, Chulalongkorn University, Bangkok, Thailand. Her main areas of interest include various fields in probability theory and statistics, such as statistical inference, statistical distributions, survival analysis, small area estimation and time series analysis.

Tuoto Tiziana is the Project Manager for data integration methods at the Italian National Institute of Statistics, Directorate for Methodology and Statistical Process Design. Her main research interests are: survey methodology, statistical methods for data integration, record linkage, non-sampling errors, population size estimation, statistical methods for multi-source statistics and big data for official statistics. She has been involved in many internationally-founded projects in the field of data integration aimed at improving censuses in low-income countries and at wider utilisation of big data in official statistics. She collaborates with several international organizations, providing lectures and on-the-job training. She serves as a reviewer in several international peer-reviewed journals.

Vilhuber Lars is the Executive Director of the Labor Dynamics Institute at Cornell University and a Senior Research Associate in the Economics Department of that University. He is also data editor for the American Economic Association, co-chair of Innovations in Data and Experiments for Action (IDEA) Initiative at J-PAL, and managing editor of the *Journal of Privacy and Confidentiality*. Lars Vilhuber moreover chairs the Scientific Committee of the French Centre d'accès sécurisé aux données, is the incoming chair of the American Statistical Association's Committee on Privacy and Confidentiality, and a member of the board of the Canadian Research Data Center Network (CRDCN).

Zhang Xuze is a PhD Candidate in Mathematical Statistics at the Department of Mathematics, University of Maryland, College Park. He is under the scientific guidance of Professor Benjamin Kedom, and his research interest is semiparametric inference in data fusion.