

Dr. Maria Michela Dickson
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Biographical notes

Graduated in Political sciences and international relationships (2009) and in Law and Economics (2011) at University LUISS Guido Carli (Rome), she got a PhD in Economic Statistics (2014) from ‘Sapienza’ University (Italy).

Curriculum

She is tenure-track assistant professor in Economic Statistics at the Department of Economics and Management of the University of Trento (Italy) since December 2018. Previously, she has been assistant professor (non-tenure) at the Department of Statistical Sciences of the University of Padua (Italy). She spent several months as visiting PhD student (2014) and as visiting researcher (2016) at Institut de Statistique, Faculté des Sciences, Université de Neuchâtel (Switzerland). She obtained the Italian National Scientific Qualification as Associate Professor in Economic Statistics in 2018.

She taught courses in Methodological and Applied Statistics, Survey sampling Methods, Business Statistics, Economic Statistics, Econometrics and Quantitative Methods. Her studies and researches are mainly focused on probability and non-probability sampling methods for socio-economic surveys, measurement errors, questionnaire design, web surveys, panel rotation, spatial statistics methods and spatial diffusion processes of social and economic phenomena, quantitative social criminology.

She participated as statistician to several EU and Italian granted projects about private corruption, econometrics for high-frequency data and COVID-19 prediction and prevention. She is committed in scientific dissemination both at high school, university and research level, participating to many conferences and seminars.

She is also:

- ✓ member of the PhD program committee of the doctoral program “SUSTEEMS: Sustainability: Economics, Environment, Management and Society”, Doctoral School of Social Sciences, University of Trento (Italy);
- ✓ member of the Research Group “StaTA” (STATistics: Theory and Applications) of the Department of Economics and Management of the University of Trento (Italy);
- ✓ consultant for several national institutions;
- ✓ referee for several international scientific journals.

Selected publications

Taufer, E., Santi, F., Espa, G., Dickson, M.M. (to appear) Graphical representations and associated goodness-of-fit tests for Pareto and Log-normal distributions based on inequality curves, *Journal of Nonparametric Statistics*.

Santi, F., Dickson, M.M., Espa, G., Giuliani, D. (to appear) plot3logit: Ternary Plots for Interpreting Trinomial Regression Models, *Journal of Statistical Software*.

Dickson, M.M., Espa, G., Giuliani, D., Micciolo R. (to appear) Did Covid-19 restrictions in higher education affect students’ performances? Evidence from an Italian university, *Italian Journal of Applied Statistics*.

- Dickson, M.M., Espa, G., Gabriele, R., Mazzitelli, A. (2021) Small businesses and the effects on the growth of formal collaboration agreements: additional insights and policy implications, *Applied Economics*, DOI: 10.1080/00036846.2021.1922595.
- Benedetti, R., Dickson, M.M., Espa, G., Pantalone, F., Piersimoni, F. (2021) A simulated annealing-based algorithm for selecting balanced samples, *Computational Statistics*, DOI: 10.1007/s00180-021-01113-3.
- Santi, F., Dickson, M.M., Giuliani, D., Arbia, G., Espa, G. (2021) Reduced-bias estimation of spatial autoregressive models with incompletely geocoded data, *Computational Statistics*, DOI: 10.1007/s00180-021-01090-7.
- Dickson, M.M., Santi, F., Taufer, E., Espa, G. (2021) A mixed sampling strategy for partially geo-referenced finite populations, *Spatial Statistics*, 41, DOI: 0.1016/j.spasta.2020.100477.
- Santi, F., Dickson, M.M., Espa, G., Taufer, E., Mazzitelli, A. (2020) Handling spatial dependence under unknown unit locations, *Spatial Economic Analysis*, 16, 194-216.
- Tillé, Y., Dickson, M.M., Espa, G. (2020) Elementi di campionamento e stima da popolazioni finite, Milano: Pearson Italia spa.
- Dickson, M.M., Espa, G., Giuliani, D., Santi, F., Savadori, L. (2020) Assessing the effect of containment measures on the spatio-temporal dynamic of COVID-19 in Italy, *Nonlinear Dynamics*, 101, 1833-1846.
- Giuliani, D., Dickson, M.M., Espa, G., Santi, F. (2020) Modelling and predicting the spatio-temporal spread of COVID-19 in Italy, *BMC Infectious Diseases*, 20, 700.
- Arbia, G., Dickson, M.M., Gabriele, R., Giuliani, D., Santi, F. (2020) On the Spatial Determinants of Firm Growth: A Microlevel Analysis of the Italian SMEs, in *Spatial Economics Volume II*, (Editor: Stefano Colombo), Palgrave Macmillan, ISBN: 978-3-030-40093-4.
- Santi, F., Dickson, M.M., Espa, G. (2019) A graphical tool for interpreting regression coefficients of trinomial logit models, *The American Statistician*, 73, 200-207.
- Filipponi, D., Piersimoni, F., Benedetti, R., Dickson, M.M., Espa, G., Giuliani, D. (2019) Sampling design and analysis using geo-referenced data, in *Analysis of Integrated Data*, (Editors: R. Chambers and L.-C. Zhang), CRC Press, ISBN: 9781498727983.
- Tillé, Y., Dickson, M.M., Espa, G., Giuliani, D. (2018) Measuring the spatial balance of a sample: A new measure based on the Moran's I index, *Spatial Statistics*, 23, 182-192.
- Dickson, M.M., Giuliani, D., Espa, G., Bee, M., Taufer, E., Santi, F. (2018) Design-based estimation in environmental surveys with positional errors, *Environmental and Ecological Statistics*, 25, 155-169.
- Bee, M., Dickson, M.M., Santi, F. (2018) Likelihood-based risk estimation for Variance-Gamma models, *Statistical Methods and Applications*, 27, 69-89.
- Jia, M., Taufer, E., Dickson, M.M. (2018) Semi-parametric regression estimation of the tail index, *Electronic Journal of Statistics*, 2, 224-248.
- Arbia, G., Espa, G., Giuliani, D., Dickson, M.M. (2017) Effects of missing data and locational errors on spatial concentration measures based on Ripley's K-function, *Spatial Economic Analysis*, 12, 326-346.
- Dickson, M.M., Espa, G., Giuliani, D. (2017) Incomplete geo-coding and spatial sampling: the effects of locational errors on population total estimation, *Computers, Environment and Urban Systems*, 62, 1-6.

Espa, G., Micciolo, R., Giuliani, D., Dickson, M.M. (2016) *Statistica – L'arte e la scienza di imparare dai dati*, translation with additional contents of the book by A. Agresti and C. Franklin, entitled *Statistics – The art and science of Learning from data*, Milano: Pearson Italia spa, ISBN:9788865189511.

Dickson, M.M., Tillé, Y. (2016) Ordered spatial sampling by means of the traveling salesman problem, *Computational Statistics*, 31, 1359–1372.

Giuliani, D., Dickson, M.M. (2015) *Analisi statistica con Excel*, Italia: Maggioli spa, 2015. - ISBN: 9788838789908.

Arbia, G., Espa, G., Giuliani, D., Dickson, M.M. (2014) Spatio-temporal Clustering in the Pharmaceutical and Medical Device Manufacturing Industry: A Geographical Micro-level Analysis, *Regional Science and Urban Economics*, 49, 298-304.

Dickson, M.M., Benedetti, R., Giuliani, D., Espa, G. (2014) The Use of Spatial Sampling Designs in Business Surveys, *Open Journal of Statistics*, 4, 345-354.