

Stefano Tarantola

Stefano Tarantola is a Scientific Officer at the Joint Research Centre of the European Commission.

He graduated in Engineering in 1992 and received his PhD in Science and Technologies for Engineering at the Polytechnic of Milan in 1996.

He conducts and coordinates methodological work in the field of global sensitivity analysis and statistical work on innovation indicators for EU policy-making. He has experience in numerical modelling and quasi Monte Carlo simulation. He combines sensitivity analysis and participatory methods for the assessment of the robustness of indicators. He is author of papers in the peer-reviewed literature, co-author of four books on sensitivity analysis and of a handbook on composite indicators development with the OECD. He organises summer schools, training courses and conferences in sensitivity analysis.



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Latest publications:

Kucherenko, S., B. Delpuech, B. Iooss, S. Tarantola (2014) Application of the control variate technique to estimation of total sensitivity indices, *Reliability Engineering & System Safety*, DOI: 10.1016/j.ress.2014.07.008

Saint-Geours, N., S. Tarantola, V. Kopustinskias & R. Bolado-Lavin (2014) Computing first-order sensitivity indices with contribution to the sample mean plot, *Journal of Statistical Computation and Simulation*, DOI:10.1080/00949655.2014.932358

Rocco C.M. and S. Tarantola (2014) *Evaluating Ranking Robustness in Multi-Indicator Uncertain Matrices: An Application Based on Simulation and Global Sensitivity Analysis*, in *Multi-Indicator systems and Modelling in Partial Order*, Bruggemann, Carlsen and Wittmann Eds., Springer, 275-292

Baroni G., S. Tarantola (2013) A general probabilistic framework for uncertainty and global sensitivity analysis of deterministic models: a case study with the hydrological model SWAP, *Environmental modeling and software*, 51, 26-34

- Petropoulos G. P., H. M. Griffiths and S. Tarantola (2013) Sensitivity analysis of the SimSphere SVAT model in the context of EO-based operational products development, *Env. Mod. Soft.* 49, 166-179
- Borgonovo, E., I. Zentner, A. Pellegrini, S. Tarantola and E. de Rocquigny (2013) On the Importance of Uncertain Factors in Seismic Probabilistic Fragility Assessment, *Reliab. Eng. Syst. Safe.* 109, 66-76
- Mara T.A. and S. Tarantola (2012) [Variance-Based Sensitivity Indices For Models With Dependent Inputs](#), *Reliab. Eng. Syst. Safe.*, 107, 115-121
- Saltelli, A., M. Ratto, S. Tarantola and F. Campolongo (2012) [Update 1 of Sensitivity Analysis for Chemical Models](#), *Chemical Reviews*, 112, pp. PR1 - PR21.
- Castaigns W., E. Borgonovo, M.D. Morris and S. Tarantola (2012) [Sampling Strategies in Density-Based Sensitivity Analysis](#), *Environmental modeling and software*, 38, pp. 13-26
- Borgonovo E., W. Castaigns and S. Tarantola (2012) [Model Emulation and Moment-Independent Sensitivity Analysis: An Application to Environmental Modelling](#), *Environmental modeling and software*, 34, 105-115
- Tarantola S., W. Becker and D. Zeitz (2012) On the Performance of quasi-Monte Carlo and Latin Supercube sampling in global sensitivity analysis, *Computer Physics Communications*, 183,1061-1072
- Tarantola S., V. Kopustinskias, R. Bolado-Lavin, A. Kaliatka, E. Ušpuras, M. Vaišnoras (2012) [Sensitivity analysis using contribution to sample variance plot: application to a water hammer model](#), *Reliability Engineering & System Safety*, 99, 62-73
- Kucherenko S, S. Tarantola and P. Annoni (2012) [Estimation of global sensitivity indices for models with dependent variables](#), *Computer Physics Communications* 183, 937-946
- Badea A.C., C. M. Rocco, S. Tarantola, R. Bolado (2011) [Composite Indicators for Security of Energy Supply using Ordered Weighted Averaging](#), *Reliability Engineering & System Safety*, 96, 651-662
- Borgonovo, E., W. Castaigns and S. Tarantola (2011) [Moment Independent Importance Measures: New Results and Analytical Test Cases](#), *Risk Analysis*, 31, 3, 404-428
- Rosa, I. M. D., Pereira, J. M. C., and Tarantola, S. (2011) [Atmospheric emissions from vegetation fires in Portugal \(1990–2008\): estimates, uncertainty analysis, and sensitivity analysis](#), *Atmos. Chem. Phys.*, 11, 2625-2640.
- Zentner, I., S. Tarantola, E. de Rocquigny (2011) [Sensitivity analysis for reliable design verification of nuclear turbosets](#), *Reliability Engineering and System Safety*, 96, 391-397