

LECTURE ANNOUNCEMENT

Department of Electrical Engineering and Information Technology – MS Data Science

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Why Sensitivity Analysis

(or: How not to do a sensitivity analysis)

Speaker:

Prof. Andrea Saltelli

UPF Barcelona School of Management

Centre for the Study of the Sciences and the Humanities, University of Bergen

andrea.saltelli@gmail.com - <https://www.andreasaltelli.eu>

Description:

"But the real strength of the models, in my mind at least, were in sensitivity analysis (where one could examine the response of the model to parameters or structures that were not known with precision (i.e., sensitivity analysis), and in the examination of the behavior of the model components relative to that of the real system in question (i.e., validation)."

This quote by ecologist Charles A. S. Hall says much about what sensitivity analysis is about. In this lecture, Prof. Andrea Saltelli will revisit the philosophy of sensitivity analysis, introduce some of its key methods, and present concrete examples—highlighting both good and bad practices.

Whether you are working with environmental models, social simulations, or economic forecasts, understanding sensitivity is crucial to ensuring transparency, credibility, and robustness.

🧠 **Open to all students, researchers, and faculty interested in modeling, data science, and methodology.**

Andrea Saltelli has worked on physical chemistry, environmental sciences, applied statistics, impact assessment and science for policy. His main disciplinary focus is on sensitivity analysis of model output, a discipline where statistical tools are used to interpret the output from mathematical or computational models, and on sensitivity auditing, an extension of sensitivity analysis to the entire evidence-generating process in a policy context. He has worked at the European Commission, leading between 2005 and 2015 a unit of econometrics and applied statistics. From November 2016 till June 2020 adjunct professor at the Centre for the Study of the Sciences and the Humanities (SVT) - University of Bergen (UIB). He is presently academic counsellor at UPF Barcelona School of Management. His most recent papers have tackled sensitivity analysis and auditing, science's reproducibility crisis, impact assessment, ethics of quantification, regulatory capture, rankings of higher education, science's integrity and the post-truth discussion. In summer 2023 a book entitled *The Politics of Modelling, Numbers Between Science and Policy* was published by Oxford University Press, where he contributed as editor and author.

