

What is post-normal science and why do we need it today?

Seminar with Silvio Funtowicz and Andrea Saltelli

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What is post-normal science and why do we need it today?

Post normal science is not a new science in the sense of a new discipline – as if would be for example if Isac Asimov’s fantastic psychohistory were to be developed. Nor is it a claim to a new scientific method, though it has led to the development of PNS-inspired methodologies. PNS is foremost a set of practical insights meant to assist scientists and the recipients of their research to work together fruitfully in situation where the fact are uncertain, the values in dispute, the stakes high and decision necessary of even urgent. More often than not, PNS prescribes what ought not to be done, what pitfalls should be avoided, and what should make us suspicious in appraising scientific facts.

Thus, PNS warns against the dangers of reductionism - the idea that every problem can be decomposed into a sum of simpler problems, or against arbitrary separations between facts and values, especially at the science-policy interface, or against science as a truth-machine. PNS is foremost concerned about the quality of the scientific process, seen as recursive and reflexive. In the present situation of crisis of science and of expertise, and of run-away innovation, PNS can provide useful diagnoses, if not always therapies.

In the seminar, we shall discuss the genesis of PNS and how it can influence our way of doing science today.

Silvio Funtowicz

Silvio Funtowicz began his career teaching mathematics, logic and research methodology in Buenos Aires, Argentina. During the 1980s he was a Research Fellow at the University of Leeds, England. Until his retirement in 2011 he was a scientific officer at the Institute for the Protection and Security of the Citizen (IPSC) of the Joint Research Centre of the European Commission (EC-JRC). Since February 2012 he has been Professor II at the Centre for the Study of the Sciences and the Humanities (SVT) at the University of Bergen, Norway.

He is the author of numerous books and papers in the field of environmental and technological risks and policy-related research. He has lectured extensively and is a member of the editorial board of several publications and the scientific committee of many projects and international conferences.

Andrea Saltelli

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 worked at the European Commission, at the Joint Research Centre where he led for ten years the unit of econometrics and applied statistics. His most recent papers have tackled sensitivity analysis and auditing, the ecological footprint, the future of statistics, and the rationale of evidence based policy. He publishes a series of pieces on the crisis of science and the post-truth discussion in the online journal *The Conversation*, and gives courses in sensitivity analysis, sensitivity auditing and ethics of quantification.