

Joseph V. Spadaro, Ph.D. – Biodata

Joseph Spadaro is an Environmental Research Scientist, holding a Ph.D. in Energy, specialty in Environmental Impact Assessment, from the École Nationale Supérieure des Mines de Paris, France (now, MINES Paris Tech). Presently, he is a Research Professor in the Climate Change and Health Research Specialty at the Basque Centre for Climate Change in Bilbao, Spain.

Dr. Spadaro has carried out basic research on energy analysis in the residential and commercial building sectors (performance analysis and equipment modeling) and assessment of environmental impacts and damage costs (externalities) of electricity generation and use, disposal/management of waste residues and road transport. In the area of environmental impacts, Dr. Spadaro's research has focused on analysis of air/water/soil (multimedia) pollutant transport modeling, health risk assessment and uncertainty analysis, cost-benefit analysis of private sector decisions and environmental legislation, and life-cycle based economic–environmental assessment. He is now expanding the focus of his research to interlink with long-term energy alternative planning strategies, assessment of adaptation measures and policy options for addressing climate change and health vulnerability at the urban scale, consumer behavior and green economy, and the role of multi-criteria analysis in reaching stakeholder consensus on environmental actions. Mr. Spadaro is a work-package leader in the PURGE Project, 7th Framework Programme of the European Commission and a consultant on prioritization of air quality improvement measures for the city of Lima, Peru'.

Dr. Spadaro has worked in the United States (Princeton Environmental Institute, Princeton University and Center for Energy, Environmental and Economic Systems Analysis, Argonne National Laboratory in Chicago) and in several countries across Europe (Centre énergétique et procédés in Paris, Laboratorio Energia e Ambiente Piacenza, Italy and the International Atomic Energy Agency, IAEA, in Vienna). During Mr. Spadaro's stay at the IAEA, he contributed to the Agency's program on energy, economic and environment analysis (Programme C). For his efforts, he received the **Team Award for Meritorious Performance** in 2003.

He has been a longstanding member of the core team of principal investigators involved in the ExternE Project series (European Commission), and has acted as expert consultant in various projects supported by international organizations (EEA, UNEP-SETAC Life-Cycle Initiative, UN-ECLAC, IAEA), national governments and private industry. Mr. Spadaro has contributed to several phases of the ExternE program, including the ExternE National Implementation and Transport Projects, NewExt, ExternE-Pol, DIEM, RED, MethodEx and NEEDS. For his work on waste incineration, Dr. Spadaro received the **1998 Publication Award of ISWA** (Int'l Solid Waste Association) for the paper he co-authored on "Health Risks of Incinerators: A Perspective".

He has developed **RiskPoll**, an integrated multimedia risk assessment computer tool that implements a set of "simplified" methodologies for quantifying and valuing impacts to public health, agricultural crops and building materials from exposure to routine emissions of classical pollutants, toxic metals and certain organic species. The RiskPoll methodology clearly identifies the most significant parameters of the analysis and is easy to implement because it requires a limited number of input data that are easily obtained by the analyst. This is an especially important consideration for developing countries, where lack of statistical, environmental and economic data oftentimes precludes the use of detailed models. If more than the minimum input data are available, RiskPoll calculates improved estimates. Sensitivity analyses and uncertainty are also addressed in RiskPoll. RiskPoll results are capable of providing robust guidance in decision-taking by private industry stakeholders or for policymaking decisions at the local, national or regional level. RiskPoll has been used by Mr. Spadaro in research projects sponsored by the European Commission, European Environment Agency, UK Environment Agency, UNEP-SETAC Life-Cycle Initiative and other government and private sector institutions. SIMPACTS, a variant of RiskPoll, is disseminated by the IAEA to its member states.

At the academic level, he has interacted (sometimes as co-director) with graduate students, worldwide, on the implementation of SIMPACTS/RiskPoll methodologies. Between 1997 and 2005, Dr. Spadaro was an invited lecturer in the Master's program in Energy, Economics and Environment at the ENI Corporate University in Milano, Italy.

Select Publications, Book chapters, Technical reports & Conferences

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