

Mauro Giudici

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Mauro Giudici graduated *cum laude* in Physics from the University of Milan in 1987.

1990-1999 Ricercatore (Assistant professor) at the Department of Earth Sciences, University of Milan

1999-2012 Associate Professor, Department of Earth Sciences, University of Milan

Since 2012 Full Professor of Geophysics, Department of Earth Sciences, University of Milan

2014-2017 Director of the Department of Earth Sciences "Ardito Desio", University of Milan

He has been principal investigator of national research projects and consultant for public organizations and administrations, for private companies and for penal and civil courts on problems of management and contamination of ground water resources.

With these research projects he has contributed to: a) the development of mathematical models of ground water flow; b) the study of water resources in alluvial and fractured aquifers; c) the study of the effects of fine-scale heterogeneity on groundwater flow and solute transport at large scale; d) the study of the identification of physical parameters by solution of inverse problems, through basic theoretical results, development of original algorithms and application to real case studies; e) the development of geophysical prospecting methods (especially electrical and electromagnetic) for numerous fields of applications (geology and geomorphology, hydrostratigraphy, archaeology, precision agriculture, etc.); f) the thermo-mechanical modelling of the Antarctic ice sheet dynamic.

His current scientific research interests deal with:

- development and application of innovative methods to describe the heterogeneity of the subsurface at fine scale and its effect on contaminant transport for long times and large scale-lengths;
- geoelectrical and electromagnetic prospecting for shallow exploration;
- basic theoretical properties about the identification of the leading coefficient of an elliptic partial differential equation by solution of an inverse problem with multiple sets of data.

He is the author/coauthor of more than 80 papers published in international, refereed journals, with H-index ≥ 13 (ORCID: 0000-0002-6703-5748).