

Educational background:

- **1993:** Laurea cum Laude in Physics, University of Catania, Italy.
- **1994-1997:** PhD. in Physics, University of Catania, Italy.
PhD thesis: "Application of Extended Thermodynamics for the transport description of the hot carriers in Silicon". Advisor Prof. A.M.Anile.

Professional experiences:

- **1993:** Award "Accademia Gioenia", of SGS Thomson Microelectronics, for the best thesis carried out on arguments of Physics, Engineering and Mathematics with applications in microelectronics.
- **1994:** Grant with SGS Thomson Microelectronics (Co.Ri.M.Me) for the development of "Mathematical models for charge transport in semiconductors".
- **1994:** Winner of a CNR fellowship on the research theme "Problems of diffusion and transport in thermodynamics".
- **1997:** Research worker for Joint Study Agreement between the Department of Mathematics, University of Catania, and IBM Research Division Thomas J. Watson Research Center (Yorktown Heights, New York), in the group "Exploratory Memory and Device Modelling".
- **1997-1999:** Temporary professor of Mathematical Physics, Faculty of Engineering, University of Catania.
- **1999-2000:** Research Fellowship on "Study of mathematical models of phenomena dissipated for complex fluids and plasmas", Faculty of Engineering, University of Catania, November 2nd, 1999-August 31st, 2000.
- **2000-2001:** Research Professor of Mathematical Physics, in the Faculty of Mathematical, Physical, and Natural Sciences, University of Sassari, Italy.
- **2002-2003:** Research Fellowship on "Hydrodynamical models and problems of stability in Thermodynamics with applications to the transport in the semiconductors", Faculty of Mathematical, Physical, and Natural Sciences, University of Catania, Italy.
- **2004-2009:** Research Professor of Mathematical Physics, in the Faculty of Mathematical, Physical, and Natural Sciences, University of Catania, Italy.
- **2007-2009:** Scientific coordinator of the following scientific GNFM (Italian National Group for Mathematical Physics) projects:
 - 1) GNFM project 'Young Researchers' (2007-2008): "Extended Thermodynamics: formulation and application to classics and quantum models".
 - 2) GNFM project 'Young Researchers' (2008-2009): "Analytical and numerical methods for the study of classics and quantum models in Extended Thermodynamics and for the analysis of the stability in fluid-dynamics".
- **2010:** Full Professor of Mathematical Physics, starting from the 01/11/2010, in the Faculty of Mathematical, Physical, and Natural Sciences, University of Catania, Italy.

Research activity and list of some publications:

For more than 15 years of scientific activity, he published about 45 publications. The researches developed concern several questions of Mathematical Physics and especially:

- 1) Classic and quantum Extended Thermodynamics for gases;
- 2) Classic and quantum Extended Thermodynamics for the hot carriers transport in semiconductors;
- 3) Small signal analysis for the hot carriers in semiconductors materials;
- 4) Numerical simulation aspects for the hot carriers transport in semiconductors;
- 6) Linear and non-linear stability in Reaction-diffusion systems and in Fluid-Dynamics.

List of some publications:

- S. Pennisi, M. Trovato, *Continuum Mech. Thermodyn.* 7, 489-520 (1995).
- A.M. Anile, M. Trovato, *Phys. Lett. A.* 230, 387-395 (1997).
- M. Trovato, P. Falsaperla, *Phys. Rev. B* 57, 4456-4471 (1998).
- M. Trovato, L. Reggiani, *J. Appl. Phys.*, 85, 4050-4065 (1999).
- M. Trovato, P. Falsaperla, L. Reggiani, *J. Appl. Phys.*, 86, 5906 (1999).
- M. Trovato, L. Reggiani, *Phys. Rev. B* 61, 16667-16681 (2000).
- G. Mascali, M. Trovato *Physica A.* 310, 121-138 (2002).
- T. Ruggeri, M. Trovato, *Contin. Mech. Thermodyn.* 16, 551-576 (2004).
- M. Trovato, L. Reggiani, *Phys. Rev. B* 73, 245209-1-17 (2006).
- S. Lombardo, G. Mulone, M. Trovato, *J. Math. Anal. Appl.*, 342, 461-476 (2008).
- M. Trovato, P. Falsaperla, *Continuum Mech. Thermodyn.*, 19, 511-532 (2008).
- M. Trovato, L. Reggiani, *J. of Phys.: Conf. Series (JPCS)*, 193, 012013 (2009).
- M. Trovato, L. Reggiani, *J. Physics A - Math. and Theor.*, 43, 102001-1-11 (2010).
- M. Trovato, L. Reggiani, *Phys. Rev. E* 81, 0211119-1-11 (2010).
- M. Trovato, L. Reggiani, *Phys. Rev. E* 84, 061147-1-29 (2011).
- M. Trovato, L. Reggiani, *Intern. J. Mod. Phys. B*, 26, 1241007-1-17 (2012).
- M. Trovato, L. Reggiani, *La Riv. Nuovo Cimento* (review article) 35, 99-266 (2012).
- M. Trovato, L. Reggiani, *Phys. Rev. Lett.* 110, 020404-1-5 (2013).
- M. Trovato, *Acta Appl. Math.* 132, 605-619 (2014).