

## Short CV prof. Biagio Morrone

### Personal Data, education and awards

- Born in Italy, received his Master Degree in Mechanical Engineering in 1992, Faculty of Engineering, University of Naples Federico II, earned Ph.D. in Thermomechanical Systems in 1995, at Department DIAM, University of Naples Federico II, developing a thesis on numerical and experimental aspects of natural convection in channels and open systems, "Analysis of the natural convection in open channels";
- four month-period at Idaho State University, Idaho USA, in 1994, collaborating with the Prof. A. Campo on the numerical analysis of the cooling of electronic components and approximate analytical solutions of heat transfer in solid;
- awarded with a one-year scholarship at the Research center ENEA in Portici in 1995 for an experimental study on the "Interconnection of the photovoltaic thin films by laser technique";
- external contractor for "*Development of finite volume numerical program in conduction heat transfer*" project in 1997 for a six month period at the Department of Aerospace Engineering of the Second Univ. Naples;

### Work experience

- from 1998 to 2002 junior researcher in Applied Thermodynamics and Energy Management;
- from 2002 up to now associate professor of Applied Thermodynamics and Energy Management;
- from 1998 up to now courses taught in Heat Transfer, Applied Thermodynamics and Energy Management;
- member of the College of Doctorate in "Energy Conversion and Management" and formerly member of the College of Doctorate in "Mechanical Engineering";
- member of the College of Doctorate in "Maths, Physics and Engineering applications" teaching a course in "*Numerical Methods in Physics and Engineering*".
- Chairman of many theses of degree within the Heat Transfer and the Energy sectors.
- Tutor for several Ph.D. theses on Renewable Energy Systems

### Research programs and other related activities

- leading researcher of the scientific project "*Development and Optimization of Systems for the production of hydrogen from Renewable Sources*" funded by the Italian Ministry of Agriculture two years and half period, 2010-2012
- leading researcher of the scientific project "*Development of Systems for the distribution of mixtures Methane-hydrogen and their impact on the use in internal combustion engines*" funded by the Second University of Naples for the "Project of collaboration with corporate societies and firms" one year and half period, 2008;

- leading researcher of project "*Technical and economic Study for the feasibility of alternative combustible mixtures*", granted by the Regione Campania, in collaboration with the small enterprise ECOS srl, one year, 2006;
- leading researcher of the research activity "*Study for the optimization of innovative energy systems*" granted by the Second University of in Naples, 2006;
- participating in national research grants activities PRIN (Italian Research Projects) and others, within the energy and heat transfer sector.
- Invited lecturer of the conference "Hydrogen and NG day", Livorno, December 2008;
- Invited lecturer of the conference on "Natural gas applications" at the "EnergyMed" Naples 2009;
- Co-author of more than 50 scientific publications in international journals as well as presented at international and national conferences.
- Co-editor for the special number "*Sustainable Development: To Joined Goal of Energy Efficiency and Environmental Impact*" of the magazine Int. Journal of Environmental Technology and Management, published by Inderscience Enterpr. LTD. Vol.7, Nos.1/2, 2007.
- Member of the scientific committee of "Notebooks CRAET", quarterly publication of ownership of the Second University in Naples, on matters of marketing, energy, environment and ethics.
- Peer reviewer for over forty articles to be published on international journals in the energy and heat transfer sectors, such as Energy Conversion and Management (Elsevier), Applied Thermal Sciences (Elsevier), Intern. Journal of Hydrogen Energy (Elsevier), Experimental Thermal and Fluid Science (Elsevier), Energy Efficiency (Springer) and others .
- member of SIAM (Society of Applied Mathematics), UIT (Italian Thermofluidynamics Association), and ATI (Italian Thermal Association)
- Main research topic interests are in the renewable energy systems, use of alternative fuels for terrestrial vehicles, anaerobic fermentation for biogas (hydrogen and methane) production, ground heat pumps, applied fluid dynamic and heat transfer for energy management, numerical (finite difference and finite volume methods) and analytical solutions of PDEs. Further research interests are related to non-linear systems and chaos.