Giovanni Tanda

Full professor

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Education and training

1983

(Master) Degree in Mechanical Engineering

Influence of oxide layers on radiative properties of nickel - 110/110 summa cum laude

University of Genoa - Genoa - IT

1996

Doctor of Philosophy

Application of Optical Methods to the Study of Heat Transfer in Rib-Roughened Channels

The City University - London - GB

Academic experience

2004 - ONGOING

Full Professor

University of Genoa - Genoa - IT

1997 - 2004

Associate Professor

University of Genoa - Genoa - IT

1990 - 1997

Researcher

University of Genoa - Genoa - IT

1985 - 1990

Technician

University of Genoa - Genoa - IT

Language skills

English

Independent

Teaching activity

Teacher of Applied Thermodynamics and Heat Transfer, Bachelor Degree in Electrical Engineering

Postgraduate research and teaching activity

PhD committees membership

I am a member of the board of teachers of PhD course in *Ingegneria delle macchine e dei sistemi per l'energia, l'ambiente e i trasporti* from 2014 to now.

Research interests

My research areas of interest include:
(i) natural convection in cavities and loops heated from below, in vertical, plane and corrugated channels, from complex configurations (such as fin arrays, ribbed channels, tube-and-wire heat exchangers, etc.), both numerically and experimentally, heat and mass transfer during the natural convection frost formation on a vertical cold plate;
(ii) forced convection in ducts and channels (with wavy walls, staggered fin arrays, etc.) including numerical approaches, experiments, and thermodynamic analyses, with particular reference to gas turbine heat transfer and cooling technology;
(iii) development of optical techniques (schlieren method, holographic interferometry, liquid crystal thermography, infra-red thermography) for non-intrusive temperature and heat transfer measurements, even in 3-D conditions;
(iv) heat transfer in buildings and environmental control: transient thermal behaviour of peripheral/internal walls, prediction of surface condensation of vapour, numerical codes for evaluating humidity levels in unsteady conditions and adsorption/desorption phenomena between walls and air;
(v) radiant properties of metallic surfaces and thin layers: study of the effect of roughness, surface oxidation, surface damage; simultaneous measurements of total hemispherical emittance and specific heat of solids, calculations of thermal emittance of thin films, calculation procedures of radiation from tank pool fires;
(vi) analysis of performance during endurance running activity: development of algorithms for the prediction of performance in marathon and ultramarathon based on training and anthropometric indices.

Editorial activity

I have been a reviewer for several scientific journals, such as “ASME Journal of Heat Transfer”, “Heat and Mass Transfer (former Waerme- und Stoffuebertragung)”, “Enhanced Heat Transfer”, “Experimental Thermal Fluid Science”, “Heat Transfer Engineering”, “International Journal of Heat and Mass Transfer”, “International Journal of Heat and Fluid Flow”, “International Journal of Thermal Sciences” (former “Revue Generale de Termique”), “Int. Journal of Refrigeration”, “Journal of Electronic Packaging”, “Journal of Physics D: Applied Physics”, “Optics and Lasers in Engineering”, “Journal of Fluid Mechanics”, “Meccanica”, “International Journal of Sustainable Energy”, “Experimental Heat Transfer”, “International Journal

of Multiphase Flow", "Journal of Thermal Analysis and Calorimetry", "Journal of Thermal Biology" and for a number of international conferences.

Assignments abroad

Academic visitor at The City University, London, U.K., period March-September 1994 (6 months)
Academic Visitor (1 month, August 2006) at The School of Mechanical and Manufacturing Engineering, New South Wales University, Sydney, Australia