

Curriculum Vitae

Oronzio Manca

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Title: full professor at Università degli Studi della Campania “Luigi Vanvitelli”.

Education: Laurea in Mechanical Engineering (five years), cum laude, July 1979, Università degli Studi di Napoli, Federico II, Napoli, Italy;

Fellowships and other activities

- fellowships CNEN (ENEA) from March 1980 to March 1982;
- tecnica adviser from March 1982 to March 1983 for C.R.A.I.E.S., at the Istituto di Fisica Tecnica della Facoltà di Ingegneria dell'Università degli Studi di Napoli;
- CNR-NATO SENIOR fellowship at Department of Mechanical and Aerospace Engineering -RUTGERS - The State University of New Jersey, from July 1995 to September 1995.
- Invited Professor at University of Paris-Est Marne-la-Vallée from February 25, 2013 to March 25, 2013 under the activity PR2093.

Professional experience:

- November 2002 – present: full professor of Thermal Sciences at Università degli Studi della Campania “Luigi Vanvitelli” formerly Seconda Università degli Studi di Napoli
- November 1999 - October 2002: professor of Thermal Sciences at Facoltà di Ingegneria della Seconda Università degli Studi di Napoli;
- November 1995 - October 1999: associate professor of Thermal Sciences at Facoltà di Ingegneria della Seconda Università degli Studi di Napoli;
- November 1992 - October 1995: associate professor of Thermal Sciences at Facoltà di Ingegneria dell'Università degli Studi di Napoli Federico II;
- February 1987 - October 1992: full researcher of Thermal Sciences at Facoltà di Ingegneria dell'Università degli Studi di Napoli;
- February 1984 - February 1987: researcher of Thermal Sciences at Facoltà di Ingegneria dell'Università degli Studi di Napoli;

Teaching

- courses of Fisica tecnica (Thermal Sciences), and Thermal Measurements at Università degli Studi di Napoli Federico II from 1991 to 1995;
- courses of Thermal Sciences, Heat Transfer, Heat Transfer Modelling and Analysis in Systems, Thermal Control of Electronic Cooling, Numerical Methods for Engineering and Thermal Sciences Laboratory at Seconda Università degli Studi di Napoli;
- tutor of many (about 200) theoretical, numerical and experimental thesis in Thermal Sciences and Heat Transfer at Bachelor and Master level.
- tutor of 15 PhD students.

Management:

- coordinator of Mechanical Engineering Courses from November 2000 to December 2004;
- coordinator of Industrial Engineering Area from January 2005 to October 2011;
- coordinator of Industrial and Information Engineering PhD course from September 2015 - present.
- head of the PhD School Politecnica e delle Scienze di Base from June 2016 - present

Research

- scientific coordinator of CNR Bilateral research grants 1994-1998
- scientific coordinator of Seconda Università degli studi di Napoli reaserch grants 1995-2007;
- scientific coordinator of a Regione Campania reaserch grant 1997-2000;

- scientific coordinator of several research grants with private companies (ELASIS, Europea Microfusioni Aerospaziali and Piaggio Aero) 2000-2008;
- local scientific coordinator of a MURST* (PRIN) grant 1997-1999;1999-2001;2001-2003;2003-2005;2005-2007;
- national scientific coordinator of a MIUR** (PRIN) grant 2009-2011
- local scientific coordinator of EliosLab*** grant 2006-2011;
- scientific coordinator of EliosLab training courses 2008-2011;
- member of the RELTRANS network, a scientific European network active in the field of thermal sciences (it includes Technical University GH.Asachi, Iasi(Romania); University of Naples Federico II, Naples (Italy); Seconda Università degli Studi di Napoli, Aversa (Italia); Université Pierre et Marie Curie, Orsay (France); E.T.S.I. Industriales. University of Vigo, Vigo(Spain) and other members)
- member of Committee of NanoUptake Project COST Action 15119 "Overcoming Barriers to Nanofluids Market Uptake"

* Ministero per l'Università e la Ricerca Scientifica e Tecnologica (Italian Ministry of University and Research)

** Ministero dell'Istruzione, dell'Università e della Ricerca Scientifica (Italian Ministry of Education, University and Research)

*** EliosLab is a public-private laboratory for the development of high temperature solar energy technologies project partners are ENEA, CRIS-ANSALDO, Angelantoni, University of Naples Federico II and Seconda Università degli Studi di Napoli

Coauthor of the book "Applied Diffusion Processes from Engineering to Finance", Wiley-ISTE, 2013.

Co-Editor of the book "Heat Transfer Enhancement with Nanofluids", Publisher CRC, Taylor and Francis Group, 2015.

Member of Scientific Council of International Center for Heat and Mass Transfer

Member of the:

American Society of Mechanical Engineering and member of the K-8 committee of Heat Transfer Division;

American Society of Thermal and Fluids Engineers (ASTFE);

Unione Italiana di Termofluidodinamica UIT (Thermofluid dynamics Italian Association) (he served as committee member for 4 years);

Associazione Italiana dell'Automobile ATA (Italian Automotive Association).

Deputy President of Associazione Italiana Gestione Energia-AIGE (Italian Association Energy Management)

Associate Editor for the

ASME Journal of Heat Transfer from July 2010 to June 2013 and July 2013 - June 2016

Journal of Porous Media - An International Journal from September 2010

Special Topics & Reviews in Porous Media - An International Journal from September 2013

Member of the Editorial Advisory Boards for

Advances in Mechanical Engineering

Advances in Theoretical and Applied Mechanics

Heat Transfer Research

International Journal of Advanced Thermofluid Research

Journal of Engineering

Open Journal of Heat, Mass and Momentum Transfer

The Open Thermodynamics Journal,

The Open Fuels and Energy Science Journal

Thermal Science and Engineering Progress

Inventors

Lead Guest Editor of Advances in Mechanical Engineering for the Special Issue on "Heat Transfer in Nanofluids" 2010, 2012 and 2013.

Guest Editor of Nanoscale Research Letters for the Special Issue on "Nanofluids" 2011; International Review of Mechanical Engineering for the Special Issue on "Heat Transfer", 2010, 2011, 2012 and 2013;

Heat Transfer Engineering for the Special Issue "Selected Papers from the ASME-ATI-UIT 2015 Conference on Thermal Energy Systems: Production, Storage, Utilization, and the Environment"; Computational Thermal Science for the special issue "Selected papers from the 7th International Symposium

on Advances in Computational Heat Transfer, CHT-17"; ASME Journal of Energy Resources Technology for the Special Issue on "Recent Advances in Fundamentals and Applications of Biomass Energy".

Co-chair of

3rd Int. Conf. on Porous Media and its Applications in Science, Engineering and Industry, Montecatini Terme, Italy, June 20-24, 2010;

ASME-ATI-UIT 2010 Conference on Thermal and Environmental Issues in Energy Systems, Sorrento, Italy, May 16-19, 2010;

5th Int. Conf. on Porous Media and its Applications in Science, Engineering and Industry, Kona, Hawaii, USA, June 22-27, 2014.

ASME-ATI-UIT 2015 Conference on Thermal Energy Systems: Production, Storage, Utilization and the Environment, Napoli, Italy, May 17-20, 2015.

1st AIGE-IIETA International Conference on Energy Conversion, Management, Recovery, Saving, Storage and Renewable Systems, Napoli, Italy, June 9-10, 2016.

6th Int. Conf. on Porous Media and its Applications in Science, Engineering and Industry, Waikoloa, Hawaii, USA, July 3-8, 2016.

7th International Symposium on Advances in Computational Heat Transfer, CHT-17, Napoli, Italy, 28 May - 02 June 2017.

Member of Local Organizing Committee of 5th International Conference on Diffusion in Solids and Liquids DSL 2009, Rome, Italy, 24-26 June, 2009.

Chair of Track 15 Measurement Techniques and Thermophysical Properties in Micro/Nanoscale at the 4th ASME Micro/Nanoscale Heat & Mass Transfer International Conference (MNHMT-13), The University of Hong Kong, Hong Kong, December 11-14, 2013 and at the 5th ASME Micro/Nanoscale Heat & Mass Transfer International Conference (MNHMT-16), Singapore, January 3 - 6, 2016.

Member of International Executive or Scientific Committee of several Conferences

External Examiner in Thesis Examining Committee for PhD examination in Mechanical Engineering at The University of Hong Kong, Hong Kong in 2014, 2017 and 2018, The University of Limerick in 2012 and 2014, The University of Queensland, University of Pretoria, South Africa; opposer in the final exam at KTH Royal Institute of Technology Stockholm Sverige in 2017.

Member of the Assessment Committee for Assistant Professor at University of Southern Denmark

Reviewer for a position of Associate Professor at University of Pretoria, South Africa

Experience in scientific collaboration: Italian research networks with Università di Bologna, Università di Catania, Università di Napoli Federico II; Università di Genova, Università di Padova, Università di Roma Tor Vergata, Politecnico di Torino, Università di Trieste, Università di Udine.

International experience: research collaboration with Professor Wilson K. S. Chiu, University of Connecticut, CT USA; Professor Vanessa Egan, University of Limerick, Ireland; Professor Yogesh Jaluria, Rutgers University, NJ USA; Professor Guy Lauriat, Université Paris-Est Marne la Vallée, France; Professor Alina Minea, Technical University GH.Asachi Iasi, Romania; Professor Moghtada Mobedi, Izmir Institute of Technology, Turkey; Professor Akira Nakayama, Shizuoka University, Japan; Professor Moghtada Mobedi, Shizuoka University, Japan; Professor Mohsen Sharifpur, University of Pretoria; Professor Kambiz Vafai, University of California Riverside, CA USA; Professor Liqiu Wang, The University of Hong Kong, Hong Kong; Gongnan Xie, Northwestern Polytechnical University, China.

Skills and experience:

Thermal design and optimization of process system and components, physical and mathematical definition of thermal model, numerical and analytical methods in heat transfer, project of experimental apparatus and test section in convective heat transfer, hot wire anemometry, PIV, LDA and flow visualization systems, experimental heat transfer measurements.

He supervised many students in their master thesis and a lot of them have developed advanced skills in the area of thermal sciences, so a part of them are working in leading private and public institutions in the field of thermal sciences and not only (ELASIS, CIRA, ENI, ENEL, ENEA, GE, McKinsey, FIAT, ALENIA,

etc.); moreover other students decided to keep on with the in depth study of thermal sciences earning a Ph.D., among them there are, currently, one full professor and four Associate Professors active in the area of thermal sciences.

The research activities are in the Applied Thermodynamics and Heat Transfer fields. The main areas are:

Heat conduction, numerical and analytical evaluation and analysis of linear and non-linear problems in solids with moving or stationary heat sources (laser and electron beams); analysis of combined radiative –conductive fields in thin films; thermal design of hardness of metallic materials and amorphous-silicon photovoltaic cells processing. Natural and mixed convection in open ended cavities, experimental investigations on natural and mixed convection of air in inclined channels, evaluation of correlation and optimal geometrical configurations of inclined channels; numerical analysis of different geometrical configurations of vertical channels in steady-state regime and laminar flow; thermal design and control of electronic systems. The activities include also the heat transfer in porous media; analysis of active and passive solar systems; experimental evaluation of thermal performances of active solar components in a heat pump plant; experimental of thermal performance of passive non-capacitive solar collectors; theoretical analysis of vapor-compression refrigeration systems with new refrigerant fluids. Solar receiver for high temperature applications is under design. Enhancement heat transfer techniques, such as baffles in channels and nanofluids. Sensible and latent thermal energy storage systems analysis.

He is author or coauthor of 560 scientific papers: 143 on international peer reviewed journals, 8 on national journals, 14 in chapters of international books and the other on peer reviewed international congress proceedings, international congress proceedings and national congress proceedings.

He is the author or co-author of 269 documents registered in SCOPUS, with a total of 2984 citations from 2011 different documents on October 8, 2018. His h-index is equal to 28 (26 without self citations) his i10-index is 68. In Scholar Google there are 4667 citations of his papers (3107 citations from 2013) and the h-index is 34 (26 from 2013) and his i10-index is 90 (65 from 2013) on October 8, 2018.