

GENERAL INFORMATION

Date and place of birth: May 9, 1974; Udine (Italy);
Citizenship: Italian

CURRENT POSITION

From April 2015, associate professor in Applied Thermodynamics and Heat Transfer (Fisica Tecnica Ambientale (SSD ING-IND/11, SC 09/C2) at the Polytechnic Department of Engineering and Architecture, University of Udine.

Lecturer at the University of Udine in the following courses:

1. HEAT TRANSFER (Trasmissione del calore 6 CFU), within the B.Sc. program in Mechanical Engineering;
2. THERMODYNAMICS AND HEAT TRANSFER (Fisica Tecnica, 4 CFU) within the B.Sc. program in Architecture;
3. HVAC Systems (Impianti Termotecnici 6 cfu), within the M.Sc. program in Civil Engineering and in Mechanical Engineering;
4. THERMODYNAMICS AND HEAT TRANSFER (6 cfu), within the B.Sc. program in Civil Engineering.

Research and teaching activities have been carried out mainly at the University of Udine.

After the M.Sc. in Management Engineering (Laurea in Ingegneria Gestionale), Summa cum Laude, in March 2000 and the Ph.D. in Energy Technologies in March 2004, I was Post-Doctoral fellow until September 2009 and Assistant professor of Thermodynamics and Heat Transfer until March 2015.

RESEARCH ACTIVITIES

Research Topics:

Computational fluid dynamics (CFD) for thermal problems:

- mechanisms for forced convection enhancement, heat transfer improvement in compact heat exchangers and at microscale level
- heat transfer and fluid flow in refrigeration equipment (optimization of air curtain design in display cabinets and cold rooms)
- numerical simulation of glass fogging and defogging phenomena (examples: analysis of de-misting systems in refrigerated display cabinets and for car windshield)

In the last years, I focused my research activity on modelling of commercial refrigeration systems; integration with the air conditioning system (HVAC) in supermarkets; innovative solutions for the reduction of energy consumption in commercial sector.

Publications

The results of the research activity are reported in 85 scientific publications: 37 in refereed international journals; 3 chapters in edited international books; 34 papers presented at international conferences, 10 papers at Italian conferences.

Bibliometric indicators

Database SCOPUS (24/03/2022): **documents: 59; h-index: 17; citations: 1018**

Metrics according to Italian National Scientific Qualification (ASN 2021-2023): articles in the last 10 years: 11; $h\text{-index}_{15\text{ anni}} = 12$ (higher than threshold value for full-professor = 9 and equal to the threshold value for committee members in the scientific sector); citations in the last 15 years 577 (higher than threshold values for full-professor = 208 and committee members = 318).

Best paper/poster awards:

Best Research Paper Award at the 8th International Conference on Sustainability in Energy and Buildings, 2016
Best Poster, Congresso Nazionale UIT 2004

Best Poster, congresso Nazionale UIT 2002

RECENT RESEARCH FUNDS

PUBLIC FUNDING - competitive projects:

Referent research project “Il sistema edificio-impianto in una smart energy community”, DM 1062/2021 “PON Ricerca e Innovazione” funding a RTDA position (10/01/2022-09/01/2025)

Member of research team in PRIN 2017, The energy FLEXibility of enhanced HEAT pumps for the next generation of sustainable buildings (FLEXHEAT), (13/03/2019-17/9/2019), Cod. 2017KAAECT, DM. n.443.13/03/2019, Project budget: € 644'600.

Member of the research unit in PRIN 2015, Clean Heating and Cooling Technologies for an Energy Efficient Smart Grid, Cod. 28S2PA (5/2/2017-5/2/2020), DM. 0001827.20/09/2016, Project budget: € 507'000.

Member of the research unit in FP7 project "CommONEnergy: Re-conceptualize shopping malls from consumerism to energy conservation" (1/10/2013-30/9/2017). Grant agreement NMP2-LA-2013-608678, Project budget: € 9'097'303.

PRIVATE FUNDING - from contract research (contratti conto terzi) with the industrial partners: EPTA S.p.A., Milano, Italy; display cabinets for commercial refrigeration and commercial refrigeration systems; Eliwell, Schneider Electric group, Alpagò (BL), Italy, control systems for refrigeration; ISC, Amaro (UD), Italy; automotive air conditioning maintenance equipment; MODINE CIS ITALY SRL, Pocenìa (UD) Italy; finned pack heat exchangers; Rizzi Engineering, Adro (BS), Italy; fuel economizers; Centro Ricerche FIAT, Orbassano (TO), Italy; automotive research; IEC – Impianti, Roveredo in Piano (PN), Italy; renewable energy; Modular Professional, San Vendemiano (TV), Italy; professional catering equipment (ovens).

CURRENT ACADEMIC APPOINTMENTS

- April 2021-pres: Member of the Research Quality Assurance Commission - Polytechnic Department of Engineering and Architecture.
- April 2021-pres: Member of the PhD Program Board “Environmental and Energy Engineering Sciences” (Scienze dell’Ingegneria Energetica e Ambientale), University of Udine.
- January 2021-pres: Member of the Didactic Commission (Commissione Didattica) of the B.Sc. and M.Sc. programs in Civil Engineering.
- April 2015-pres: Member of the Commission for Quality Assurance for B.Sc. and M.Sc. programs in Mechanical Engineering.