CURRICULUM VITÆ

NAME: **Fabio POLONARA**

DATE & PLACE OF BIRTH:

NATIONALITY: Italian

CURRENT POSITION:

(i) **Professor** of Fisica Tecnica (Thermal Sciences) at Dipartimento di Ingegneria Industriale e Scienze Matematiche, Università Politecnica delle Marche, Ancona, Italy;

(ii) **Director**, Dipartimento di Ingegneria Industriale e Scienze Matematiche, Università Politecnica delle Marche, Ancona, Italy;

(iii) **Member** of TEAP (Technical and Economic Assessment Panel) and **co-chair** of RTOC (Refrigeration Technical Option Committee) of Montreal Protocol (UNEP)

(iv) **National Delegate** for Italy at the International Institute of Refrigeration, Paris, France;

(v) **Vice-president** of Commission A2, "Liquefaction of Gases" of the International Institute of Refrigeration, Paris, France;

(vi) **Vice-president** of AIGE (Associazione Italiana Gestione dell'Energia)

(vii) **Member** of the Research Commission for the Free University of Bolzano/Bozen

EDUCATION:

(iv) Doctor of Philosophy studies in Thermodynamics and Heat Transfer, leading to the degree of "**Dottore di ricerca in fisica tecnica**", at University of Ancona (Italy), 1984-1986, supervisor Pr. Marco Pacetti;

(iii) University studies in Mechanical Engineering leading to "**Laurea in Ingegneria Meccanica**", at University of Ancona (Italy), 1974-1981, supervisor Pr. Marco Pacetti;

(ii) Classical education leading to the Italian "Maturità Classica", obtained in Senigallia (Italy) at Liceo Classico "G. Perticari", 1969-1974;

(i) Primary and Secondary general education received in Senigallia (Italy), 1960-1969.

LANGUAGES:

(i) Mother tongue: ITALIAN

(ii) Language: ENGLISH

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C1	**C2**	**C1**	**C1**	**C1**

(iii) Language: FRENCH

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
A2	**B1**	**A2**	**A2**	**A2**

POSTS HELD:

(v) Since 2001 and at present he is **Professor** of Thermal Sciences at the Dipartimento di Ingegneria Industriale e Scienze Matematiche, University of Ancona, which has changed in 2003 its name in **Università Politecnica delle Marche**;

(iv) From 1997 to 2001 he is **Associate Professor** of Thermal Sciences at the Dipartimento di Energetica, University of Ancona;

(iii) From 1988 to 1997 he is "**Ricercatore Confermato**" [Research Associate] at the Dipartimento di Energetica, University of Ancona;

(ii) "Professore a Contratto" at University of Chieti (Italy), Faculty of Architecture, for the course "Acustica, Illuminotecnica e Climatizzazione nell'Edilizia". Academic Year 1987/88;

(i) Design engineer with Polonara R. & C. of Senigallia (Italy), HVAC plants manufacturers, 1982-1983.

INSTITUTIONAL SERVICES

(x) Since 2012 and at present, **Director** of the Dipartimento di Ingegneria Industriale e Scienze Matematiche at the Università Politecnica delle Marche

(ix) From 2008 to 2011, **Director** of the Dipartimento di Energetica at the Università Politecnica delle Marche, which in 2011 merged in the Dipartimento di Ingegneria Industriale e Scienze Matematiche

(viii) From 2001 to 2008, **Deputy Director** of the Dipartimento di Energetica at the Università Politecnica delle Marche;

(vii) From 2013 to 2015, **Supervisor** of the PhD Course in Industrial Engineering, Università Politecnica delle Marche;

(vi) Member of the Board of Directors for the Ph.D, course in Engineering Sciences at the Università Politecnica delle Marche (2006-2012);

(v) Member of Commission for Faculty Personnel at the School of Engineering of the Università Politecnica delle Marche (2006-2010);

(iv) Member of Commission for Didactics at the School of Engineering of the Università Politecnica delle Marche (1995-2005);

(iii) Italian coordinator for the bilateral agreement between University of Ulster (Jordanstown, UK) and Università Politecnica delle Marche for student mobility within the E.U. Socrates-Erasmus Programme;

(ii) Scientific representative for the Italian party in the bilateral agreement between Institute of Physical Chemistry of the Polish Academy of Sciences (Warsaw, Poland) and Università di Ancona (1997-2000);

(i) Member of the Board of Examiners to adjudicate on Ph.D. theses at Madurai Kamaraj University (Madurai, India) and at Asian Institute of Technology (Bangkok, Thailand)

TEACHING ACTIVITIES

(v) Since Academic Year 2009/10 and at present he teaches the "Termotecnica" (Design of Thermal Systems) course at the School of Engineering of the Università Politecnica delle Marche;

(iv) Since Academic Year 1993/94 and at present he teaches the “Fisica Tecnica” (Thermal Sciences) courses at the School of Engineering and at the School of Agriculture of the University of Ancona and of the Università Politecnica delle Marche;

(iii) From Academic Year 1992/93 to A.Y. 2005/06 he teaches the "Tecnica del Freddo" (Refrigeration) courses at the School of Engineering and at the School of Agriculture of the University of Ancona and of the Università Politecnica delle Marche;

(ii) MED CAMPUS Programme, European Union, 1994, Msida, Malta, *Training Course on Renewable Energy Sources and their Practical Applications*, University of Malta;

(i) COMETT Programme, European Union, 1990, Bologna, Italy, *Corso sperimentale di formazione su strumenti e tecnologie evoluti per il controllo energetico ambientale degli edifici*, ICIE 1992, Lisbon, Portugal, *Energia e conforto no projecto de edificios*, Istituto Superior Tecnico 1993, Barcelona, Spain, *El control energético-ambiental en la edificaciòn*, Universitat Politècnica de Catalunya.

Ph.D. SUPERVISION

(iii) since 1994 he has advised 15 Ph.D. students that have subsequently got their degree.

(ii) he is at present supervising 2 Ph.D. student.

(i) since 1992 he has advised more than 130 Master students.

PROFESSIONAL QUALIFICATION:

(i) "Abilitazione alla professione di Ingegnere" obtained at Ancona (Italy) in fall term 1981 of "Esame di Stato".

PROFESSIONAL SERVICES

(vi) Member of TEAP (Technical and Economic Assessment Panel) and co-chair of RTOC (Refrigeration Technical Option Committee) of Montreal Protocol on Substances that deplete the Ozone Layer (United Nations Environmental Programme)

(v) Vice-president of S.Tra.Te.G.I.E. srl, Academic spin-off of the Università Politecnica delle Marche (2008-2010)

(iv) National Coordinator fo the research project “Sustainable Technologies for Buildings” carried out by several Research Institutes of the CNR (National Research Council) (2006-2008)

(iii) Coordinator of the working group that prepared the “Energetic and Environmental Plan” for Ascoli Piceno Provincial Government (2006-2007 and 2011-2013);

(ii) Coordinator of the working group that prepared the “Energetic and Environmental Plan” for

Marche Regional Government (2003-2005 and 2012-2013);

(i) Referee for the Scientific Journals: *Applied Energy, Applied Thermal Engineering, Canadian Journal of Chemical Engineering, Croatica Chemica Acta, Energy, Energy&Buildings, Energy Conversion and Management, Food Research International, Fluid Phase Equilibria*, *International Journal of Electrical Power and Energy Systems, International Journal of Energy Research, International Journal of Refrigeration*, *International Journal of Sustainable Development & Planning, Journal of Chemical and Engineering Data, Journal of Cleaner production, Research in Trasportation Business and Management, Solar Energy, Sustainabe Cities and Society.*

SCIENTIFIC AND PROFESSIONAL MEMBERSHIP

(vii) Vice-president of AIGE (Associazione Italiana Gestione dell'Energia) (2013-)

(vii) Vice-president of Commission A2, "Liquefaction of Gases" of the International Institute of Refrigeration (Paris) (2012-)

(vi) Vice-president of Commission B1, "Thermodynamics and Transport Processes" of the International Institute of Refrigeration (2008-2012)

(v) Member of CTR (Technical Committee for Refrigeration) of AICARR (Associazione Italiana del Condizionamento dell'Aria, del Riscaldamento e della Refrigerazione) (2004-2010).

(iv) Member of the Italian Chapter of ISES, International Solar Energy Society (1990-2000);

(iii) Member of ATI (Associazione Termotecnica Italiana);

(ii) Member of UIT (Unione Italiana di Termofluidodinamica);

(i) Member of AIPT (Associazione Italiana di proprietà termofisiche)

VISITING FELLOWSHIPS

(ii) 1991-NATO-CNR "Senior Fellowship" at the Centre for Energy Research of the University of Ulster at Coleraine (Northern Ireland, UK) to study alternative refrigerants to CFCs.

(i) 1997-CNR "Short Term Fellowship" at the Centre for Energy Research of the University of Ulster at Coleraine (Northern Ireland, UK) to study alternative refrigerants to CFCs.

RESEARCH ACTIVITIES

(i) Refrigeration Systems and Heat Pumps
Simulation of steady state behaviour of vapor compression systems;
Experimental analysis of CFC's substitutes as working fluids in vapor compression refrigeration systems and heat pumps;
Comparison between mechanical and cryogenic methods for food freezing;
Innovation on food freezing with air-cyle refrigeration machines;
Small-scale plants for natural gas liquefaction (LNG).

(ii) Thermophysical Properties of New Refrigerants
Experimental evaluation of thermodynamic properties of environmentally safe working fluids for refrigeration;
Prediction methods for transport properties (dynamic viscosity and thermal conductivity) of liquids along the liquid saturation curve.

(iii) Energetics and Renewable energies
Study of condensing gas boilers;
Analysis of manufacture energy consumption for HVAC components;
Energy planning at regional and local level;
Solar Energy and Photovoltaic systems for highway tunnels lighting and for cooling and air conditioning applications;
Thermodynamic optimisation of biodiesel production processes;
Biodiesel from algae.
Demand Side Management in the built environment. Thermal Storage.

His research activities are documented in more than 200 papers, published on international and national journals and presented at international and national conferences.
He has been coordinator of several working groups involved in research projects funded by the European Union within the programmes JOULE, FLAIR and IEE, by the Italian Ministry of University and Research, by the Italian Ministry for the Environment and by the Marche Regional Governemnt

PUBLICATIONS OF
Fabio POLONARA

international journals

1) C. Baroncini, S. Berti, F. Polonara, Hot-Wire Transient Method for Liquid Thermal Conductivity Measurement under Pressure up to 50 MPa, *International Journal of Heat and Technology*, Vol. 7, No. 1, pp. 49-64, 1989.
2) C. Baroncini, R. Camporese, G. Giuliani, G. Latini, F. Polonara, Experimental Study of Thermodynamic Properties of Difluoromethane (R32), *High Temperatures-High Pressures*, Vol. 25, pp. 459-464, 1993.
3) P. Di Filippo, M. Paroncini, F. Polonara, L. Zenobi, Lighting Design for Road Tunnels, *Light & Engineering*, Vol. 2, No. 4, pp. 6-16, 1994.
4) G. Giuliani, S. Kumar, P. Zazzini, F. Polonara, Vapor Pressure and Gas Phase PVT Data and Correlation for 1,1,1-Trifluoroethane (R143a), *Journal of Chemical and Engineering Data*, Vol. 40, No. 4, pp. 903-908, 1995. ***DOI:*** *10.1021/je00020a037*
5) G. Giuliani, S. Kumar, F. Polonara, A Constant Volume Apparatus for Vapour Pressure and Gas Phase P-v-T Measurements: Validation with Data for R22 and R134a, *Fluid Phase Equilibria*, Vol. 109, No. 2, pp. 265-279, 1995. *doi: 10.1016/0378-3812(95)02727-V*
6) G. Latini, G. Passerini, F. Polonara, A Prediction Method for Thermal Conductivity of Alternative Refrigerants in the Liquid Phase, *International Journal of Thermophysics*, Vol. 17, No. 1, pp. 85-98, 1996. *DOI: 10.1007/BF01448212*
7) G. Latini, G. Passerini, F. Polonara, Thermophysical Properties of Greenhouse Gases: Thermal Conductivity and Dynamic Viscosity as Function of Temperature and Pressure, *Energy Conversion and Management*, Vol. 37, No. 6-8, pp. 1291-1296, 1996. *doi: 10.1016/0196-8904(95)00335-5*
8) G. Latini, G. Passerini, F. Polonara, A relationship between dynamic viscosity and reduced temperature of refrigerant fluids and their mixtures in the liquid phase, *Fluid Phase Equilibria*, Vol. 125, pp. 205-217, 1996. *doi: 10.1016/S0378-3812(96)03093-2*
9) G. Latini, G. Passerini, F. Polonara, Transport properties of high boiling point hydrocarbons, *High Temperatures-High Pressures*, Vol. 30, pp. 63-69, 1998. *doi: 10.1068/htec126*
10) G. Di Nicola, G. Giuliani, G. Passerini, F. Polonara, R. Stryjek, VLE properties of R-32+R-134a system derived from isochoric measurements, *Fluid Phase Equilibria*, Vol. 153, pp. 143-165, 1998. *doi: 10.1016/S0378-3812(98)00407-5*
11) G. Latini, G. Passerini, F. Polonara, A New Approach to the Evaluation of Transport Properties of Azeotropic and Quasi-Azeotropic Refrigerant Mixtures, *International Journal of Thermophysics*, Vol. 20, No. 1, pp. 73-84, 1999. *DOI: 10.1023/A:1021474029285*
12) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, Saturated Pressure and *P-V-T* Measurements for 1,1,1,3,3,3-Hexafluoropropane (R-236fa), *Journal of Chemical and Engineering Data*, Vol. 44, No. 4, pp. 696-700, 1999. ***DOI:*** *10.1021/je980281e*
13) G. Giuliani, N. J. Hewitt, F. Marchesi Donati, F. Polonara, Composition shift in liquid-recirculation refrigerating systems: an experimental investigation for the pure R134a and the mixture R32/134a, *International Journal of Refrigeration*, Vol. 22, No. 6, pp. 486-498, 1999. *doi: 10.1016/S0140-7007(99)00009-2*
14) G. Di Nicola, F. Polonara, R. Stryjek, *P-V-T-x* and Vapor Liquid Equilibrium Properties of Pentafluoroethane (R125) + 1,1,1,3,3,3-Hexafluoroethane (R236fa) and 1,1,1,2-Tetrafluoroethane (R134a) + (R236fa) Systems Derived from Isochoric Measurements, *Journal of Chemical and Engineering Data*, Vol. 46, No. 2, pp. 359-366, 2001. ***DOI:*** *10.1021/je000259x*
15) G. Di Nicola, F. Polonara, R. Stryjek, *P-V-T-x* and Vapor Liquid Equilibrium Properties of Difluoromethane (R32) + 1,1,1,2,3,3-Hexafluoropropane (R236ea) and Pentafluoroethane (R125) + R236ea Systems Derived from Isochoric Measurements, *Journal of Chemical and Engineering Data*, Vol. 46, No. 2, pp. 367-374, 2001. ***DOI:*** *10.1021/je000260w*

16) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, *PVTx* Measurements for the R125+CO_2 System by the Burnett Method, *Fluid Phase Equilibria*, Vol. 199, pp. 161-174, 2002. *doi: 10.1016/S0378-3812(01)00797-X*
17) G. Di Nicola, F. Polonara, R. Stryjek, Burnett Measurements for the Difluoromethane + Carbon Dioxide System, *Journal of Chemical and Engineering Data*, Vol. 47, No. 4, pp. 876-881, 2002. ***DOI:*** *10.1021/je015537m*
18) G. Di Nicola, M. Pacetti, F. Polonara, R. Stryjek, Isochoric Measurements for CO_2+R125 and CO_2+R32 Binary Systems, *Journal of Chemical and Engineering Data*, Vol. 47, No. 5, pp. 1145-1153, 2002. ***DOI:*** *10.1021/je015541y*
19) F. Polonara, A. D'Amore, A. Gigiel, Freezer System for Ready-to-Eat Dishes, *New Food*, n. 4, 2002, pp. 64-68.
20) A. D'Amore, G. Di Nicola, F. Polonara, R. Stryjek, Virial Coefficients from Burnett Measurements for the Carbon Dioxide + Floromethane System, *Journal of Chemical and Engineering Data*, Vol. 48, No. 2, pp. 440-444, 2003. ***DOI:*** *10.1021/je025630q*
21) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, CO_2 + R23 Binary System: Virial Coefficients Derived from Burnett Measurements, *International Journal of Thermophysics*, Vol. 24, n. 3, pp. 651-665, 2003. *DOI: 10.1023/A:1024028014074*
22) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, Isochoric measurements of the R23+CO_2 binary system, *Fluid Phase Equilibria*, Vol. 210, pp. 33-43, 2003. *doi: 10.1016/S0378-3812(03)00159-6*
23) M. Bevilacqua, A. D'Amore, F. Polonara, A multi-criteria decision approach to choosing the optimal blanching-freezing system, *Journal of Food Engineering*, Vol. 63, n. 3, pp. 253-263, 2004. *doi:10.1016/j.jfoodeng.2003.07.007*
24) G. Di Nicola, G. Giuliani, G. Passerini, F. Polonara, R. Stryjek, Virial Coefficients from Burnett Measurements for the R116 + CO_2 System, *International Journal of Thermophysics*, Vol. 25, n. 5, pp. 1437-1447, 2004. *DOI: 10.1007/s10765-004-5749-6*
25) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, Second and third virial coefficients for the R41+N2O system, *Fluid Phase Equilibria*, Vol. 225, pp. 69-75, 2004, and Vol. 228-229, pp. 373-379, 2005. *doi:10.1016/j.fluid.2005.03.007*
26) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, Blends of carbon dioxide and HFCs as working fluids for the low-temperature circuit in cascade refrigerating systems, *International Journal of Refrigeration*, Vol. 28, n. 2, pp. 130-140, 2005. *doi:10.1016/j.ijrefrig.2004.06.014*
27) G. Di Nicola, F. Polonara, R. Ricci, R. Stryjek, PVTx Measurements for the R116+ CO_2 and R41+ CO_2 Systems. New Isochoric Apparatus, *Journal of Chemical and Engineering Data*, Vol. 50, No. 2, pp. 312-318, 2005. ***DOI:*** *10.1021/je049939g*
28) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, Isochoric PVTx Measurements for the CO_2+N_2O Systems, *Journal of Chemical and Engineering Data*, Vol. 50, No. 2, pp. 656-660, 2005. ***DOI:*** *10.1021/je049633+*
29) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, PVT from the Burnett and Isochoric measurements – Nitrous Oxide, *Journal of Thermal Analysis and Calorimetry*, Vol. 80, No. 2, pp. 311-316, 2005. *DOI: 10.1007/s10973-005-0652-3*
30) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, PVTx measurements for N_2O+CH_3F, N_2O+CH_2F2, and N_2O+CHF_3 binary systems, *Fluid Phase Equilibria*, Vol. 320, pp. 81-89, 2005. *doi:10.1016/j.fluid.2004.11.021*
31) A. Gigiel, F. Polonara, G. Di Nicola, Congélation rapide avec un système à air à circuit ouvert, *Revue générale du froid & du conditionnement d'air*, Novembre 2005, pp. 28-33.
32) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, Burnett measurements and virial coefficients for the R32+N2O system, *International Journal of Thermophysics*, Vol. 27, n. 1, pp. 13-22, 2006. *DOI: 10.1007/s10765-006-0033-6*
33) F. Corvaro, G. Di Nicola, F. Polonara, G. Santori, Saturated Pressure Measurements of Dimethyl Ether at Temperatures from (219 to 361) K**,** *Journal of Chemical and Engineering Data*, Vol. 51, No. 4, pp. 1469-1472, 2006. ***DOI:*** *10.1021/je060148j*
34) F. Corvaro, G. Di Nicola, F. Polonara, R. Stryjek, Virial Coefficients from Burnett Measurements for the R23 + N_2O System, *International Journal of Thermophysics*, Vol. 27, n. 4, pp. 1042-1051, 2007. *DOI:10.1007/s10765-006-0082-x*

35) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, Isochoric *PVTx* Measurements for the N2O + R125 Binary System, *Journal of Chemical and Engineering Data*, Vol. 51, No. 6, pp. 2041-2044, 2006. ***DOI:****10.1021/je060140+*
36) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, Solid-Liquid Equilibria for the CO2 + R125 and N2O + R125 Systems: A New Apparatus, *Journal of Chemical and Engineering Data*, Vol. 51, No. 6, pp. 2209-2214, 2006. ***DOI:****10.1021/je0603067*
37) G. Di Nicola, G. Giuliani, F. Polonara, R. Stryjek, Solid–liquid equilibria for the CO2+N2O, CO2 + R32, and N2O+ R32 systems, *Fluid Phase Equilibria*, Vol. 256, No. 1-2, pp. 86-92, 2007. *doi:10.1016/j.fluid.2006.11.015*
38) G. Di Nicola, F. Polonara, G. Santori, R. Stryjek, Isochoric *PVTx* Measurements for the Carbon Dioxide + 1,1-Difluoroethane Binary System, *Journal of Chemical and Engineering Data*, Vol. 52, No. 4, pp. 1258-1261, 2007 ***DOI:****10.1021/je600583u*
39) G. Di Nicola, G. Giuliani, F. Polonara, G. Santori, R. Stryjek, Solid-Liquid Equilibria for the CO_2+R152a and N_2O+R152a Systems, *Journal of Chemical and Engineering Data*, Vol. 52, No. 6, pp. 2451-2454, 2007. ***DOI:****10.1021/je700384e*
40) G. Di Nicola, M. Pacetti, F. Polonara, G. Santori, R. Stryjek, Development and optimization of a method for analyzing biodiesel mixtures with non aqueous reversed phase liquid chromatography, *Journal of Chromatography A,* Vol. 1190, pp. 120-126, 2008. *doi:10.1016/j.chroma.2008.02.085*
41) A. Freni, G. Maggio, S. Vasta, G. Santori, F. Polonara, G. Restuccia, Optimization of a solar-powered adsorptive ice-maker by a mathematical method, *Solar Energy*, Vol. 82, No. 11, pp. 965-976, 2008. *doi:10.1016/j.solener.2008.05.002*
42) S. Vasta, G. Maggio, G. Santori, A. Freni, F. Polonara, and G. Restuccia, An adsorptive solar ice-maker dynamic simulation for north Mediterranean climate, *Energy Conversion and Management*, Vol. 49, No. 11, pp. 3025-3035, 2008. *doi:10.1016/j.enconman.2008.06.020*
43) M. Bevilacqua, F. Corvaro, F. Polonara, An efficiency analysis on Italian thermopower plants, *Int. J. Global Energy Issues*, Vol. 31, No. 1, pp. 32-49, 2009. *DOI:10.1504/..021541*
44) G. Maggio, L.G. Gordeeva, A. Freni, Yu.I. Aristov, G. Santori, F. Polonara, G. Restuccia, Simulation of a solid sorption ice-maker based on the novel composite sorbent "lithium chloride in silica gel pores", *Applied Thermal Engineering*, Vol. 29, No. 8-9, pp. 1714-1720, 2009. *doi:10.1016/j.applthermaleng.2008.07.026*
45) A. Arteconi, C. Brandoni, F. Polonara, Distributed generation and trigeneration: Energy saving opportunities in Italian supermarket sector, *Applied Thermal Engineering*, Vol. 29, No. 8-9, pp. 1735-1743, 2009. *doi:10.1016/j.applthermaleng.2008.08.005*
46) G. Di Nicola, F. Polonara and G. Santori, Saturated Pressure Measurements of 2,3,3,3-Tetrafluoroprop-1-ene (HFO-1234yf), *Journal of Chemical and Engineering Data*, Vol. 55, No. 1, pp 201–204, 2010. *DOI:10.1021/je900306v*
47) A. Arteconi, C. Brandoni, D. Evangelista, F. Polonara, Life-cycle greenhouse gas analysis of LNG as a heavy vehicle fuel in Europe, *Applied Energy*, Vol. 87, pp. 2005-2013, 2010. *DOI:10.1016/j.apenergy.2009.11.012*
48) G. Di Nicola, G. Giuliani, F. Polonara, G. Santori, R. Stryjek, Solid–Liquid Equilibria for the CO_2 + R23 and N_2O + R23 Systems, *International Journal of Thermophysics*, Vol. 31, No. 10, pp. 1880-1187, 2010. *DOI:10.1007/s10765-008-0511-0*
49) C. Di Nicola, G. Di Nicola, M. Pacetti, F. Polonara, G. Santori, P-V-T Behaviour of 2,3,3,3-Tetrafluoroprop-1-ene (HFO-1234yf) in the Vapor Phase from (243 to 373) K, *Journal of Chemical and Engineering Data*, Vol. 55, No. 9, pp 3302–3306, 2010. **DOI:**10.1021/je100102q
50) G. Di Nicola, M. Moglie, G. Santori, R. Stryjek, and F. Polonara, Carbon Dioxide + Fluoromethane and Nitrous Oxide + Fluoromethane: Solid–Liquid Equilibria Measurements, *Journal of Chemical and Engineering Data*, 2010, Vol. *55* , No. 11, pp 5018–5022, **DOI:**10.1021/je100606z
51) R. Stryjek, G. Di Nicola, and F. Polonara, Liquidus in the CO_2 + and N_2O + Hydrofluorocarbon Systems, *Journal of Chemical and Engineering Data*, 2010, Vol. 55, No. 12, pp 5513–5518, 2010, **DOI:**10.1021/je1007982
52) G. Santori, E. Brunetti, F. Polonara, Experimental characterization of an anode-supported tubular SOFC generator fuelled with hydrogen, including a principal component analysis and a

multi-linear regression, *International Journal of Hydrogen Energy*, Vol. 36, No. 14, pp 8435-8449, 2011. **DOI:**10.1016/j.ijhydene.2011.04.036

53) G. Di Nicola, F. Polonara, R.Stryjek, A. Arteconi, Performance of cascade cycles working with blends of CO_2 + natural refrigerants, *International Journal of Refrigeration*, Vol. 34, No. 6, 2011, pp. 1436-1445. doi:10.1016/j.ijrefrig.2011.05.004
54) G. Di Nicola, F. Polonara, R. Stryjek, Isochoric PVTx Measurements for the Carbon Dioxide + 1,1,1,2-Tetrafluoroethane Binary System, *Journal of Chemical and Engineering Data*, Vol. 56, No. 12, pp 5098–5103, 2011. DOI: 10.1021/je201068e
55) G. Santori, G. Di Nicola, M. Moglie, F. Polonara, A review analyzing the industrial biodiesel production practice starting from vegetable oil refining, *Applied Energy*, Vol. 92, pp 109-132, 2012. **DOI:** 10.1016/j.apenergy.2011.10.031
56) A. Arteconi, N.J. Hewitt, F. Polonara, State of the art of thermal storage for demand-side management, *Applied Energy*, Vol. 93, pp 371-389, 2012. **DOI:** 10.1016/j.apenergy.2011.12.045
57) M. Bevilacqua, F.E. Ciarapica, F. Polonara, Design and optimization of a new experimental blancher, *Food Control*, Vol. 28, pp. 122-130, 2012, **DOI:** 10.1016/j.foodcont.2012.04.040
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