

Curriculum vitae Europass

Personal information

Name / First Name **APOSTOL / Valentin Gheorghe**
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Fax no(s)
Email(s) valentin.apostol@magr.ro
Nationality(-es) Romanian
Date of birth 12.09.1964
Gender Male

Professional experience

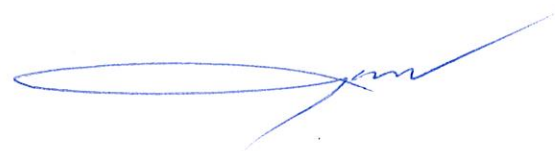
Education and training

1983 Graduate of Dimitrie Cantemir High School in Bucharest
1988 Graduate of the Polytechnic University of Bucharest, Faculty of Mechanics
1999 Doctorate in the field of science TECHNICS, specialization THERMOTECHNICS with the theme "Research on optimization of the power and economy indexes of cryogenic dampers and piston volumetric pneumatic motors"
1990 Graduate of the "Leadership through Quality" course organized by RANK XEROX at the Bucharest Academy of Economic Studies
2000 Participant in the technical seminar refrigeration and climate plants "Piston and screw compressors" organized by BITZER in Sindelfingen, Germany,
2004 Participant in the technical seminar refrigeration and climate plants "Piston and screw compressors" organized by BITZER in Sindelfingen, Germany,
2006 Participant in the "General Management" course organized by Marco & Alex in Bucharest, Romania,
2012 Participant at the technical seminar refrigeration and climate control plants "Cascade CO2 refrigeration installations in the subcritical range" organized by BITZER in Sindelfingen, Germany
2015 Participant at the technical seminar refrigeration plants "Cascade CO2 refrigeration installations in the subcritical range" organized by BITZER in Sindelfingen, Germany,

Professional experience

Period 2014 – current
Occupation or position held Member of the Board of Directors
Main activities and responsibilities Leadership and coordination activities
Employer name and address Marco & Alex Distribution, Bucharest, Bd. Theodor Pallady, no.127-133, sector3, 032258, Bucharest, Romania
Type of business or sector of activity Service
Period 2014 – current
Occupation or position held Member of the Board of Directors
Main activities and responsibilities Leadership and coordination activities
Employer name and address Marco & Alex Distribution, Bucharest, Bd. Theodor Pallady, no.127-133, sector3, 032258, Bucharest, Romania
Type of business or sector of activity Service
Period 2014 – current
Occupation or position held Member of the Board of Directors
Main activities and responsibilities Leadership and coordination activities

<i>Employer name and address</i>	Marco & Alex Refrigeration Systems, București, , Bd. Theodor Pallady, no.127-133, sector3, 032258, Bucharest, Romania
<i>Type of business or sector of activity</i>	Service
<i>Period</i>	Oct. 2010 – 2014
<i>Occupation or position held</i>	Director S.C. Marco & Alex Refrigeration Systems
<i>Main activities and responsibilities</i>	Leadership and coordination activities S.C. Marco & Alex Refrigeration Systems
<i>Employer name and address</i>	Marco & Alex Refrigeration Systems, Bd. Theodor Pallady, no.127-133, sector3, Bucharest, Romania
<i>Type of business or sector of activity</i>	Service
<i>Period</i>	2013 – current
<i>Occupation or position held</i>	Member of the Board of Directors
<i>Main activities and responsibilities</i>	Leadership and coordination activities
<i>Employer name and address</i>	ICEMENERG, Bucharest
<i>Type of business or sector of activity</i>	Energy research and consultancy
<i>Period</i>	Oct. 1997 – 2010
<i>Occupation or position held</i>	Director S.C. Marco & Alex Instalatii Frig SRL
<i>Main activities and responsibilities</i>	Leadership and coordination activities
<i>Employer name and address</i>	S.C. Marco & Alex Instalatii Frig SRL, Bd. Theodor Pallady, no.127-133, sector3, 032258, Bucharest, Romania
<i>Type of business or sector of activity</i>	Service
<i>Period</i>	1999 – 2000
<i>Occupation or position held</i>	Advisor
<i>Main activities and responsibilities</i>	Technical counseling
<i>Employer name and address</i>	R.A. Official Gazette, Bucharest, Romania
<i>Type of business or sector of activity</i>	Research
<i>Period</i>	1998
<i>Occupation or position held</i>	Technical expert
<i>Main activities and responsibilities</i>	Technical expertise within the Soimul, Alpin, Teleferic hotel group
<i>Employer name and address</i>	Cibela Grup, Bucharest, Romania
<i>Type of business or sector of activity</i>	Research
<i>Period</i>	1995-1998
<i>Occupation or position held</i>	Advisor
<i>Main activities and responsibilities</i>	Technical counseling
<i>Employer name and address</i>	S.C. Tehnoservice S.R.L., Bucharest, Romania
<i>Type of business or sector of activity</i>	Research
<i>Period</i>	2009 – current
<i>Occupation or position held</i>	lecturer
<i>Main activities and responsibilities</i>	Didactic and research activities in the field of Thermodynamics, Heat and Refrigeration Machines
<i>Employer name and address</i>	"Polytechnics" University of Bucharest, Faculty of Mechanical Engineering, Department of Thermotechnics, Thermal and Refrigerating Machines, Splaiul Independenței, no. 313, sector 6, 060042, Bucharest, Romania
<i>Type of business or sector of activity</i>	didactic, research
<i>Period</i>	1991-2009
<i>Occupation or position held</i>	Head of works / assistant / trainer
<i>Main activities and responsibilities</i>	Didactic and research activities in the field of Thermodynamics, Heat and Refrigeration Machines



Employer name and address "Polytechnics" University of Bucharest, Faculty of Mechanical Engineering, Department of Thermotechnics, Thermal and Refrigerating Machines, Splaiul Independenței, no. 313, sector 6, 060042, Bucharest, Romania

Type of business or sector of activity didactic, research

Principal subjects studied /occupational skills gained Thermodynamics, Refrigeration Plants, Cryogenics

The name and type of educational institution / training provider Polytechnic University of Bucharest, Faculty of Mechanical Engineering

Period 1990-1991

Occupation or position held Design engineer / design engineer III

Main activities and responsibilities Designer

Employer name and address Institute of Metalworking Design IPROMET, Bucharest, Romania

Type of business or sector of activity design of equipment and installations used in the metallurgical industry

Period 1988-1989

Occupation or position held Maintenance engineer

Main activities and responsibilities Coordination of maintenance department

Employer name and address Special Steel Smelter, COST, Targoviste, Romania

Type of business or sector of activity Maintenance of automatic forging equipment

Type of business or sector of activity Production and maintenance

Self-assessment		Comprehension				Spoken				Written	
European level (*)		Listening		Reading		Participation in a conversation		Oral discourse		Written expression	
English	B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user	
French	C1	Experienced user	C1	Experienced user	C1	Experienced user	C1	Experienced user	B2	Independent user	

(*) Level of the Common European Reference Framework for Foreign Languages

Social skills and competences ability to adapt to multicultural environments
team spirit;
communication skills obtained as a result of accumulated leadership experience.

Organizational competences and skills Director of a National Grant (3 years), Director of a CNCSIS Grant (2 years); Project Leader of UPB in ERASMUS E-Learning Training Contract (1 year); Project Director from UPB to 3 National Competition Research Contracts; Director of the Department of Engine Thermotechnics and Heat and Refrigeration Equipment

Technical competences and skills Technical expertise in the field of thermal equipment

Computer competences and skills Microsoft Office™ tools (Word™, Excel™ PowerPoint™);
MathCad, FORTRAN, EES, RefProp
Numerical modeling and simulation in the fields of Thermodynamics, Mass and Heat Transfer, Stirling Machines, Refrigeration and Cryogenic Plants

Artistic competences and skills ----

Other competences and skills -

Driver's license(s) YES, Category B



Additional information

Publications: 109 articles in magazines and volumes (32 articles indexed by ISI Thomson Reuters or BDI published in specialized journals, of which 19 in magazines and 13 in volumes of international conferences, 16 specialist journals of national circulation recognized by CNCSIS, 28 in volumes of internationally recognized scientific manifestations, organized in the country and abroad, 32 in volumes of national scientific manifestations); 9 published books (2 first author); 46 contracts out of which 44 scientific research and 2 international; for 12 of them I was the director or responsible; I led the scientific research activity of the students, who presented 80 papers in communication sessions, of which 60 papers received awards; 15 experimental research and teaching benches.

1 term as a guest Professor at the Henri Poincaré University in Nancy, France April 1997.

Member of the professional bodies:

The Romanian Society of Thermotechnicians,

The Association of Refrigerators and Cryogenics in Romania,

Founding member of the "Association of Professionals in Thermotechnics, Energy, Environment and Acoustics" (APTEMA) 2010

Member of the International Cold Institute IIF Commission B2 since 2011

Distinctions and awards:

during university: 3 prizes from the Polytechnic University of Bucharest;

1 mention at the National Session of Student Scientific Organizations in Romania, 1988-1989;

Prize of originality, Romanian Society of Thermotechnicians, Bucharest 1993

Annexes

- Engineer diploma issued by the Polytechnic Institute of Bucharest, Faculty of Mechanics
- Doctor's degree from the Polytechnic Institute of Bucharest



LIST OF WORKS

of lect. dr. eng. APOSTOL Valentin Gheorghe,
Thermoelectric Department, Engines, Heat & Refrigeration Equipment,
Faculty of Mechanical Engineering and Mechatronics, "Polytechnic" University of Bucharest.

I. DOCTORAL THESIS (T)

T.1. . V. Apostol, *Research on optimization of the power and economy indexes of cryogenic dampers and piston volumetric pneumatic motors*, Bucharest, POLYTECHNIC University of Bucharest, 1999, 180 pg.

II. PUBLISHED BOOKS (C)

Ca – Books / courses (textbooks) for use by students, published in recognized publishers.

Ca.1. Valentin Apostol, Pop Horațiu, Dobrovicescu Alexandru, *Fundamentals of Technical Thermodynamics - Course and Applications*, Ed. Politehnica Press, Bucharest, ISBN 978-606-515-738-5, CIP no. 25674/23.12.2016, 180 pages, CODE 19 CNCSIS.

Ca.2. Horațiu POP, Valentin APOSTOL, Gheorghe POPESCU, Alexandru DOBROVICESCU, Mălina PRISECARU, Iuliana ȘORIGA, Claudia IONIȚĂ, *Refrigeration and air conditioning installations - Applications*, Ed. Printech, Bucharest, ISBN 978-606-23-0560-4, CIP no. 05095/ 03.03.2016, 241 pages, CODE 54 CNCSIS.

Ca.3. Gheorghe POPESCU, Horațiu POP, Valentin APOSTOL, DOBROVICESCU, Elena Eugenia VASILESCU, Claudia IONIȚĂ, Ana ALEXANDRU, Mihaela Ionela CĂLUȘARU, *The basics of cold technology*, Vol. 4 of the collection The Basics of Technical Thermodynamics, Ed. Politehnica Press, Bucharest, ISBN 978-606-515-665-4, CIP no. 04528/04.03.2016, 230 pages, CODE 19 CNCSIS.

Ca.4. Valentin Apostol, M. Grigoriu, A. Alexandru, *"Air conditioning plants"*, 90 pag., 50 diag., Editura "PRINTECH", ISBN 978-606-521-230-1, Bucharest, CNCSIS CODE 54, 2009.

Ca.5. Gh. Popescu, Valentin Apostol, S. Porneala, Al. Dobrovicescu, E. Vasilescu, C. Ionita, *"Refrigeration Equipment and Installations"*, 255 pag., 17 diag., Editura "PRINTECH", ISBN 973-718-207-3, Bucharest, CODE CNCSIS 54, 2005.

Ca.6. Mircea Marinescu, Nicolae Baran, Vsevolod Radcenco, Valentin Apostol s.a., *"Technical Thermodynamics"*, Vol. 1-3, 770 pag., Editura "MATRIXROM" ISBN 973-9254-89-6, Bucharest, , CODE CNCSIS 39, 1998;

Ca.7. Mircea Marinescu, Nicolae Baran, Vsevolod Radcenco, Valentin Apostol s.a., *"Technical Thermodynamics"*, Vol. 1-3, 770 pag., Editura "MATRIXROM" ISBN 973-9254-89-6, Bucharest, , CODE CNCSIS 39, 1998;

Cb - Specialty books published by well-known publishing houses

Cb.1. Michael Louis Feidt, *Thermodynamique et optimisation energetique*, Ed Technique et Documentation (Lavoisier) 1987 – translation Vsevolod Radcenco, Gheorghe Popescu, Monica Costea, Eugenia Vasilescu, Valentin Apostol, *Thermodynamics and energy optimization of systems and processes*, Ed BREN, Bucharest, ISBN 973-8143-47-0, Bucharest, CODE CNCSIS 96, 2001

Cb2. Vsevolod Radcenco, Elena Vasilescu, Valentin Apostol a.o., *"Elements of Generalized, Irreversible, Finite Time and Finite Speed Thermodynamics"*, 335 pag., Editura U.P.B., 1992

III. OTHER PUBLISHED MATERIALS

I. Published collections and books (separated in publishing houses with ISBN and in local/institution or internal use printers)

I.1. Electronic course authors Valentin Apostol, Horatiu Pop – FIMM masters I IMSET Technical Prescriptions for Refrigeration and Air Conditioning Plant Design - 50 pages.

I.2. Electronic course authors Valentin Apostol, Horatiu Pop – ISB year III Refrigeration and Air Conditioning Plants Theory - Part I Refrigeration Plants. 76 pages.

I.3. Electronic course authors Valentin Apostol, Horatiu Pop – ISB year III Refrigeration and Air Conditioning



Plants Theory - Part II Air Conditioning Plants, 97 pages.

D - Other published papers: chapters published in collective volumes, drafted theoretical chapters, functional laboratory systems etc.

D.1. Prototype of "Electronically Assisted ORC Set". Bench created in PN2, MICRO-HYBROD HIGH-EFFICIENCY COGENERATION SET EQUIPPED WITH ELECTRONICALLY-ASSISTED ORC - ASISTATGRUCOHYB" code PN-II-PTPCCA-2011-3.2-0059 no. 75/2012, 2013 and 2014-2016.

D.2. Prototype "Flexible Loop for Determining and Checking the Cooling Capacity of Small and Medium Power Ammonia Sets and Compressors". Bench created in CEEX 214/20.07.2007, AMCSIT, March 2008.

D.3. Bench „180 liter climate chamber, temperature (-70 ± +180, deviation ± 0.1)°C and humidity (10 ± 98, deviation ± 2)%u.r., programmable by PLC 0-96, equipped with a cascade refrigeration plant. Bench created in contract CEEX 214/20.07.2007, AMCSIT, January 2008.

D.4. "Refrigeration chamber with control loop and data acquisition via the internet, to determine the performance of FRIGO-ECO refrigerants", created in contract CEEX 214/20.07.2007, AMCSIT, October 2007.

D.5. "Building a heat-powered refrigerated bench in the laboratory of the Department of Thermotechnics", Stage III of project "THERMO-ECONOMIC OPTIMIZATION OF REFRIGERATORY CIRCULATIONS AND THREE-TIER AND FOUR-TIER HEAT PUMPS" (program director lect.dr.eng. Elena Eugenia Vasilescu), contract GR69/10.05.2007 (theme66, CNCSIS Code 371) 16-05-02, amount 15000 lei, beneficiary the Ministry of Education, C.N.C.S.I.S.

D.6. "Bench to determine the performance of the energy separation effect in the Ranque tube". Bench built in contract No. 139/02.06.2006, Theme no. 66, CNCSIS code 1466, October 2006.

D.7. "Bench for determining the performance of the heat pipe loaded with dimethylether". built in contract RELANSIN no. 1915/15.09.2004, AMCSIT - UPB, May 2006.

D.8. "Bench for testing dimethylether as a refrigerant in split-conditioner plants". Bench built in contract RELANSIN no. 1915/15.09.2004, AMCSIT - UPB, November 2005.

D.9. "Teaching bench automation systems for refrigeration plants", April 1999

D.10. "Bench for testing of cryogenic detentors and pneumatic piston engines". Bench built in the doctoral thesis "Research on optimization of the power and economy indexes of cryogenic dampers and piston volumetric pneumatic motors", March 1998.

D.11. "Teaching bench parts of refrigeration compressors", April 1997

D.12. "Bench (isolated and thermostatic chamber) for determining the performance of ice cream makers, refrigerated showcases and cabinets". Bench made under I.P.B. contract no. 22-92-3/1992.

D.13. "Bench for determining and checking the performance of piston volumetric compressors". Bench created in contract I.P.B. no. 22-92-2/1992.

D.14. "Bench for determining and checking the refrigeration power of small and medium power refrigeration sets and compressors". Bench created in contract I.P.B. no. 22-92-1/1992.

D.15. "Realization at the laboratory scale of three prototypes of new constructive versions of grill-type fillings for forced circulation cooling towers". Prototypes created in contract I.P.B. no. 17-8-1A/1989.

IV. ARTICLES / STUDIES PUBLISHED IN EXTENSO

Ris - - Internationally recognized international circulation journals (listed / indexed by ISI Thomson Reuters, or indexed in other International Databases - BDI - specific to the field, that conduct a magazine selection process based on performance criteria). For each magazine is mentioned the inclusion in the ISI Base [Accession Number, WOS =, the last Impact Factor, ISSN] and/or the name of the other(s) BDI.

Ris.1. Vsevolod Radcenco, Gheorghe Popescu, Valentin Apostol, M. Feidt, "Thermodynamics with determined time applied to thermal motors - case studies - vapor machine and Stirling motor", Revue Generale de Thermique (France), Tome XXXII-Nr.382, pag. 509-514, Paris, oct. 1993 rev. I.S.I. poz. 3911, ISSN 0035-3159 (since 11.09.2000 the magazine is called International Journal of Thermal Sciences), WOS:A1993MK64200002, FI 0,321

Ris.2. Vsevolod Radcenco, Valentin Apostol, M. Feidt, "Optimization of a Brayton Joule engine subject to mass transfer limitation due to pressure losses", Revue L'Institut Francaise du Petrol, volume 53, Issue 1, pag. 103-110, 1998, rev. I.S.I. poz. 6527, ISSN 0020-2274, WOS:000072876400012, FI 0,141.



- Ris. 3. Gheorghe Popescu, Horatiu Pop, Eugenia Vasilescu, Iulia Tregubleac, C.A. Marinescu, Valentin Apostol, "Possibility of using dimethylether as an agent in vapor compression refrigeration plants", *Revista Termotehnica, Editura Tehnica*, Vol. 1+2, pp. 52-57, 2005, Index Copernicus International, Academic Keys, getCITED, ISSN 1222-4057
- Ris.4. Valentin. Apostol, Gheorghe Popescu, Horatiu Pop, M. Prodan, T. Popescu, "Thermodynamic analysis of a new eco-refrigerant - R404A and dimethylether blend", *Revista Termotehnica*, Ed. AGIR, Vol. 1+2, pp. 57-60, 2007, Index Copernicus International, Academic Keys, getCITED, ISSN 1222-4057.
- Ris.5. Vsevolod Radcenco, Eugenia Vasilescu, Gheorghe Popescu, Valentin Apostol, "New approach to thermal power plants operation regimes maximum power versus maximum efficiency", *International Journal of Thermal Sciences*, Vol. 46, Nr. 12, pp. 1259-1266, *Franta*, 2007, rev. I.S.I. poz. 3911, ISSN 1290-0729, WOS:000250930500007, FI 2,769.
- Ris.6. Valentin Apostol, Gheorghe Popescu, Horațiu Pop, Michel Feidt, Traian Popescu, "Thermodynamic analysis of new eco-refrigerants ammonia and dimethylether blends", *Revista Termotehnica*, Ed. AGIR, Vol. 2, pp. 70-75, 2008, Index Copernicus International, Academic Keys, getCITED, ISSN 1222-4057.
- Ris.7. Gheorghe Popescu, Valentin Apostol, Horatiu Pop, Cristian Alionte, B. Popescu, "Experimental stand for eco-refrigerants testing", *Revista Termotehnica*, Ed. AGIR, Vol. 1, pag. 85-89, 2009, Index Copernicus International, Academic Keys, getCITED, ISSN 1222-4057.
- Ris.8. Valentin. Apostol, Gheorghe Popescu, Horatiu Pop, Elena Vasilescu, C. Marinescu, Cristian Alionte "Thermodynamic Study Regarding the use of dimethylether as Eco-Refrigerant", *Revista de Chimie*, Vol 60, Nr.7, pag. 714-718, 2009, ISI Thomson Reuters, WOS:000269089200014, I.F. 0.956, ISSN 0034-7752
- Ris.9. Horatiu Pop, Michel Feidt, Gheorghe Popescu, Valentin Apostol, Cristian Alionte, "Optimization of conventional Irreversible Cascade Refrigeration System", "Politehnica" University of Bucharest *Scientific Bulletin*, Series D (Mechanical Engineering), Vol 71(4), pp. 17-28, 2009, SCOPUS, ISSN 1454-2358.
- Ris.10. A. Semenescu, I. Popescu, Tudor Prisecaru, E. Popa, Valentin Apostol, "FEM ANALYSIS OF SOME TYPE OF CRACKS IN HIGH PRESSURE-HIGH TEMPERATURE APPARATUS", *Revista Metalurgiei International*, Volume: 14, Issue: 12, Pages: 9-15, 2009, ISI Thomson Reuters, WOS:000270922700002, F.I. 0,134, ISSN 01582-2214.
- Ris.11. Horatiu Pop, Gheorghe Popescu, Michel Feidt, T Popescu, Valentin Apostol, C.A. Marinescu, "Thermodynamic study of R290 and R600 blends used as eco-refrigerants", *Environmental Engineering and Management Journal*, Vol. 9, No. 10, pp. 1395-1400, 2010, ISI Thomson Reuters, WOS:000285557800014, I.F. 1.065, ISSN: 1582-9596, FI 1,008.
- Ris.12. Horatiu Pop, Gheorghe Popescu, Michel Feidt, Nicolae Băran, Valentin Apostol, Cristian Alionte, "Thermodynamic optimization model of an endo- and exo-irreversible single stage vapour compression refrigeration system", *Revista Termotehnica*, Ed. AGIR, Vol. 1S, pp. 27-34, 2011, Index Copernicus International, Academic Keys, getCITED, ISSN 1222-4057
- Ris.13. Alexandru Dobrovicescu, Tsatsaronis, G., Dorin Stanciu, Valentin Apostol, - *Consideration upon Exergy Destruction and Exergoeconomic Analysis of a Refrigerating System*, *Revista de Chimie*, 62, No. 12, pp. 1168-1174, 2011, ISI Thomson Reuters, WOS:000298220300009, FI 0,956, ISSN: 0034-7752.
- Ris.14. Horatiu Pop, T. Popescu, Gheorghe Popescu, Nicolae Baran, Michel. Feidt, Valentin Apostol, "Optimization model of single stage vapour compression refrigeration systems", *University "Politehnica" of Bucharest Scientific Bulletin*, Series D (Mechanical Engineering), Vol 74(3), pag. 91-106, 2012, SCOPUS, ISSN 1454-2358
- Ris.15. Horatiu Pop, Gheorghe Popescu, Nicolae Băran, T. Popescu, Valentin Apostol, "Experimental performances evaluation of a single stage vapour compression refrigeration system", *Revista Termotehnica*, , Ed. AGIR, Vol.1, pag. 64-69, 2012, Index Copernicus International, Academic Keys, getCITED, ISSN 1222-4057
- Ris.16. Valentin Apostol, Tudor Prisecaru, Cristian Petcu, Alexandru Dobrovicescu, Mălina Prisecaru, Gheorghe Popescu, Horațiu Pop, Cristina Ciobanu, Elena Pop, Adrian Untea, Mahdi Hatf Kadhum, Viorel Bădescu, "Mathematical modelling of a hybrid micro-cogeneration group based on a four stroke diesel engine", *Sustainable Solutions for Energy and Environment EENVIRO 2013*, Conference Proceedings, 19-20 Septembrie, Universitatea Tehnica de Construcții București, Facultatea de Construcții Civile Industriale și Agricole, Centrul de Cercetări CAMBI, București, Romania. *Lucrarea publicata in Mathematical Modelling in Civil Engineering Journal*, No. 2, pp. 35-41, 2014, DeGruyter, Google Academic, Doi: 10.2478/mmce-2014-0010, ISSN 2066-6926, eISSN 2066-6934.
- Ris.17. Prisecaru Tudor, Dobrovicescu Alexandru, Petcu Cristian, Apostol Valentin, Prisecaru Malina, Popescu Gheorghe, Pop Horatiu, Ciobanu Cristina, Pop Elena, Stanciu Dorin, Bădescu, Viorel, Alexandru Ana and Aboaltaboq Mahdi Hatf Kadhum, "Experimental Investigation of Waste Heat Available for a Hybrid Micro-



Cogeneration Group Involving a Diesel Engine Electric Generator and Organic Rankine Cycle”, 6th International Conference on Advanced Concepts in Mechanical Engineering, June 12-13, 2014, Iași, Romania. Lucrare publicata in, Applied Mechanics and Materials Vol. 659 (2014), pp. 440-445, SCOPUS, ISBN-13:978-3-03835-272-3.

Ris.18. Mahdi Hatf Kadhum ABOALTABOOQ, Horatiu POP, Viorel BADESCU, Valentin APOSTOL, Cristian PETCU, Malina PRISECARU, Ana-Maria ALEXANDRU „Optimum operation conditions and behavior of Organic Rankine Cycle system under variable heat input with control on refrigerant mass flow rate”, University “Politehnica” of Bucharest *Scientific Bulletin*, Series D (Mechanical Engineering), Vol. 77(3), , pp. 17-28, 2015, SCOPUS, ISSN 1454-2358.

Ris.19. Mahdi Hatf Kadhum Aboaltabooq, Tudor Prisecaru, Horatiu Pop, Valentin Apostol, Viorel Badescu, Malina Prisecaru, Elena Pop, Mihaela - Cristina Ciobanu, Madalina Ghilvacs, Gheorghe Popescu, Cristian Petcu, Ana-Maria Alexandru, „Unsteady state modeling of an organic Rankine cycle for waste heat recovery from internal combustion engine”, *Revista de chimie*, Vol.66, no.9, pp.1521-1527, 2015, ISI Thomson Reuters, WOS:000363359700036, I.F. 0.956 ISSN 0034-7752.

Rns - Specialized journals of national circulation recognized by CNCSIS.

Rns.1. Vsevolod Radcenco, Valentin Apostol, "*Finite time thermodynamics elements of electrical systems*", Rev. Univers Ingineresc, nr. 12, pp 6, 1992

Rns.2. Vsevolod Radcenco, Gheorghe Popescu, Valentin Apostol, "*Optimisation thermodynamique en temps finit du moteur a explosion avec dissipations de pression dans le system de distribution*", Scientific Bulletin of Polytechnic Institute of Bucharest, Mechanical Engineering, Vo. 54, Nr. 3-4, pag. 117-127, ISSN 1222-4057 B+ poz.102, 1992.

Rns.3. Vsevolod Radcenco, Gheorghe Popescu, Valentin Apostol, "*Linear and Non-Linear Finite Time Thermodynamics of The Thermoenergetical Systems*", Scientific Bulletin of "Politehnica" University of Bucharest, Mechanical Engineering, Vo. 55, Nr. 3-4, pag. 103-111, ISSN 1222-4057 B+ poz.102, 1993.

Rns.4. Vsevolod Radcenco, Gheorghe Popescu, Valentin Apostol, "*Researches on optimizing Rankine cycles based on finite time thermodynamics*", Revista "Termotehnica", Ed. AGIR, ISSN 1222-4057 (cod CNCSIS 140), Vol. 1, pag. 12-22, Bucuresti, 1993.

Rns.5. Vsevolod Radcenco, Gheorghe Popescu, Valentin Apostol, "*Researches on Rankine cycle optimization based on linear thermodynamics in finite time* ", Rev. Termotehnica, Ed. AGIR, Bucuresti, nr I, ISSN 1222-4057 (cod CNCSIS 140), pp 12-22, 1993

Rns.6. Valentin Apostol, Gheorghe Popescu, "*The numerical method of diagram processing indicated in piston machines*", Revista "Termotehnica", Ed. AGIR, Vol. 2, ISSN 1222-4057 (cod CNCSIS 140), pp. 199-240, Bucuresti, 1993.

Rns.7. Gheorghe Popescu, Valentin Apostol, Michel FEIDT, "*L'optimisation du fonctionnement d'un generateur de glace en tube*", Revista Termotehnica, Ed. AGIR, ISSN 1222-4057 (cod CNCSIS 140), Anul IX, Nr. 1+2/2004, pag. 95-102, Bucuresti, 2004.

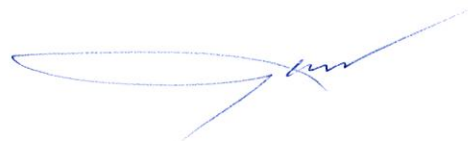
Rns.8. Gheorghe Popescu, Horatiu Pop, Eugenia Vasilescu, Iulia Tregubleac, C.A. Marinescu, Valentin Apostol, "*Possibility of using dimethylether as an agent in vapor compression refrigeration plants*", Revista Termotehnica, Ed. AGIR, ISSN 1222-4057 (cod CNCSIS 140), Vol. 1+2/2005, pag. 52-57, Bucuresti, 2005.

Rns.9. Gheorghe Popescu, Valentin Apostol, Michel FEIDT, "*L'optimisation du fonctionnement d'un generateur de glace en tube*", Revista Termotehnica, Ed. AGIR, ISSN 1222-4057 (cod CNCSIS 140), Anul IX, Nr. 1+2/2004, pag. 95-102, Bucuresti, 2004.

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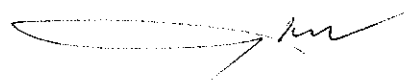
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Vn.20. E. Vasilescu, V. Radcenco, V. Apostol, "Optimization of the number of thermal transfer units in the exoreversible theoretical cycle of I.F.V.", a V a Conferinta Nationala a termotehnicienilor, Cluj-Napoca 26-27 mai, vol II, pp 357-363, 1995

Vn.21. E. Vasilescu, V. Apostol, E. Mischie, "Modeling the operation of I.F.V' to varying environmental conditions" a VI a Conferinta Nationala a termotehnicienilor, Cluj-Napoca 14-15 mai, vol I, pp 157-162, 1996

Vn.22. V. Apostol, Gh. Popescu, V. Radcenco, E. Vasilescu, "Experimental bench for increasing the characteristics of refrigerated aggregates and compressors", lucrările celei de-a VIII-a Conferinte Nationale a S.R.T., Ed. Univ. Pitesti, Vol. 3, pag. 243-249, Pitesti, 31 mai 1998.

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Vn.24. Vs. Radcenco, E. Vasilescu, V. Apostol, Gh. Popescu, "New aspects of finite-time thermodynamics of thermo-energy systems", a XI-a Conferinta S.R.T. cu participare internațională, Ed. Evrika Brăila, ISBN 973-8052-72-6 Vol. 1, p. 233-242, Galati 17-19 mai 2001.

Vn.25. Gh. Popescu, H. Pop, V. Apostol, "The irreversible thermodynamic analysis of the economical-ecological operating regimes of an IFV", lucrările celei de-a XIV-a Conferinte de Termotehnica, cu participare internationala, Edit. Univ. Tehnica de Constructii Bucuresti, Volum pe CD, lucrarea C29, Bucuresti, 25-26 noiembrie 2004.

Vn.26. Gh. Popescu, I. Tregubleac, E. Vasilescu, H. Pop, C. Marinescu, V. Apostol, "The theoretical study of

the possibilities of using DME as a refrigerant in IFVs", *lucrările celei de-a XV-a Conferințe de Termotehnica, cu participare internațională*, Edit. Univ. din Craiova, Craiova, 26-28 mai 2005, ISBN 973-742-089-6.

Vn.27. G.M. Țârlea, Gh. Popescu, V. Apostol, C. Marinescu, H. Pop, I. Tregubleac, E.E. Vasilescu, "Romania's Alignment to European Union Legislation - Analysis and testing of a new eco-friendly refrigerant", lucrările celei de-a XII-a Conferință "Confort, Eficiență, Conservarea Energiei și Protecția Mediului", Universitatea Tehnică de Construcții București, 24 - 25 noiembrie 2005.

Vn.28. V. Apostol, Gh. Popescu, H. Pop, E.E. Vasilescu, C. Marinescu, "Thermodynamic study on the use of DME as an eco-friendly refrigerant", lucrările celei de-a VI-a Conferință Națională de Echipament Termomecanic Clasic și Nuclear și Energetica Urbana & Rurală, Universitatea Politehnică din București, pag. 15-20, 5 – 6 iulie 2007.

Vn.29. H. Pop, Gh. Popescu, G.M. Tarlea, V. Apostol, "R404A & DME eco-refrigerant blend as a new solution to limit the global warming effect", lucrările Conferinței CeEx 2007 "Cercetare de excelență – premiza favorabilă pentru dezvoltarea spațiului românesc de cercetare", Hotelul ARO-PALACE, Brașov, 24 – 26 octombrie 2007.

Vn.30. H. Pop, Gh. Popescu, V. Apostol, M. Feidt, M.G. Tarlea, "A new eco-refrigerants proposal: ammonia and dimethylether blends", lucrările Conferinței CeEx 2008 "Cercetare de excelență – premiza favorabilă pentru dezvoltarea spațiului românesc de cercetare", Hotelul ARO-PALACE, Brașov, 28 – 28 iulie 2008.

Vn.31. Zina Vuluga, Jenica Paceagiu, Florin Oancea, Michaela Iorga, Dorel Florea, Marina Martin, Luiza Jecu, Valentin Apostol, Cristina Ciobanu, Evaluation of Fly Ash-Polypropylene Properties, A XXXIV-a CONFERINȚĂ NAȚIONALĂ DE CHIMIE CĂLIMĂNEȘTI-CĂCIULATA, 04-07 octombrie 2016 PENTRU O DEZVOLTARE DURABILĂ" PRIOCHEM, ed a X a, 30-31 octombrie 2014, București, Volum de rezumate (ISSN 2285 – 8334, ISSN-L 2285 – 8334).

Vn.32. Jenica Paceagiu, Zina Vuluga, Marina Martin, Liliana Radu, Michaela Iorga, Valentin Apostol, Horatiu Pop, Thermal insulation materials based on polypropylene and siliceous materials, A XI a Conferință de Știință și Ingineria Materialelor Oxidice –CONSILOX, 16-20 September 2016, Sinaia

V. BREVETE DE INVENȚIE / INOVAȚII (B,A)

B.1 Sochoric pulsatory freezing process and device for carrying out the same meant to be used for preserving a biological material or product, Patent application, RO131368-A0, RO000310, 04 May 2016, authors SERBAN A., STEFANESCU M., DOBROVICESCU A., APOSTOL V., CHIRIAC F., RUBINSKY B., ISI Thomson Reuters.

B.2 Process for the recovery and use of heat released by an internal combustion engine in order to reduce specific fuel consumption and polluting emissions, Patent application, RO127110-A2 RO000716, 09 Aug 2010, authors PETCU C, NEDELICU L G, BLEAJA G M, URSICA I, GEORGESCU V, PAMFILIE C, PETRESCU G, PRISECARU T, DANCIU G, APOSTOL V G, ISI Thomson Reuters.

VI. SCIENTIFIC CONTRACTS AND REPORTS (P,F)

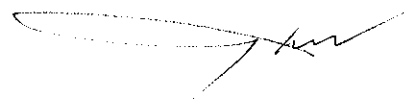
P - Research - development - innovation projects obtained through competition, on a contract / grant basis, in the country / abroad (Pn - national, Pi - international).

Pn.1. director "Innovative solutions intended to increase energy efficiency of buildings and industrial equipment through the use of biodegradable heat-insulating materials - Bio-Therm" Code Pn-Ii-Pt-Pcca-2013-4-1709, No. 85/2014

Pn.2. co-author "Micro-hybrid high-efficiency cogeneration set equipped with electronically-assisted orc - Grucohyb" Code PN-Ii-Pcca-2011-3.2-0059 no. 75/2012.

Pn.3. co-author "Technologies of superior ecological - energy - Bioethanol utilization", contract PN4, Partnerships in priority areas, No.21- 064/14.09.2007, beneficiary The Ministry of Education and Research, CNMP, the project took place between 2007 and 2010:

Stage III/2009 "Experimental design at the pilot level and elaboration of the technical and economical analysis documentation, testing in the pilot plant for the C3 C4 fractions. Developing / optimizing technology to increase plant productivity and flexibility. Realization of benches - experimental models for determining the energy performance of the (C3-C4-izoC4) fraction Activity 3.5: Realization of the experimental model for the determination of the thermal performance of fraction (C3-C4-izoC4), in commercial small and medium power



refrigeration plants. Technical assistance for the realization of experimental benches and models"

Stage II/2008 "Establishing the technology for obtaining and eco-friendly use of gaseous mixtures (C3-C4-izoC4) obtained by conversion of bioethanol Activity 2.7: Designing the experimental model for testing the thermal performance of fraction (C3-C4-izoC4), in commercial small and medium power refrigeration plants".

Stage I/2007 "Evaluating existing knowledge from own research and information needed to promote superior, energy-efficient bioethanol harnessing technologies for the purpose of reducing emissions; studies and analyzes Activity 1.5: The study and analysis of the thermodynamic properties of C3, C4 and iC4, pure and in mixtures"

Pn.4. coauthor "NEW ECOLOGICAL METHOD FOR THE PRODUCTION OF ELECTRIC ENERGY FROM HEAT EXTRACTED FROM DEEP WELLS" CONTRACT PN4 Partnerships in priority areas, No.21-052/14.09.2007, beneficiary The Ministry of Education and Research, CNMP, the project took place between 2007 and 2010:

Stage II/2008 "Establishing the preliminary configuration of the experimental model, Activity 2.I: Analysis of possible configurations of the functional model. Establishing the optimal configuration "of the project

Stage I/2007 coauthor "Study on the current state of working fluids Activity I.3: Study on the current state of working fluids"

Pn.5. director "IMPLEMENTATION OF THE EUROPEAN UNION'S ENVIRONMENTAL AQUIS IN ROMANIA - ENVIRONMENTAL REFRIGERANTS", CEEX'06 National Program, contract no. 214/20.07.2006, beneficiary Ministry of Education and Research, AMCSIT - UPB

Stage III/2008 "Preliminary experimental determinations, technical documentation development, equipment procurement for prototype refrigeration systems, transfer and capitalization of results to economic agents, promotion of refrigeration systems running with FRIGO-ECO agents";

Stage II/2007 "Determining the technology for obtaining and using, equipment procurement; realization of experimental models, experimental research of FRIGO-ECO performance in refrigeration systems, according to EU standards"

Stage I/2006 "Studies and analyzes on the realization and use of FRIGO-ECO agents in refrigeration systems"

Pn.6. coauthor "THEORETICAL AND EXPERIMENTAL RESEARCH FOR THE ESTABLISHMENT OF OPTIMAL FUNCTIONAL REGIMES OF IREVERSIBLE THERMODYNAMIC SYSTEMS", contract 139GR/02.06.2006 (theme 66, code 1466) 16-05-06, beneficiary Ministry of Education and Research, C.N.C.S.I.S.

responsible Stage III/2006 "Experimental research for establishing optimal functional regimes of thermodynamic systems;

responsible Stage II /2005 "Modeling and optimization of irreversible thermodynamic systems based on energy recovery and regeneration cycles"

coauthor Stage II /2005 "Modeling and optimization of irreversible thermodynamic systems operating based on the direct or reverse Rankine cycle"

Pn.7. manager "NEW FAMILY OF ENVIRONMENTAL REFRIGERANTS ", RELANSIN National Program, contract 1915/15.09.2004, beneficiary AMCSIT - UPB

Stage IV /2006 "Transfer and capitalization of results to economic agents. Demonstrating the opportunity and usefulness of production and use to promote NFAFE", of the project.

Stage III/2005 "Experimental determination of the performance of mechanical vapor compression refrigeration plants and thermal tubing with NFAFE"

Stage II /2004 "Technological development and exploitation of results. Elaboration of production technology and fabrication of NFAFE testing equipment"

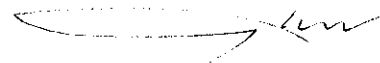
Stage I /2003"Application research. Studies to assess the possibilities of production and use in vapor mechanical compression refrigeration plants and in thermal tubes of a new family of eco-friendly refrigerants "

Pn.8. coauthor "COMPLEX, INTERDISCIPLINARY OPTIMIZATION OF COGENERATIVE AND RECUPERATIVE SYSTEMS BASED ON THERMODYNAMIC METHODS AT FINITE TIME AND EXERCONOMY", contract 33784/02 (theme 97) 22-02-05/02, beneficiary Ministry of Education, C.N.C.S.U.

responsible Stage III / 2003 "EXPERIMENTAL VERIFICATION OF THE OPTIMIZATION OF COGENERATIVE AND RECUPERATIVE THERMAL SYSTEMS", contract 33552/03 (theme 49) 22-03-05/03,

coauthor Stage II / 2002 "Complex interdisciplinary optimization of cogenerative and recuperative thermal systems", contract 33784/02 (theme 97) 22-02-05/02, beneficiary Ministry of Education, C.N.C.S.U.

coauthor Stage I / 2001 "Optimization of components of cogenerative and recuperative thermal systems", Stage I of the project "COMPLEX, INTERDISCIPLINARY OPTIMIZATION OF COGENERATIVE AND RECUPERATIVE SYSTEMS BASED ON THERMODYNAMIC METHODS AT FINITE TIME AND EXERCONOMY", contract 34967/01 (theme 55) 22-02-05/02, beneficiary Ministry of Education, C.N.C.S.U.



Pn.9. coauthor "COMPLEX OPTIMIZATION OF MECHANICAL, COLD AND HEAT GENERATION SYSTEMS IN STATIONARY AND TRANZITORY REGIME", contract 33084/99 (theme 32) 22-01-99/99, beneficiary Ministry of Education, C.N.C.S.I.S.

Stage I/1999 "Elaboration of mathematical models of numerical and analytical simulation"

Stage II/2000 "Experimental verification of the developed models"

Pn.10. coauthor "THERMAL-FLUID-DYNAMICS IN FINITE TIME", Beneficiary CNCSU

Stage 4/1998; 22-96-6/98, Theme 64 Theoretical and experimental research for the optimization of refrigeration and cryogenic systems

Stage 3/1997; 22-96-1/97, Theme 84 Experimental researches in the field of refrigeration and cryogenic energy systems for verifying the results of the theoretical optimizations achieved in the previous stages of the research program

Stage 2/1996; 22-96-1/96, theme B 74 Theoretical researches based on finite-time thermodynamics on functional regimes of external and internal combustion thermo-electric systems

Stage 1/Phase 2/1995; 4001/95, Theme B19 Complex optimization of refrigeration systems (bi and trithermal), based on the models created in Phase I

Stage 1/Phase 1/1995; 4001/95, Theme B19 The foundation of the optimization methodology of the thermal and refrigeration systems based on the new proposed research direction

Pn.11. coauthor Study of refrigeration plant and heat pump cycles when operating with natural and ecological agents, Theme 83, contract no. 22-97-04 /1997, beneficiary Ministry of Education, C.N.C.S.U. 1997

Pn.12. coauthor Exergetic analysis of the working processes of the heating and cooling systems, Theme 82, contract no.22-97-05/1997, beneficiary Ministry of Education, C.N.C.S.U. 1997

Pi – international

Pi.1. coauthor "Cogénération hybride biomasse/solaire utilisant le moteur Stirling", contract no. ADEME - France 08 34 C0351, Project coordinator (UHP Nancy): Michel FEIDT, Coordinator UPB: Monica COSTEA, 2009-2010.

Pi.2. director International program ERASMUS „Multilateral Projects” type, No. 134395-LLP-1-2007-1-FR-ERASMUS-EVC, 2007-2009 entitled "Filière Euro Qualité Logistique des Organisations" (acronym EURO QLIO), in partnership with the Henri Poincare University in Nancy (Fr), University of Ruse (Bg) and S.C. Marco&Alex Instalati Frig (Ro) for the creation and operation of a virtual distance learning campus for Bachelor and Master training in Control, Metrology and Quality.

F - Other research and development papers

F.1. Clean technologies for processing and / or capitalizing potential fuel materials – CleanTech, Programul Operational Competitivitate, Contract nr 56/05.09.2016, ID P_40_308, Beneficiar POLITEHNICA Cod SMIS 2014+, valoare eligibila 13407500 RON

F.2. Scientific research and technical consultancy contract, nr. 24590 din 23.11.2015, Director de contract Ş.I. dr. ing. Pop Horaţiu, perioada 23.11.2015 – 23.11.2016, buget 10560 €, 47414 RON la cursul BNR din 11.05.2016 (1 EURO = 4.4900RON), beneficiar S.C. Bumbas Electric S.R.L.. Contract derulat prin Centrul de Cercetări Termice (UPB-CCT)

F.3. Contract for the provision of research services nr. 18998 din 29.09.2016, Director de contract Conf. dr. ing. Pop Horaţiu, perioada 29.09.2016 – 10.10.2016, buget 60000 RON, beneficiar Institutul National de Cercetare-Dezvoltare pentru Tehnologii Criogenice si Izotopice – ICSI Ramnicu Valcea, Contract derulat prin Centrul de Cercetări Termice (UPB-CCT).

F.4. responsible for determining of the need for cold and heat for the air conditioning of eight working spaces, Contract 22-98-10, beneficiary R.A. Official Gazette

F.5. coauthor Feasibility study on the possibilities of CO2 liquefaction obtained from experimental firing O2/CO2 recirculated hydrocarbon, Contract U.P.B. no.22-95-6/1995, Beneficiary S.C. I.C.P.E.T S.A.

F.6. responsible Study of the behavior of the vapor compression refrigeration plant to varying environmental conditions. Contract no.22-95-2/1.03.1995, beneficiary Eco-Clima S.R.L

F.7. responsible Verification of functional characteristics and issuance of test reports for the approval of the

GCC 15R22-I type refrigeration set, Contract no. 22-95-09/1.10.1995, beneficiary S.C. FRIGOCOM S.A.

F.8. coauthor Collaboration for the design of a laboratory model for a cryogenic cooling system in the 77-300K temperature range, Contract U.P.B. no. 22-94-1/94, beneficiary I.C.P.E. Bucharest

F.9. responsible Study of the influence of the properties of refrigerants on the performances of "ARCTIC" Gaesti refrigerators and freezers. Contract no. 22-94-2/07.02.1994, beneficiary S.C. ARCTIC S.A.
Phase II "Writing computational programs based on numerical analysis methods that allow highlighting the influence of the constructive and functional parameters of the refrigeration plant on its performances"

F.10. responsible Study of the influence of the properties of refrigerants on the performances of "ARCTIC" Gaesti refrigerators and freezers. Contract no. 22-94-2/07.02.1994, beneficiary S.C. ARCTIC S.A.
Phase I "Elaboration of a complex model of the refrigeration plant cycle, focused on complex analysis both thermodynamically and in terms of heat transfer in the case of thermodynamics in finite time"

F.11. coauthor Study of thermophysical properties of low temperature materials Phase II (1994): "Physical models, computational programs". Contract U.P.B. no. 22-94-15/94 (3001/T:B28), beneficiary Ministry of Education.

F.12. coauthor Study of the behavior of refrigeration aggregates with eco-friendly agents Phase II (1994): The study of the behavior of refrigerants with eco-friendly agents". contract U.P.B. no. 22-93-18/94 (B-31-94), beneficiary Ministry of Education.

F.13. coauthor Initiation-specialization course in "Refrigeration Installations" U.P.B. Referral, no. 2699/94, phase I and II, beneficiary "Turbomecanica" S.A., no. 22-93-21

F.13. coauthor Initiation-specialization course in "Refrigeration Installations" U.P.B. Referral, no. 2699/94, phase I and II, beneficiary "Turbomecanica" S.A., no. 22-93-19/93

F.15. responsible Design of a piston damper laboratory model for obtaining temperatures of 77-300K. Contract no. 22-94-05/29, 11, 1994, beneficiary I.C.P.E. Bucharest

F.16. coauthor Study of the behavior of refrigerants with eco-friendly agents, Phase I (1993): Documentation study on the possibilities of replacing refrigerants with destructive action on the ozone layer. Contract no. 22-93-18/1993, beneficiary Ministry of Education, Theme T:C 93.

F.17. coauthor Execution of "Gas cooler" test bench. Contract no. 22-93-23/01.12.1993, beneficiary I.P.A.-S.A.

F.18. coauthor Testing and issuing the product test bulletin "400 kcal/h compressor-condenser set". Contract no. 22-93-22/01.11.1993, beneficiary FRIGOCOM.

F.19. coauthor Determinations according to the type test schedule included in the program theme for the product "Hermetic refrigerant compressor C.15.00.P". Contract no. 22-93-21/21.09.1993, beneficiary Turbomecanica S.A.

F.20. coauthor Collaboration in the design and fabrication of the "Gas cooler" experimental model. Contract no. 22-93-20/ 28.09.1993, beneficiary I.P.A.

F.21. coauthor Study on mobile refrigeration plants for pre-cooling tunnels of vegetables and fruit after harvesting. Contract no. 22-93-19/28.09.1993, beneficiary ICPE.

F.22. coauthor Experimental determinations on the establishing functional characteristics of the 300kcal/h condenser compressor set G.C.C. Contract no. 22-93-12/30.05.1993, beneficiary FRIGOCOM.

F.23. coauthor Research and testing of the cooling plant with Ranque tube and other processes. Contract 22-93-6/15.02.1993, beneficiary I.C.P.E Bucharest

F.24. coauthor Experimental determinations on the determination of the nominal electrical power and the absorbed current in the compressor-condenser set with a hermetic compressor type CAS 9430T- manufacturer l'Unite Hermetique. Contract no. 22-93-1/17.03.1993, beneficiary FRIGOCOM.

F.25. coauthor Verification of the functional characteristics for the issuance of test reports for the GFCD-7T refrigeration set, in accordance with the beneficiary's technical norms and standards in force. Contract No 22-92-4/1.04.1992, beneficiary FRIGOCOM.

F.26. coauthor Verification of the functional characteristics for the issuance of test bulletins for the M.F.P.I. ice-cream maker, according to the beneficiary's branch technical rules and the standards in force. Contract no. 22-92-3/1.04.1992, beneficiary FRIGOCOM

F.27. coauthor Optimization study for the application in mass production of the final variation on the construction of compressor valves that equip the GFCD-20 T refrigeration set. Contract no. 22-92-1/1.04.1992, phase IV, beneficiary S.C. FRIGOCOM S.A.

F.28. coauthor Verification of the functional characteristics for the issuance of test reports for the "GFCD-20 T" refrigeration set, in accordance with the beneficiary's technical norms and standards in force, phase II- Contract no. 22-92-1/1.04.1992, beneficiary FRIGOCOM S.A.

F.29. coauthor Verification of the functional characteristics for the issuance of test reports for the C7-20 T refrigeration compressor, in accordance with the beneficiary's technical norms and standards in force (as per the

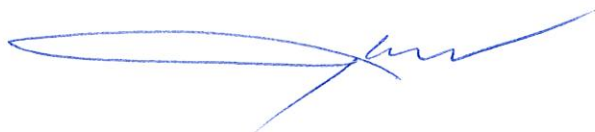


- program theme in annex I/A2). Contract no. 22-92-2/1.04.1992, beneficiary FRIGOCOM S.A.
- F.30. coauthor Verification of the functional characteristics for the issuance of test reports for the GFCD-20 T refrigeration set, in accordance with the beneficiary's technical norms and standards in force. Contract No 22-92-1/1.04.1992, Phase II beneficiary FRIGOCOM.
- F.31. coauthor Verification of the functional characteristics for the issuance of test reports for the GFCD-20 T type refrigeration set, in accordance with the beneficiary's technical norms and standards in force. Contract No 22-92-1/1.04.1992, Phase I beneficiary FRIGOCOM.
- F.32.coauthor Theoretical and experimental research on the use of non-polluting refrigerants (R134a, air, etc.) in refrigeration cycles. Contract no.22-91-4/1991,beneficiary ICPE.

VII. UNPUBLISHED SCIENTIFIC COMMUNICATIONS (E)

E – Works presented at various seminars/exhibitions, conferences, etc.

- E1. Horațiu Pop, Valentin Apostol, Alexandru Dobrovicescu, Mălina Prisecaru, Gheorghe Popescu, "The project «High efficiency micro-cogeneration hybrid group equipped with electronically assisted ORC - GRUCOYB»". Stage of realization and perspectives. "Seminar and round table with the theme: Heat recovery of reduced heat level by using Rankine cycles with organic thermodynamic agents, Romanian Academy, Technical Science Section, Renewable Energy Commission, Council room, May 7, 2014, 10.00.
- E.2. V. Apostol, N. Bernard, T. Gueorguiev, Gh. Popescu, I.D. Filipoiu, C.G. Alionte, D. Petre, H. Pop, "Evaluation of professional development in the mechanical engineering field based on economical education", Proceeding of International Conference „Education and Creativity for Knowledge Society”, Titu Maiorescu University of Bucharest, pp. 25-31, november 20-21, 2008.
- E.3. Gh. Popescu, V. Apostol, H. Pop, "*New ecological refrigeration agents - Theoretical and experimental research*", scientific seminar, presented in the Department of Thermotechnics, U.P.B., Bucharest, October 29, 2008.
- E.4. Gh. Popescu, V. Apostol, H. Pop, Workschop "*LES NOUVEAUX FRIGORIGENES ECOLOGIQUES*", to disseminate the results of contracts CEEEX 214/2006, Partnerships no. 021-52/2007 and Partnerships no. 021-64/2007, Ecole de mines de Nantes, Nantes, France, June 13, 2008.
- E.5. Gh. Popescu, M.G. Tarlea, V. Apostol, H. Pop, "*New solution to limit the global warming effect – the R404A & DME blend as eco-refrigerant*", the Seminar of NATO Advanced Study Institute, Çeşme, Izmir, Turkey, 22 July – 3 August 2007.
- E.6. V. Apostol, Gh. Popescu, H. Pop, M. Prodan, T. Popescu, "*Thermodynamic analysis of a new eco-refrigerant - R404A and dimethylether blend*", the 2nd International Conference of Thermal Engines and Environmental Engineering, Universitatea „Dunarea de Jos” din Galați, Vol. 1, 7 – 8 iunie 2007.
- E.7. Gh. Popescu, H. Pop, V. Apostol, M. Feidt, "*Thermodynamic analysis of new ecological refrigerants - mixtures of ammonia with dimethylether*", a XVI-a Conferință Națională de Termotehnică, Universitatea de Petrol și Gaze din Ploiești, Vol. 1, 31 mai – 1 iunie 2007.
- E.8. G.M. Țârlea, Gh. Popescu, V. Apostol, C. Marinescu, H. Pop, I. Tregubleac, E.E. Vasilescu, "Romania's Alignment to European Union Legislation - Analysis and testing of a new eco-friendly refrigerant", lucrările celei de-a XII-a Conferință "Confort, Eficiență, Conservarea Energiei și Protecția Mediului", Universitatea Tehnică de Construcții București, 24 - 25 noiembrie 2005.
- E.9. Gh. Popescu, H. Pop, C. Marinescu, V. Apostol, Masa Rotunda pentru diseminarea rezultatelor Contractului RELANSIN Nr. 1915/15.09.2004, "*The New Family of Ecological Refrigerants*", Universitatea Politehnica București, sala AN 034, 25 mai 2005.
- E.10. Gh. Popescu, I. Tregubleac, E. Vasilescu, C. Marinescu, V. Apostol, "*The theoretical study of the possibilities of using DME as a refrigerant in IFVs*", lucrările celei de-a XV-a Conferințe de Termotehnică, cu participare internațională, Edit. Univ. din Craiova, ISBN 973-742-089-6, Craiova, 26-28 mai 2005.
- E.11. Gh. Popescu, H. Pop, V. Apostol, "*The irreversible thermodynamic analysis of the economical-ecological operating regimes of an IFV*", lucrările celei de-a XIV-a Conferințe de Termotehnică, cu participare internațională, Edit. Univ. Tehnica de Construcții București, București, 25-26 noiembrie 2004.
- E.12. Gh. Popescu, V. Apostol, M. Feidt, "*L'optimisation du regime fonctionnel d'un générateur de glace en tubes*", conferința prezentată în cadrul "*Colloque Franco-Roumain Energie Environnement Economie et Thermodynamique*" COFRET'04, Nancy, France, 25 april 2004.
- E.13. V. Radcenco, Gh. Popescu, V. Apostol, "*Une Nouvelle Methode pour L'analyse Thermodynamique du Moteur avec Combustion Interne*", poster at Int. Conf. "4-es Journées Europeennes de Thermodynamique Contemporaine", Nancy, France, 27-29 septembre 1995.



- E.14. Gh. Popescu, C. Dinu, V. Apostol, *"Finite Time Thermodynamics Optimization of Energy Conversion Systems"*, scientific progress at the 2-nd Plenary Meeting of the "CARNET" pan-European network, "COPERNICUS program CIPA-CT'92-4026, Budapest, Hungary, June 1995.
- E.16. Gh. Popescu, M. Grigoriu, V. Apostol, C. Dragota, *"Program to simulate the mass and heat exchange process in forced circulation cooling towers"*, a 6-a Conferinta a Tehnicii Frigului si Conditionarii Aerului, Institutul de Constructii Bucuresti, august 1992.
- E.17. Gh. Popescu, M. Grigoriu, E. Vasilescu, V. Apostol, *"Experimental research to determine the performance of a new design for forced circulation cooling towers"*, a 6-a Conferinta a Tehnicii Frigului si Conditionarii Aerului, Institutul de Constructii Bucuresti, august 1992.
- E.18. V. Apostol, (fac. Mecanica), S. Trifan, Gh. Popescu, Marieta Grigoriu, *"Cooling devices used in cooling towers"*.
- E.19. V. Apostol (fac. Mecanica), S. Trifan, Gh. Popescu, M. Grigoriu, *"Optimization of the heat and mass transfer process correlated with minimum pressure loss values for forced draft cooling towers"*, 1st prize.
- E.20 V. Apostol, S. Trifan, Gh. Popescu, M. Grigoriu, *"Optimization of the heat and mass transfer process correlated with minimum pressure loss values for forced draft cooling towers"*, Conferinta Nationala a Cercurilor Stiintifice Studentesti ed. a XVIII-a, mentiune.
- E.21 V. Apostol, Stanescu Doru, *"Methods of optimizing gear ratio for cylindrical gears"* (special prize) I.P.Bucharest, may 1986, mention.
- E.22. V. Apostol, Bugeac Eugen, *"Study of rotation torques taking into account the friction forces between elements"*, I.P.Bucharest, may 1986.

Works presented at the Scientific Communication Session of Students and Teachers

In 2005:

E.23. A. Filip, A. Neacsu, (fac. Mecanica), Gh. Popescu, V. Apostol, H. Pop, "Designing an experimental test bench to use DME as a working agent in refrigeration plants".

E.24 A. Filip, A. Neacsu, (fac. Mecanica), Gh. Popescu, V. Apostol, H. Pop, "Experimental research for using DME as a working agent in climate control facilities", 2nd Prize.

In 2006:

E.25. C. Ciobanu (fac. Mecanica), Gh. Popescu, V. Apostol, H. Pop, "Theoretical thermodynamic research to obtain new ecological refrigerants based on ammonia and dimethylether", 1st prize.

E.26. F. Constantinescu (fac. Mecanica), Gh. Popescu, V. Apostol, H. Pop, "A new ecological solution for car conditioning: IFV with CO₂".

E.27. I. Burda, C-tin Butnariu, I. Tanasescu (fac. Mecanica), Gh. Popescu, Al. Dobrovicescu, E.E. Vasilescu, V. Apostol, H. Pop, "Technical and economical analysis of energy and water consumption reduction for centralized and individual automatic washing machines using heat pump systems", 2nd prize.

E.28. C.G. Ion, D.O. Calinescu (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, "Thermodynamic analysis of IFV schemes for refrigerated combines".

In 2007:

E.29. I. Burda, C-tin Butnariu (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, "Thermodynamic solution for increasing the working temperature of vapor compression heat pumps - new thermal agent R22/R142b mixture".

E.30. I. Burda, C-tin Butnariu (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, "Thermodynamic justification of the optimal concentration of new refrigerants - R22/R12 mixtures".

E.31. I. Burda, C-tin Butnariu (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, " Analysis of the behavior of the thermodynamic agent "Hercules_2" in refrigerated plants and vapor compression heat pumps", mention.

E.32. M. Dumitriu (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, "Thermodynamic analysis of the alternative solution for the elimination of pollutants by using flammable natural substances"

E.33. M. Dumitriu (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, "Thermodynamic analysis of new ecological refrigerants - R600/R290 mixtures".

E.34. F. Boicu, M. Cavaleru, C. Covrig, M. Ion, (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, "Experimental determination of the characteristics of a Ranque - Hilsch tube", 2nd prize.

In 2008:

E.35. M. Eftimie (fac. Mecanică), Gh. Popescu, V. Apostol, H Pop, "Thermodynamic study on the possibilities for use as a refrigerant of hydrocarbons in pure or mixed form with freons", 2nd prize.

E.36. M. Ene (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, "Study of the possibilities of improving the performance of an IFV with CO₂ as a refrigerant using combined expansion with production of mechanical work and rolling valve", mention.

E.37. V.M. Gheorghe, C.N. Petrică (fac. Ing. Limbi Staine), Gh. Popescu, V. Apostol, H. Pop, "Thermodynamic study to establish new ecological working agents from Rankine cycle electrical power production plants using low-temperature heat sources", 2nd prize.

E.38. T. Gusila (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, "Thermodynamic optimization of the functional parameters of a groundwater / waste water heat pump with CO₂ as a working agent".

E.39. I. Muntean (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, "Thermodynamic analysis of the use of dimethylether-carbon dioxide as a new low-explosive ecological refrigerant in IFVs", 3rd prize.

E.40. E.I. Pana, C.M. Ceacăru (fac. Mecanică), Gh. Popescu, V. Apostol, H. Pop, "Presentation of a bench for the experimental determination of the performances of new ecological refrigerants".

In 2009:

E.41. A. Fazacas, (fac. Mecanica), V. Apostol, Gh. Popescu, A. Dobrovicescu, H. Pop, T. Popescu, "Studies on the influence of functional parameters on the performance of CO₂ cooling schemes", 1st prize.

E.42. I. Burda (Fac. Mecanica), Gh. Popescu, H. Pop, V. Apostol, "Thermodynamic theoretical studies of ecological refrigerant mixes between R125 and R32", mention 2.

E.43. R. Anghel (Fac. Mecanica), Gh. Popescu, H. Pop, "Calculation of the cold requirement for a juice concentrate refrigeration and freezing warehouse", mention 1.

In 2010: 4 papers, out of which 3 awarded, as follows:

E.44. E.L. Dorobantu, M. Turcanu (fac. Ingineria Sistemelor Biotehnice), Gh. Popescu, V. Apostol, H. Pop, "Calculation program for determining the cold requirements for refrigerated products warehouses", 2nd prize.

E.45. C. Hamza (fac. Inginerie Mecanica), Gh. Popescu, V. Apostol, H. Pop, "Theoretical thermodynamic analysis of new natural ecological refrigerants - R290/R600a mixtures", mention 2.

In 2011: 3 papers, out of which 2 awarded, as follows:

E.46. E. E. Butuc (fac. Inginerie Mecanica), V. Apostol, Gh. Popescu, H. Pop, "Analysis of solutions for cooling technology in mechanical vapor compression refrigeration plants with combined compression/refrigeration / climate cycle", 2nd prize.

E.47. N. Roșu (fac. Ingineria Sistemelor Biotehnice), Gh. Popescu, V. Apostol, H. Pop, "Comparative thermodynamic evaluation of two-step IFV schemes", 2nd prize.

In 2012: 5 papers, out of which 2 awarded, as follows:

E.48. R. Pascu, L. Ion, M.I. Dragne (fac. Inginerie Mecanica), H. Pop, Gh. Popescu, N. Băran, V. Apostol, "Experimental bench for determining the performance of a one stage IFV".

E.49. A. Cocoșilă, M.C. Soare (fac. Inginerie Mecanica), Gh. Popescu, C.G. Alionte, H. Pop, V. Apostol, "PC processor cooling system using a water cooling circuit", 2nd prize.

E.50. M. Buda, G.V. Vlădoi, F.A. Stanciu (fac. Inginerie Mecanica), Gh. Popescu, T. Popescu, M. Marinescu, V. Apostol, H. Pop, "Experimental bench for the preparation of glacial water".

E.51. T. Broască, L. Badea, M. Dogaru (fac. Inginerie Mecanica), Gh. Popescu, H. Pop, V. Apostol, "Experimental bench for the simultaneous production of "cold and heat" using a Ranque-Hilsch Vortex Tube".

E.52. A. Herțog, Ș.A. Șerban, I.C. Uță, D. Taban, (fac. Inginerie Mecanica), V. Apostol, Gh. Popescu, H. Pop "Design and production of a bench for air conditioning in cars", 1st prize.

In 2013: 4 papers, as follows:

E.53. I. C. Uță, D.I. Taban (Fac. Inginerie Mecanică și Mecatronică), V. Apostol, H. Pop, Gh. Popescu, "Design and realization of an experimental bench of IFV with ammonia".

E.54. L. F. Badea, M. – C. Soare, I. Amarandei, A. Hanganu, (Fac. Inginerie Mecanică și Mecatronică) V. Apostol, H. Pop, Gh. Popescu, "Experimental bench for determining the performance of a water-water heat pump with regenerative recovery".

E.55. F. Stanciu, A. Șercăianu, (Fac. Inginerie Mecanică și Mecatronică), V. Apostol, H. Pop, Gh. Popescu, "Designing and building an experimental bench Air Conditioning Plant".

E.56. L. Ion, A. Cocoșilă, (Fac. Inginerie Mecanică și Mecatronică), H. Pop, V. Apostol, Gh. Popescu "Upgrading a bench for the comparative analysis of the performance of an air-cooled or water-cooled processor".

In 2014: 4 papers, as follows:

E.57. A. Toader, (Fac. Inginerie Mecanică și Mecatronică), Gh. Popescu, H. Pop, V. Apostol „Study on residential space heating-cooling technology using underfloor ventilation systems”.

E.58. L. Ion, (Fac. Inginerie Mecanică și Mecatronică), Gh. Popescu, V. Apostol, H. Pop „Development of the

bench and experimental determination of the performance of an unconventional system with water cooled Peltier element for cooling processors”.

E59. T. Broască, A. Șercăianu, I. V. Neamțu, (Fac. Inginerie Mecanică și Mecatronică), Gh. Popescu, V. Apostol, H. Pop „Recreation of a bench and experimental confirmation of performance of a Ranke - Hilsch vortex tube energy separation system”.

E60. A. Alexandru, D. Taban, I. Uță, (Fac. Inginerie Mecanică și Mecatronică), V. Apostol, A. Dobrovicescu, H. Pop, Gh. Popescu “Synthesis of the constructive schematics of ORC energy systems”.

In 2015: 6 papers, as follows:

E.61. E. Nafornița, S. Jăpălău (Fac. Inginerie Mecanică și Mecatronică), : V. Apostol, H. Pop, Gh. Popescu, „Establishment of a variation law of the flow coefficient for a refrigeration compressor in relation to the vaporization and condensation pressures”

E.62. D. Udub (Fac. Inginerie Mecanică și Mecatronică), V. Apostol, H. Pop, Gh. Popescu, „Analysis of supercritical and subcritical thermodynamic cycles of IFV with CO₂. Determining the optimal pressure in the gas cooler for supercritical cycles ”

E.63. M. A. Lambert, (Erasmus anul II Master, FILS Universitatea de origine: Université de Lorraine, Nancy) C. Gabrian (Fac. Inginerie Mecanică și Mecatronică), Gh. Popescu, V. Apostol, H. Pop, „Experimental bench for validation of the use of LPG as an ecological refrigerant in split air conditioning”

E.64. L. Ion, (Fac. Inginerie Mecanică și Mecatronică), Gh. Popescu, V. Apostol, H. Pop, „Experimental bench to determine the performance of a Peltier element processor cooling system”

E.65. M. Sava, (Fac. Inginerie Mecanică și Mecatronică), Gh. Popescu, V. Apostol, H. Pop, „Evaluating the recoverable heat availability of an MIA that equips a vehicle for conditioning using an IFAb”

E.66. T. Trandafir, (Fac. Inginerie Mecanică și Mecatronică), Gh. Popescu, V. Apostol, H. Pop, „Comparative thermodynamic analysis of PCV schemes operating with CO₂”

In 2016: 4 papers, as follows:

E.67. Paul-Neluțu Diaconu, (Fac. Inginerie Mecanică și Mecatronică), Gh. Popescu, V. Apostol, H. Pop, “Thermodynamic theoretical analysis for validating LPG as an ecological refrigerant in conditioning plants”

E.68. Cristina State (Facultatea de Inginerie Mecanică și Mecatronică), Gh. Popescu, V. Apostol, H. Pop, “Experimental determinations for estimating the recoverable residual heat energy from an Internal Combustion Engine”

E.69. Alin Iordache, Cătălin CIMPOIERU, (Facultatea de Inginerie Mecanică și Mecatronică), H. Pop, V. Apostol, Gh. Popescu, “Feasibility study on the influence of functional parameters on COP of CO₂ refrigeration cycles with transcritical operation”

E.70. Paul-Neluțu Diaconu (Facultatea de Inginerie Mecanică și Mecatronică), Gh. Popescu, V. Apostol, H. Pop, “Improvement of the experimental bench to validate LPG as an ecological refrigerant in split-type air conditioners”

Date: 25.01.2017

Signature

