

Europass Curriculum Vitae



Personal information

First name(s) / Surname(s) **Radu CHIRIAC**
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Nationality Romanian

Gender Male

Desired employment / Occupational field Interested in the new forms of production for the heat engines industry related to the abatements of pollutant emission and carbon footprints by using alternative fuels and intensive materials recycling I have some experience in projects management concerning the development of new engines at national level and I would like to improve my knowledge and my experience.

Work experience ORCID ID : [0000-0002-0568-4881](https://orcid.org/0000-0002-0568-4881)

Dates 2020 - present

Occupation or position held Director of the Doctoral School of Mechanical Engineering and Mechatronics

Dates 2004 - present

Occupation or position held Professor

Main activities and responsibilities Courses: lectures and laboratories
- Combustion and pollutant emission control
- Experimental techniques applied for internal combustion engine research
- Heat Engines
Research activities on: Alternative fuels for internal combustion engines, Combustion Investigation, Simulation of the internal combustion engines processes, Heat transfer and fluid dynamics
Name and address of employer University "Politehnica", Faculty of Mechanical Engineering, Faculty of Engineering in foreign languages, Spl. Independentei 313, sect. 6, 060042, Bucharest
Type of business or sector Education and research

Dates 1998 - 2004

Occupation or position held Associate professor

Main activities and responsibilities Courses: lectures and laboratories
- Combustion theory
- Internal combustion engines fundamentals
- Moteurs a combustion interne
- Experimental research of thermal equipment
Research activities on: Alternative fuels for internal combustion engines, Combustion Investigation, Simulation of the internal combustion engines processes

Name and address of employer	University "Politehnica", Faculty of Mechanical Engineering, Faculty of Engineering in foreign languages, Spl. Independentei 313, sect. 6, 060042, Bucharest
Type of business or sector	Education and research
Dates	1992 - 1998
Occupation or position held	Lecturer
Main activities and responsibilities	Courses: lectures, laboratories and tutorials - Internal combustion engines for road vehicles characteristics and processes - Internal combustion engines for road vehicles design and manufacturing - Statistical treatment of experimental data - Numerical methods Research activities on: Alternative fuels for internal combustion engines, Simulation of the internal combustion engines processes, Thermodynamics
Name and address of employer	University "Politehnica", Faculty of Mechanical Engineering, Faculty of Engineering in foreign languages, Faculty of transportation, Spl. Independentei 313, sect. 6, 060042, Bucharest
Type of business or sector	Education and research
Dates	1984 - 1992
Occupation or position held	Assistant professor
Main activities and responsibilities	Courses: laboratories and tutorials - Internal combustion engines for road vehicles - Bases of Experimental Research for Thermal Equipment - Numerical methods Research activities on: Alternative fuels for internal combustion engines, Simulation of the internal combustion engines processes, Thermodynamics
Name and address of employer	University "Politehnica", Faculty of Mechanical Engineering, Faculty of transportation, Spl. Independentei 313, sect. 6, 060042, Bucharest
Type of business or sector	Education and research
Dates	1982 - 1984
Occupation or position held	Engineer
Main activities and responsibilities	Boilers and steam turbines surveillance, control and operation
Name and address of employer	I.E. Ploiesti, Power - Plant Brazi II, Ploiesti
Type of business or sector	Energetic industry

Education and training

Dates	2009 - 2010 (6 months, 3 for each year)
Title of qualification awarded	Associate member
Principal subjects/occupational skills covered	Education and research activities concerning performance and emissions of turbo machines and heat engines, Program Research in Paris
Name and type of organisation providing education and training	Laboratoire du génie des procédés pour l'environnement, l'énergie et la santé EA21, Conservatoire National de Arts et Metiers, Paris, France
Dates	2001, 2002, 2003, 2008 (2 months/year)
Title of qualification awarded	Qualified personnel
Principal subjects/occupational skills covered	Advanced simulation tools used for internal combustion engines research and development activities
Name and type of organisation providing education and training	AVL List GMBH, Graz, Austria

Dates	1994, 1997 (3 months/year)
Title of qualification awarded	Training on Tempus program
Principal subjects/occupational skills covered	Education and research concerning performance and emissions of internal combustion engines operating on oxygenated fuels
Name and type of organisation providing education and training	Politecnico di Torino, Turin, Italy
Dates	1995
Title of qualification awarded	PhD. Diploma, Thermal equipment, Internal combustion engines
Principal subjects/occupational skills covered	Contributions to the Study on the Influence of Small Amounts of Hydrogen for the Combustion Process in the S. I. Engines
Name and type of organisation providing education and training	University "Politehnica of Bucharest
Dates	1977 - 1982
Title of qualification awarded	Master Diploma, Mechanical Engineer
Principal subjects/occupational skills covered	Mathematics, Numerical methods, Mechanics, Strength of materials, Fluid dynamics, Thermodynamics, Heat transfer, Internal combustion engines, Boilers, Steam and gas turbines
Name and type of organisation providing education and training	University "Politehnica of Bucharest, Faculty of Mechanical Engineering

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment

European level ()*

French

English

Italian

German

Understanding

Speaking

Writing

Listening

Reading

Spoken interaction

Spoken production

C1 Proficient User

C1 Proficient User

C1 Proficient User

C1 Proficient User

C1 Proficient User

C1 Proficient User

C1 Proficient User

C1 Proficient User

C1 Proficient User

C1 Proficient User

B2 Independent User

B2 Independent User

B1 Intermediate User

B1 Intermediate User

A2 Elementary User

A1 Beginner

A2 Elementary User

A1 Beginner

A1 Beginner

A1 Beginner

(*) [Common European Framework of Reference for Languages](#)

Social skills and competences

- good ability of communication due to different conferences, trainings and projects performed in foreign countries (Italy, Nederland, France, Austria, USA)
- availability for accommodation in multicultural environments due to participation at various conferences
- team spirit developed by integration in different research groups

Organisational skills and competences

- leadership ability developed as a result of coordination for several research projects
- organisational spirit as participant to different scientific events
- managerial competences developed as a director of 15 research projects

Technical skills and competences

- management and control of engine testing equipments
- technical knowledge on data acquisition and communication systems
- knowledge on environmental protection legislation

Computer skills and competences

Microsoft Office (Word, Excel, Power Point, Project Manager)
Dedicated software for engines research and simulation: AVL Workspace

Artistic skills and competences

Other skills and competences

Creative spirit
Analytical capacity
Intuitive
Practical aptitude

Driving licence

License B

Additional information SEE ANNEXES

- Annexes**
1. SHORT BIO
 2. LIST OF SOME PUBLICATIONS
 3. INVENTIONS AND INNOVATIONS
 4. PROJECTS

1. SHORT BIO

Graduate of University "Politehnica of Bucharest, Faculty of Mechanical Engineering in 1982 and obtained the PhD Diploma in 1995 with PhD. Diploma: Thermal equipment, Internal combustion engines, Contributions to the Study on the Influence of Small Amounts of Hydrogen for the Combustion Process in the S. I. Engines, at University "Politehnica of Bucharest; Full Professor at "Politehnica of Bucharest, Department of Thermodynamics, engines, heat and refrigerant equipment from 2004, PhD Coordinator from 2017.

Scientific and Technical skills: Mathematics, Numerical methods, Mechanics, Strength of materials, Fluid dynamics, Thermodynamics, Heat transfer, Internal combustion engines, Boilers, Steam, and gas turbines.

Research activities related to: Alternative fuels for internal combustion engines, Combustion Investigation, Simulation of the internal combustion engines processes, Heat transfer and fluid dynamics. Research contracts developed under the national programs were related to alternative gaseous fuels for engines, hydrogenated fuels as biodiesel obtained by the treatment of fatty acids and their glycerines with hydrogen rich gas, recovery of the wasted heat of engines.

2. LIST OF SOME PUBLICATIONS

1. Adrian Birtas, I. Voicu, C. Petcu, R. Chiriac, N. Apostolescu The effect of HRG gas addition on diesel engine combustion characteristics and exhaust emissions, International Journal of Hydrogen Energy, vol. 36, issue 18, pp. 12007-12014, ISSN 0360-3199, 2011 (Relative Impact Factor of Review = 1.5933, FI= 3,313).
2. Gheorghe Niculae, R. Chiriac, N. Apostolescu, *Effects of HRG gas addition on performance and emissions of a SI engine fuelled with liquefied petroleum gas*, REVISTA DE CHIMIE 64, nr.6, pag. 574-579, ISSN: 0034-7752, 2013 (cotata ISI).
3. Radu Chiriac, N. Apostolescu, *Emissions of a diesel engine using B20 and effects of hydrogen addition*, International Journal of Hydrogen Energy, (cotata ISI, FI= 3,313), Volume: 38, Issue: 30 Pages: 13453-13462 DOI: 10.1016/j.ijhydene.2013.07.095 Published: OCT 8 2013
4. Radu Chiriac, Al. Racovitza, P. Podevin, G. Descombes, On the possibility to reduce CO2 emissions of heat engines fuelled partially with hydrogen produced by waste heat recovery, International Journal of Hydrogen Energy, Volume 40, Issue 45, 7 December 2015, Pages 15856-15863, FI= 3,313
5. Radu Chiriac, Alexandru Racovitza, Pierre Podevin, Georges Descombes, On the possibility to reduce CO 2 emissions of heat engines fuelled partially with hydrogen produced by waste heat recovery, International Journal of Hydrogen Energy 40 (45), 15856-15863, ISSN: 0360-3 199, 2015, doi:10.1016/j.ijhydene.2015.06.064, Accession Number: WOS:000365367200052 (ISI-Q2).
6. Barbu Marius, Radu, Bogdan, Chiriac Radu, COMPUTATIONAL ELEMENTS FOR DESIGNING A PISTON STEEL TYPE, INGINERIA AUTOMOBILULUI, Issue: 38, Pages: 17-19, Published: MAR 2016, ISSN: 1842-4074, Accession Number: WOS:000409237600007
7. M Aldhaidhawi, R Chiriac, V Badescu, Ignition delay, combustion and emission characteristics of Diesel engine fueled with rapeseed biodiesel-A literature review, Renewable & Sustainable Energy Reviews, DOI: 10.1016/j.rser.2017.01.129 Vol. 73, pag. 178-186, 2017, ISSN: 1364-0321, Accession Number: WOS:000401204700015, IF= 9.184 (Q1)
8. Aldhaidhawi, Mohanad; Badescu, Viorel; Chiriac, Radu, MODEL FOR PREDICTING THE PERFORMANCE AND EXHAUST GAS EMISSIONS OF A DIESEL ENGINE FUELLED BY DIESEL AND BIODIESEL B20. SIMULATION AND VALIDATION, INGINERIA AUTOMOBILULUI, Issue: 43, Pages: 5-9, 2017, ISSN: 1842-4074, Accession Number: WOS:000409240700003
9. M Aldhaidhawi, R Chiriac, V Bădescu, G Descombes, P Podevin, Investigation on the mixture formation, combustion characteristics and performance of a Diesel engine fueled with Diesel, Biodiesel B20 and hydrogen addition, International Journal of Hydrogen Energy 42 (26), 16793-16807, 2017, Accession Number: WOS:000405160400046, ISSN: 0360-3199, IF= 4.469 (Q2)
10. P. Punov, T. Evtimov, R. Chiriac, A. Clenci, Q. Danel, G. Descombes, Progress in high performance, low emissions and exergy recovery in internal combustion engines, International Journal of Energy Research, Vol. 41, Iss. 9, pag. 1229-1241, 2017, ISSN: 0363-907X, Number: WOS:000403438100002, IF=3.539 (Q2)
11. Gh. Niculae, R. Chiriac, N. Apostolescu, Efficiency and CO2 emission of heat engines operating with Hydrogen Rich Gas (HRG) addition, Environmental Engineering & Management Journal (EEMJ), Jun 2018, Vol. 17 Issue 6, p1301-1310. 10p, ISSN: 1582-9596, Accession Number: WOS:000435677800004, IF=1.334 (Q4)
12. M. Aldhaidhawi, L. Miron, R. Chiriac, V. Badescu, Autoignition process in Compression Ignition Engine fueled by Diesel fuel and Biodiesel with 20% Rapeseed Biofuel in Diesel Fuel, Journal of Energy Engineering, vol. 144, Iss. 5, Art. No 04018049, 2018, ISSN: 0733-9402, Accession Number: WOS:000441680700002, IF=1.346 (Q4)
13. Birtas A.; Boicea, Niculae; Croitoru, Gabriela; Chiriac Radu, On the possibility to improve petrol engine operation by laser ignition, Book Series: Energy Procedia, Volume: 157, Pages: 1022-1028, DOI: 10.1016/j.egypro.2018.11.269, Published: 2019, ISSN: 1876-6102, Accession Number: WOS:000470998600112
14. N Pavel, R Chiriac, A Birtas, F Draghici, and M Dinca, On the improvement by laser ignition of the performances of a passenger car gasoline engine, Optics Express Vol. 27, Issue 8, pp. A385-A396, 2019 •<https://doi.org/10.1364/OE.27.00A385>, ISSN: 1094-4087, Accession Number: WOS:000464614400013, IF=3.669 (Q1)

15. Niculae, Andrei Laurentiu; Miron, Lucian; Chiriac, Radu, On the possibility to simulate the operation of a SI engine using alternative gaseous fuels, ENERGY REPORTS, Volume: 6, Pages: 167-176, Supplement: 3, DOI: 10.1016/j.egy.2019.10.035, Published: FEB 2020, ISSN: 2352-4847, Accession Number: WOS:000518453800018, IF= 3.595 (Q2)
16. Miron, Lucian; Chiriac, Radu; Brabec, Marek; Badescu, Viorel; Ignition delay and its influence on the performance of a Diesel engine operating with different Diesel-biodiesel fuels, ENERGY REPORTS, Volume7 Page5483-5494, Published NOV 2021, DOI10.1016/j.egy.2021.08.123, ISSN 2352-4847, WOS:000701672900003, IF= 6.87 (Q1)
17. Barbu, Mariu Catalin; Birtas, Adrian; Chiriac, Radu; On some possible effects of using renewable oxygenated fuels in a large marine diesel engine, ENERGY REPORTS, Volume 8, Page 966-977, Supplement 9, DOI, 10.1016/j.egy.2022.07.129, Published NOV 2022, Early Access AUG 2022, Indexed 2022-08-30, ISSN 2352-4847, WOS:000841651400045, IF (Five Year) = 5.258, (Q2)
18. Visan, Nicolae, Adrian, Carlanescu, Razvan, Niculescu, Dan, Catalin; Chiriac, Radu; Study on the Cumulative Effects of Using a High-Efficiency Turbocharger and Biodiesel B20 Fuelling on Performance and Emissions of a Large Marine Diesel Engine, JOURNAL OF MARINE SCIENCE AND ENGINEERING, Volume 10, Issue 10, Article Number1403, DOI 10.3390/jmse10101403, Published OCT 2022, Indexed 2022-11-04, eISSN 2077-1312, WOS:000873198200001, IF (Five Year) = 2.727, (Q1)
19. Visan, Nicolae, Adrian; Niculescu, Dan, Catalin; Chiriac, Radu; On some possible effects of using renewable oxygenated fuels in a large marine diesel engine, ENERGY REPORTS, Volume 8, Page 966-977, Supplement 9, DOI, 10.1016/j.egy.2022.07.129, Published NOV 2022, Early Access AUG 2022, Indexed 2022-08-30, ISSN 2352-4847, WOS:000841651400045, IF (Five Year) = 5.258, (Q2)
20. Niculae, Andrei, Laurentiu; Chiriac, Radu; Racovitza, Alexandru; Effects of Injection Rate Shape on Performance and Emissions of a Diesel Engine Fuelled by Diesel and Biodiesel B20, APPLIED SCIENCES-BASEL, Volume12, Issue3, Article Number1333, DOI10.3390/app12031333, Published FEB 2022, Indexed2022-03-04, eISSN:2076-3417, WOS:000756381600001, IF (Five Year) =2.921 (Q2)

3. INVENTIONS AND INNOVATIONS

- 1.R. Chiriac et al. US20090199465 PROCEDURE OF OBTAINING AUTOMOTIVE FUELS AND THE MODIFIED FUELS OBTAINED BY MEANS OF THIS PROCEDURE_, Brevet de invenție nr. RO122548-B1PCT/RO2007/000015 din 28.08.2009.
2. R. Chiriac et al. US20100132661 METHOD OF USING LEAN FUEL-AIR MIXTURES AT ALL OPERATING REGIMES OF A SPARK IGNITION ENGINE Brevet de invenție nr. RO122556-B1PCT/RO2007/000013 din 28.08.2009
3. R. Chiriac, G. Descombes. P. Podevin, Dispositif d'alimentation d'une machine thermique a combustion en gaz enrichi en dihydrogene et dioxygene au nom de Conservatoire National des Arts et Métiers (CNAM, Paris) et University Politehnica Bucharest (UPB), INPI nr. 2 964 152 Paris, France, 24.08.12, Bulletin 12/34, European Patent EP 2 609 309 B1, Bulletin 2105/20

4. RESEARCH PROJECTS

1. Experimental research on flammability characteristics of HHO gas Contract nr. 487/13.01.2006, UPB (CCT) and Rokura Aplicații Industriale Srl. București.
2. Study on the possibilities to adapt a tactor diesel engine UTB 50kW/2400rpm to fueling with new biodiesel fuels Contract nr. 813/28.11.2006 UPB (CCT) and Rokura Aplicații Industriale Srl. București.
3. Study on the behavior of an energy transfer system for recovered heat of a Dacia 1400 engine contract UPB (CCT) si SC PETROMSERVICE SA nr. 22/09.02.2007;
4. Technology and pilot system for obtaining reformulated diesel fuel by catalytic treatment of the primary gasoil with hydrogen rich gas Contract Program Inovare nr. 28/15.10.2007-2009
5. Biodiesel obtained by the fatty acids and their esters treatment with hydrogen rich gas Contract Program PARTENERIATE nr.71041/18.09.2007-2010
6. TEHNOLOGII CURATE DE PROCESARE ȘI/SAU VALORIFICARE MATERIALE CU POTENȚIAL COMBUSTIBIL-CleanTech-ID: P_40_308 –cod SMIS 2014+, POC-A1-A1.2.3-G2015, Beneficiar: UPB, sept-oct.2018/membru

15/09/2022