



**Europass
Curriculum Vitae**

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Personal information

First name(s) / Surname(s) **Mihail Culcer**

Address(es)

Telephone(s) +4 0250 732744, mobile; -

Fax(es) +4 0250 732746

E-mail culcer@icsi.ro

Nationality Romanian

Date of birth August 28th 1954

Gender Male

Occupational field Academic (research)

Work experience

Dates October 2009 - onwards

Occupation or position held Head of Laboratories, NCHFC, Scientific Researcher 2nd degree
Coordinating the activity of the laboratory of electronics and application

Main activities and responsibilities Head of Hydrogen, Mobility and Integrated Systems research group
Manager and scientific responsible of national projects::22 national projects and
team member in more than 35.

Research regarding the fuel cell development
Research regarding renewable energy applications

Name and address of employer

National Research & Development
Institute for Cryogenics & Isotopic
Technologies, National Centre for
Hydrogen and Fuel Cell, Uzinei street,
no.4, Ramnicu Valcea, Romania
Academic research and development

Type of business or sector

Dates

March 1994 - 2009

Occupation or position held Head of Laboratory, R&D Department

Main activities and responsibilities Coordinating the activity of the "Physical and chemical, environmental and food
quality analysis laboratory"

Name and address of employer National R&D Institute of Cryogenics and Isotopic Technology, Rm. Valcea,
Romania

Type of business or sector Research & Development

Dates September 1978 – March 1994
 Occupation or position held Engineer, Electronics Laboratory
 Main activities and responsibilities Research and executive development of apparatus for isotopic and special analysis, for cryogenic processes
 Name and address of employer National R&D Institute of Cryogenics and Isotopic Technology, Rm. Valcea, Romania
 Type of business or sector Research & Development

Education and training

Dates April 2001
 Title of qualification awarded Ph.D in Nuclear Physics
 Principal subjects/occupational skills covered Nuclear Physics and cryogenics
 Name and type of organisation providing education and training Institute of Atomic Physics Bucharest

Dates September 1973 – March 1978
 Title of qualification awarded Bachelor Degree in Engineering
 Principal subjects/occupational skills covered Applied Electronics
 Name and type of organisation providing education and training Traian Vuia Polytechnic Institute Timisoara, Electrotechnical Faculty

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment
European level ()*


English	Understanding				Speaking				Writing	
	Listening		Reading		Spoken interaction		Spoken production			
	B2	Independent user	C1	Proficient user	C1	Proficient user	B2	Independent user	B2	Independent user

Social skills and competences	Friendly, Trustworthy, Hard-working, Communicative, Highly organized, Problem solver, Team player – in the expertise area
Organisational skills and competences	Competent organizer and coordinator, empathic with colleagues, innovative in projects development
Technical skills and competences	Applied electronics. Fuel cells, analyzed equipments, cryogenics equipments , renewable energy applications
Computer skills and competences	Good command of Microsoft Office Suite
Other skills and competences	Open-minded, curious and inventive Member of Romanian Physics Society Member of European Physics Society Founding member of the Alliance for hydrogen and fuel cell (H2FC-RO) Member of ARIES Society, Romania

Driving licence B Category

Annexes ANNEX 1

DATE:
09.11..2020

SIGNATURE: 

ANNEX 1

Published articles:

1. Monitoring System for Industrial Gaseous Pollutants , Mariana Iiescu, Mihai Culcer, Marian Curuia, Mihai Anghel, Ioan Stefanescu, Proceedings of The Fifth General Conference of the Balkan Physical Union 2003

2. Preliminary Results of a Study on Hydrodynamics of Danube-Black Sea Channel Using Tritiated Wastewater from NPP Cernavoda, Mihai Culcer, Carmen Varlam, Mihai Varlam, Roxana Lazar, Mihai Anghel, Ioan Stefanescu, International Conference Nuclear Energy for Central Europe 2003, Slovenia, September 8-11, 2003, Proceeding of the International Nuclear Energy for New Europe
3. Operating Optimization of the Cernavoda NPP Heavy Water Upgrading Systems by using PC Simulation Programs, Mihai Culcer, Cornelia Croitoru, Floarea Pop, Ioan Stefanescu, Marius Peculea, Vasile Tanislav, Mihai Anghel, Proceeding of 1st International Conference on Experiments/Process/Systems Modelling/Simulation/Optimization, Athena, Grecia, 6-9 iulie 2005
4. Integrated Automation System for a Pilot Plant for Energy Conversion Using PEMFCs - Mihai Culcer, Mariana Iliescu, Mircea Raceanu, Vasile Stanciu, Ioan Stefanescu, Pavel Gabriel Lazaro*, Gheorghe Lazaroiu*, Adrian Badea*, Adrian Enache * University Politehnica of Bucharest, Faculty of Power Engineering, Romania- 3RD INTERNATIONAL GREEN ENERGY CONFERENCE, JUNE 18-20, 2007 VASTERAS, SWEDEN
5. Integrated System for Energy Conversion Using Solar Energy and PEM Fuel Cells - Mihai Culcer, Mariana Iliescu, Adrian Enache, Ioan Stefanescu, Anca Duta*, A. Enesca* - TENTH GROVE FUEL CELL SYMPOSIUM, 25-27 SEPTEMBER 2007, LONDON, UK.
6. Laurentiu Patularu, Daniela Ebrasu, Ioan Stefanescu, *Roxana Elena Ionete*, Mihai Culcer, Vasile Stanciu, Elena Carcadea, Dumitru Mirica, Gabriel Rasoi – “PEM fuel cells design and manufacturing in ICIT Rm. Valcea” - in „Progress of Cryogenics and Isotopes Separation”, vol.19+20/2007, pag. 28 – 37, ISSN 1582-2575, cod CNCISIS 619 – categoria C
7. *Roxana Elena Lazar (Ionete)*, Mihai Culcer, Mariana Iliescu, Marian Curuia, Daniela Stoenescu, Laurentiu Patularu, Elena Carcadea, Vasile Stanciu, Ioan Stefanescu – “Developing a Hydrogen and Fuel Cells Integrated R&D Platform in Romania” - in “Energia Nucleara”, vol. 17/Nr. 1-2/2005, pag. 33-35, ISSN 1220-5508
8. I. Stefanescu, D. Stoenescu, L. Patularu, M. Culcer, *Roxana Elena Lazar (Ionete)*, M. Varlam, Elena Carcadea, D. Mirica - „Experimental – Demonstrative system for energy conversion using hydrogen fuel cell – preliminary results” – in „Energia Nucleara”, vol.16, 1-2/2004, pag. 43 – 44, ISSN 1220-5508
9. M. Culcer, D. Stoenescu, L. Patularu, D. Mirica, *Roxana Elena Lazar (Ionete)*, M. Varlam, E. Carcadea, I. Stefanescu - “Energy Conversion using Hydrogen PEM Fuel Cells” - in „Progress of Cryogenics and Isotopes Separation”, vol.13+14/2004, pag. 49 – 51, ISSN 1582-2575, cod CNCISIS 619 – categoria C
10. Ioan Stefanescu, Daniela Stoenescu, Laurentiu Patularu, Mihai Culcer, *Roxana Elena Lazar (Ionete)*, Mihai Varlam, Elena Carcadea, Dumitru Mirica – “Experimental and demonstration system energy conversion using hydrogen based fuel cells-preliminary results” (in Romanian) - in „Stiinta Moderna si Energia”, 2004, pag. 137 – 146, ISBN 973-656-660-9, Ed. RISOPRINT cod CNCISIS 178
11. Laurentiu Patularu, Daniela Ebrasu, Ioan Stefanescu, Roxana Elena Ionete, Mihai Culcer, Vasile Stanciu, *Elena Carcadea*, Dumitru Mirica - “Analysis of small PEM fuel cell design and manufacturing in ICIT-Rm. Valcea” - in Proceedings of 1st European Conference “H2 Fuel Cells Millennium Convergence”, Bucuresti, 2007, 15/10 pg., ISBN-10: 973-88046-7-1; ISBN-13: 978-973-88046-7-8
12. Laurentiu Patularu, Daniela Ebrasu, Ioan Stefanescu, Roxana Elena Ionete, Mihai Culcer, Vasile Stanciu, *Elena Carcadea*, Dumitru Mirica, Irina Petreanu - “PEM Fuel Cell Design and Manufacturing in ICIT Rm. Valcea” - in Proceedings of “Excellence Research – A way to E.R.A”, Brasov, 2007, pg. 226-1+226-6, ISSN 1843-5904 Mihail Culcer, Mihai Varlam, Mariana Iliescu, Mircea Raceanu, Adrian Enache, Ioan Stefanescu, *Extending the battery lifetime of a fuel cells hybrid electric vehicle*, 6th International Conference on Energy and Environment-CIEM 2013, Proceeding.
13. Mariana Iliescu, Mircea Raceanu, Mihail Culcer, Adrian Enache, Mihai Varlam, Ioan Stefanescu, *Management strategy for load compliance of a PEM fuel cells power station*, 6th International Conference on Energy and Environment-CIEM 2013, Proceeding.
14. Mircea Raceanu, Mihai Culcer, Mariana Iliescu, Adrian Enache, Mihai Varlam, *Fuzzy controller for dead-ended anode fuel cell*, A 19-a Conferinta “Progress in Cryogenics and Isotopes Separation”, Proceeding, ISBN: 978-973-750-249-0, pp.86.
15. Nicu Bizon, Mihai Culcer, Mihai Oproescu, Mircea Raceanu, "Efficient energy control strategies for a Standalone Renewable/Fuel Cell Hybrid Power Source", Energy Conversion and Management, 90:93-110; DOI: 10.1016/j.enconman.2014.11.002,
16. Raceanu Mircea, Marinioiu Adriana, Culcer Mihai, Varlam Mihai, Bizon Nicu, „*Preventing reactant starvation of a 5 kW PEM fuel cell stack during sudden load change*”, 6th INTERNATIONAL

CONFERENCE on ELECTRONICS, COMPUTERS and ARTIFICIAL INTELLIGENCE ECAI, Vol. 6 – No. 1/2014 ISSN – 1843 – 2115, pp 53-58.

17. Mircea Răceanu, Mihai Culcer, Adriana Marinouiu, Tanislav Vasile, Cătălin Capriș, Mariana Iliescu, Mihai Varlam, *EXPERIMENTAL ANALYSIS OF A PEM FUEL CELL STACK IN DYNAMIC TEST CONDITIONS*, XXXIII rd ROMANIAN CHEMISTRY CONFERENCE, october 1-3, 2014, Calimanesti Romania.

18. Mircea Răceanu, Mihai Culcer, Adriana Marinouiu, Mihai Varlam, "DESIGNING AND DEVELOPMENT OF A THERMAL MANAGEMENT SUBSYSTEM FOR A PEM FUEL CELL STACK USING FUZZY TECHNIQUES", XXXIII rd ROMANIAN CHEMISTRY CONFERENCE, october 1-3, 2014, Calimanesti Romania.

19. Elena Carcadea, Mihai Varlam, Adriana Marinouiu, Ioan Ștefănescu, Mircea Răceanu, Laurențiu Pătularu, Daniela Ebrașu, Vasile Tanislav, Cătălin Capriș, "The Influence of Catalyst Properties on CO Oxidation Reaction - A Theoretical Approach", Proceeding Conferința "Progress in Cryogenics and Isotopes Separation", 23-24 Octombrie 2014, ISBN: 978-973-750-258-2, pp. 44-45

20. Răceanu, Mircea; Bizon, Nicu; Iliescu, Mariana; Culcer, Mihai; Marinouiu, Adriana; Pătularu, Laurentiu; Schitea, Dorin; Varlam, Mihai; Ștefănescu, Ioan; PERFORMANȚA PILEI DE COMBUSTIBIL DE TIP PEM UTILIZÂND DIFERITE MODURI DE ALIMENTARE CU HIDROGEN; ȘTIINȚA MODERNA ȘI ENERGIA; altele; XXXIV/ISSN 2066-4125/ ISSN-L 2066-4125/2015:05/ Cluj-Napoca; 73 - 88;

21. Răceanu, Mircea; Iliescu, Mariana; Culcer, Mihai; Varlam, Mihai; Bizon, Nicu; An efficiency analysis on the PEM fuel cell using different fueling modes; Proceedings of the International Conference on ELECTRONICS, COMPUTERS and ARTIFICIAL INTELLIGENCE – ECAI-2015; altele; Vol. 7 – No. 2/2015 ISSN – 1843 – 2115; AE_1 - AE_4.

22. Mircea Răceanu, Mariana Iliescu, Mihai Culcer, Adriana Marinouiu, Mihai Varlam, Nicu Bizon, FUELLING MODE EFFECT ON A PEM FUEL CELL STACK EFFICIENCY, Progress of Cryogenics and Isotopes Separation Volume 18, issue 1/2015, ISSN: 1582-2575, pp. 5-15.

23. Răceanu, Mircea; Iliescu, Mariana; Culcer, Mihail; Varlam, Mihai; Ștefănescu, Ioan; *VARIABLE LOAD SUPPLY USING FUEL CELLS / ULTRACAPACITOR HYBRID ARCHITECTURE POWER SOURCE*; 7th International Conference on Energy and Environment CIEM 2015; 22:10:2015 -23:10:2015.

23. Culcer M., other „Hybrid Electric Powertrain with Fuel Cells for a Series Vehicle”, *Energies* 2018 (11), 1294. ISSN 1996-1073; DOI: 10.3390/en11051294, IF: 2.676.

24. Culcer M., other „Design and Simulation of Romanian Solar Energy Charging Station for Electric Vehicles”, *Energies* 2019, 12(1), 74. ISSN 1996-1073, DOI:10.3390/en12010074; IF: 2.676.

25. Nicu Bizon, Gabriel Iana, Erol Kurt, Phatiphat Thounthong, Mihai Oproescu, Mihai Culcer, Mariana Iliescu, Air Flow Real-Time Optimization Strategy for Fuel Cell Hybrid Power Sources with Fuel Flow Based on Load-Following, *FUEL CELLS* 2018 (6), pp. 809-823, ISSN: 1615-6846, 1615-6854; DOI: 10.1002/fuce.201700197, IF: 2.149

26. Aschilean, Ioan; Varlam, Mihai; Culcer, Mihail; Iliescu, Mariana; Răceanu, Mircea; Enache, Adrian; Raboaca, Maria Simona; Rasoi, Gabriel; Filote, Constantin, Hybrid Electric Powertrain with Fuel Cells for a Series Vehicle. *Energies* 2018 (11), 1294. ISSN 1996-1073; DOI: 10.3390/en11051294, IF: 2.676

27. Gheorghe Badea, Raluca-Andreea Felseghi, Mihai Varlam, Constantin Filote, Mihai Culcer, Mariana Iliescu, Maria Simona Raboaca, Design and Simulation of Romanian Solar Energy Charging Station for Electric Vehicles, *Energies* 2019, 12(1), 74. ISSN 1996-1073, DOI:10.3390/en12010074; IF: 2.676

28. Ioan Aschilean, Gabriel Rasoi, Maria Simona Raboaca, Constantin Filote, Mihai Culcer, Design and Concept of an Energy System Based on Renewable Sources for Greenhouse Sustainable Agriculture, *Energies*, Volume: 11, Issue: 5 Article Number: 1201 DOI: 10.3390/en11051201 Published: MAY 2018 ISSN: 1996-1073 Impact factor: 2,676

29. Nicu Bizon, Jose Manuel Lopez-Guede, Ioan Cristian Hoarca, Mihai Culcer, Mariana Iliescu, Fuel Cell (FC) Hybrid Power System with mitigation of the load power variability by the FC fuel flow control information. ECAI 2018 - International Conference – Electronics, Computers and Artificial Intelligence, June 28 -30, 2018, Iasi, RO Vol. 10 – No. 1/2018, ISBN 978-1-5386-4901-5, ISSN – 1843 – 2115, IEEE Xplore Cat. No. CFP1827U-ART

30. Jenica Corcau, Liviu Dinca, Mihail Culcer, Marin Gheorghe, Modeling and Simulation of Hybrid Power Source for Pseudo- Satellites, International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM), June 20-22, 2018, Amalfi Coast, Italy DOI: 10.1109/SPEEDAM.2018.8445190

List of published books/chapters

1. Ioan Stefanescu, Mihai Culcer, Mihai Varlam, Roxana Elena Ionete, Vasile Stanciu, *Elena Carcadea*, Mariana Iliescu, Adrian Enache, Mircea Raceanu, Laurentiu Patularu, Daniela Ebrasu, Vasile Tanislav - Book "Fuel Cells – Between Theory and Practice" (in Romanian), Ed. CONPHYS, Rm. Valcea, 2010, ISBN 978-973-750-197-4

2. Roxana Elena Ionete, *Elena Carcadea*, Mihai Culcer - Chapter 17. European Research Environment in the Field of Hydrogen and Fuel Cell, in book "Complex Behaviour of the Distributed Generation System: Intelligent Management of the Renewable Energy Resources for assuring the DG System Power Quality and a Sustainable Development", Publishing house of the University of Pitești, 2010, Pitești, ISBN 978-606-560-128-4 (hardcover), ISBN 978-606-560-129-1 (e-book).

3. Roxana Elena Ionete, *Elena Carcadea*, Mihai Culcer - Chapter 17. European Research Environment in the Field of Hydrogen and Fuel Cell, in book "Advances in Energy research: Distributed Generation System integrating Renewable Energy Resources", Nova Science Publishers, Inc. USA, ISBN: 978-1-61209-991-0, 2011

https://www.novapublishers.com/catalog/product_info.php?products_id=22516

Romanian National Research Projects:

Involve in 35 Romanian National Research Projects: and in 22 at coordinator of projects.

- Project POS 2.1.2, Contract 119/2010, ISOTOPES FOR HYDROGEN ENERGY –Towards the understanding of the specifics of reactions involved in the Hydrogen Fuel Cell integrated system using Steady-State Isotope Transient Kinetic Analysis – "Proof-of-concept" for a hydrogen fuel cell power station - participant
- PNCDI 2: „Miniinstalation for energy production from renewable sources. Application for microunits and residential assemblies” - coordinator
- PNCDI 2: - "Fuzzy systems for simulating and evaluating scenarios with technological and ecological risks and actions mode in the climatic changing context" - participant
- Project CEEX-Modulus III - "Promoting and supporting the integration of the Romanian research in the field of energy conversion and renewable energy sources in the European technology platform for hydrogen and fuel cells" – participant
- Diploma and gold medal "THE Hamangia Thinker" at the 17th International Exhibition of Research, Innovation and Technology Transfer Iasi 19 to 21 June 2013: Mihai Varlam Mikhail Culcer Raceanu Mariana Iliescu, Adrian Enache, John Stefanescu, Vasile Stanciu -
- Project CEEX-Modulus III - „Promoting the participation to European research program in the hydrogen and fuel cells domain” – participant;
- Project STAR- Concept development and technology evaluation for a PEM fuel cells based auxiliary power unit for space applications - coordinator

Patents

4 Patents:

- Culcer M., other „*Low Power Energy Station with PEM Fuel Cells*”, Patent Application no. A 2012 00685;
- Culcer M., other „*Energy management for a hydrogen fueled auxiliary power source with hybrid topology*”, Patent application no. A 2015 01005;
- Culcer M., other „*Method and energy management algorithm for an auxiliary power source with hybrid topology, supplied with hydrogen*”, patent no. 131164/2018;
- Culcer M., “*Fuel cell stack with PEM*” patent no. 123422