

PERSONAL INFORMATION

Costiuc Iuliana

 Braşov, România



 costiuciuliana@unitbv.ro

Nationality Romanian

WORK EXPERIENCE

Oct. 2024 - Present

Lecturer

University Transilvania Braşov (www.unitbv.ro)

Teaching activity including:

Course, Laboratory classes and Engineering Project in the discipline "Processes and characteristics of internal combustion engines 1" - Study Program "Road Vehicles"
Laboratory classes in the discipline "Processes and characteristics of internal combustion engines 2" - Study Program "Road Vehicles"
Course and Seminar in the discipline "Transfer phenomena" - Study Program "Mechanical Engineering", with reduced frequency
Engineering project in the discipline "Calculation and construction of internal combustion engines 2" - Study Program "Road Vehicles", with reduced frequency
Engineering project in the discipline "Internal combustion engines" - Study Program "Transport Engineering"
Laboratory classes in the discipline "Thermal management and energy recovery in internal combustion engines", Master's Program "Thermal vehicles and technologies of the future"
Course and Seminar in the discipline "Communication and Academic Writing", Study Program in English "Road Vehicles"
Course and Seminar in the discipline "Driver Safety Systems", Master Program "Command and Control Systems for Vehicles"

2017 - 2024

Associate Lecturer

University Transilvania Braşov (www.unitbv.ro)

Teaching activity including:

Laboratory and Engineering Project in the discipline "Processes and characteristics of internal combustion engines 1" - Study program "Road vehicles"
Laboratory in the discipline "Calculation and construction of internal combustion engines 1" - Study program "Road vehicles"
Laboratory in the discipline "Processes and characteristics of internal combustion engines 2" - Study program "Road vehicles"
Laboratory in the discipline "Calculation and construction of internal combustion engines 2" - Study program "Road vehicles"
Laboratory in the discipline "Control and reduction of pollution" - Study program "Road vehicles"
Seminar in the discipline "Heat and mass exchange" - Study program "Mechanical engineering", Distance education
Seminar in the discipline "Transfer phenomena" - Study program "Mechanical engineering", Distance education
Laboratory: "Hydraulic and pneumatic drives" - Study program "Mechanical Engineering", Distance Education
Laboratory: "Hydraulic and pneumatic drives" - Study program "Road vehicles"
Laboratory: "Thermodynamics and thermal machines" - Study program "Mechanical Engineering", Distance Education
Engineering Project for the discipline "Calculation and construction of internal combustion engines 2" - Study program "Road vehicles", Distance Education
Laboratory for the discipline "Internal combustion engines" - Study program "Transport engineering"
Course, Laboratory and Engineering Project for the discipline "Computer-aided design" and the discipline "CAD/CAM", Study program "Mechanical Engineering", Distance Education

2022

PhD in Mechanical Engineering, "Magna cum Laude"

University Transilvania Braşov (www.unitbv.ro)

▪ Thesis: "Optimization of Pressure Wave Supercharger Configuration for Extended Use"

2015 - 2024

Design Engineer

S.C. KLIMAVENT SRL Brasov – De Mijloc Street, 140, Brasov
Design, Consulting, Testing, Analysis and Expertise

2002 - 2015

Design Engineering Manager

- S.C. DAVICANI SRL Braşov (Carpătilor Street, No. 6, E28/27)
- Organizing, guiding and controlling the design activity of new products and technologies or the modernization of existing ones;
- Ensuring the technical and technological design activity in accordance with the latest procedures, standards, norms and regulations in the field;
- Providing training and specialization for inexperienced personnel on the latest technological systems or products and market needs;
- Coordination and management of research and design activity and collaboration between personnel and other beneficiary companies;
- Consulting, analysis and decisions regarding the technical solution for offers/contracted projects;
- Organizing and controlling the execution and assembly works of designed or contracted installations and systems,
- Making technical and commercial offers for clients.
- Project Management for HVAC & R contracts.

1991 - 2002

Design Engineer

- ICPPAM – Institute of Industrial Research and Design, Smârdanului Street, No.2, Galaţi
- Design, Consulting, Testing, Analysis and Expertise
 - Design of heating, ventilation, air conditioning, air pollution control, decontamination systems for commercial and industrial applications, energy recovery, pneumatic transport, fluid transport and heat transfer;
 - Consultancy and technical assistance during execution;
 - Research work in the field of heat and mass transfer, heat recovery, decontamination and environmental protection, etc.

1990 - 1991

Assistant Professor at the Department of Mathematics

High School – currently the "Elena Doamna" College of Food Industry Galaţi (Domnească Street, No. 169)

- Teaching activity with teaching courses and applications in the discipline of Mathematical Analysis (grades XI, XII, XIII), Algebra and Trigonometry (grades 11th, 12th, 13th)

EDUCAȚIE ȘI FORMARE

2015-2022

PhD in Mechanical Engineering

Doctoral School, University Transilvania Braşov

Doctoral thesis on the topic: "Optimization of the pressure wave supercharger configuration for extended use",

Diploma "Magna cum laudae" according to OME 3140/25.01.2023

2002

Quality Controller for Execution and Installation of industrial installations (HVAC, electrical, gas, sanitary)

Certificate MLPAT No. xx/2002, Issued by the Ministry of Public Works and Territorial Development

1994

Technological Design Engineer Thermo-Ventilation Installation

ICPPAM Galaţi – Research and Design Institute for Metallurgical Products and Metal Coatings

1992

Certified AutoCAD 3D operator

3D Computer Aided Design software

Certificate issued by Autodesk International Romania

1986 - 1991

Mechanical Engineer, Thermal Machines, specialization: Thermal Engines

University „Dunărea de Jos” Galaţi

Disciplines studied: Thermodynamics, Thermal machines and equipment, Heat and mass transfer, Fluid mechanics, Compressors, Calculation and construction of internal combustion engines, Dynamics of internal combustion engines, Diagnostics of internal combustion engines, Processes, characteristics and supercharging of internal combustion engines, etc.

PERSONAL SKILLS

Maternal language Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Conversation	Spoken production	
English	C1	C1	C1	C1	C1
TOEFL – Proficient user C1					
French	B1	B2	A2	A2	A2
A2					

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills

- Good verbal communication skills acquired from my own experience as a Design Manager, a position in which I was in constant contact with the beneficiaries, participating in the negotiation and preparation of design themes, Terms of Reference, contracts for the execution of works, etc.
- Written communication skills, acquired over time in the activities carried out in the development of projects, including that of a writer of artistic and scientific literature.

Organizational/ managerial skills

- Managerial - leadership: acquired as Director of the Design Department 2002 - 2015 (team of at least 8 people);
- Organizational: manifested as project manager, coordinating design-research-development activity, initiating and coordinating execution, assembly and testing-sample activity, participating in organizing conferences;
- Team spirit - coordinating professional activity of a team of design engineers, initiating socialization and cooperation activities (team-building, extra-professional activities, etc.);
- Innovative spirit - launching projects, finding and implementing innovative technical solutions.

Job-related skills

- Analytical and decision-making skills (research-design activity, contract assumption);
- Good knowledge of norms, standards and legislation in the HVAC&R field, including quality control processes in the field of construction-related installations;
- Knowledge and application of environmental pollution methods and norms, legislation and ecological management requirements, necessary for the development of projects in the field of environmental protection, energy recovery, automotive engineering;
- Pedagogical skills (teaching activity);
- Skills in analysis, synthesis, problem solving and finding technical solutions in research activity.

IT skills

- Knowledge of Microsoft Office (Word, Excel, PowerPoint), Matlab, Comsol, Autocad, Equation Engineering Solver .

Other skills

- Certified personal development counselor, certificate series P No. 0013589/2023
- Authorized trainer, certificate series S No. 0050681/2024
- Artistic skills – jewelry making (semiprecious stones, silver), painting, music, writing books of artistic literature:
- "Klein's Bottle" – PIM Publishing House, Iași, ISBN 978-606-13-0971-9 (2012)
- "Jacob's Ladder" – PIM Publishing House, Iași, ISBN 978-606-13-1496-6 (2013)
- "Fibonacci Sequence" in the process of publication
- Interest in studying complementary therapies;
- Interest in diversifying and improving skills and professional training.

Driving license

- B

ADDITIONAL INFORMATION

Engineering Projects

Representative projects (investments over 1,000,000 Euro):

- SC ROLEM Romania, Draexlmaier Group Germany (500,000m³/h ventilation, dust removal, filtration and pneumatic system for all production areas)
- Colgate-Palmolive Company (air conditioning and ventilation for production areas, general ventilation system for the entire factory, installations for microbiological laboratories, etc.)
- Glaxo Wellcome Europharm (class 10,000 clean rooms - injectable and storage production areas, class 100.00 microbiological laboratories, etc.)
- Michelin Cord Zalau and Michelin Florești Prahova (high pressure technological fluid pipelines, heating systems, energy recovery)
- TRANSAVIA Alba Iulia and Brașov (ventilation installations and ammonia refrigeration installations)
- SIDEX Galati (HVAC and energy recovery systems for 24 factories: chemical, metal processing, furnaces and raw material processing, environmental protection systems, etc.)

Publications

Representative publications:

Published Books:

- Costiuc L., **Costiuc I.** - Pollution of the external environment, Ed.Evrika, Brăila, ISBN 973-8052-59-9, (2001)
- Costiuc L., **Costiuc I.** - Thermodynamics and thermal machines, Collection of problems, Ed.Evrika, Brăila, ISBN 973-641-000-3, (2001)
- **Costiuc I.** - Supercharging internal combustion engines using pressure wave technology, Ed. Universitatii Transilvania, Brasov, ISBN: 978-606-19-1607-8. (2023)
- **Costiuc I.** – Computer-aided design. Course support. Part-time education. University Transilvania Brasov (2024)

Published articles:

- Miron V, Costiuc L., **Costiuc I.** Valorization of recoverable energy resources of low thermal potential for energy purposes. Annals of the University of Galati , Fascicula IV, 1996-1997, p.37-43, ISSN 1221-4558.(1996)
- Costiuc L., Turtoi G., **Costiuc I.**, Turtoi,M. Modeling solid-vapor equilibrium using the Peng-Robinson equation of state. Scientific session "Thermal Machines and Equipment", Galați, (1997)
- Damian V., Costiuc L., **Costiuc I.** Programme de calcul pour la determination de la caracteristique de fonctionnement d'un ventilateur centrifuge, Proceedings of the International Conference ECOS'98 - Efficiency, Cost, Optimization, Simulation and Environmental Aspects of Energy Systems and Processes, Nancy, France, 8-10 July 1998., ISBN 2-905267-29-1. (1998)
- Damian V., Costiuc L., **Costiuc I.** Programme de calcul pour la determination de la caracteristique de fonctionnement d'un ventilateur centrifuge, Proceedings of the International Conference ECOS'98, p.873-876, ISBN 2-905267-29-1. Refdoc.fr indexed, INIST-CNRS, Cote INIST:Y32025(1), (1998)
- Damian V.,Costiuc L., **Costiuc I.** Computer program for the regime diagram of a centrifugal fan. Rev. ENTROPIE vol.35, no. 220/221, pg. 82-85, 1999, ISSN 0013-9084, CODEN ENTPA5, Refdoc.fr indexed, INIST-CNRS, Cote INIST:12820, 35400008087307.0130.(1999)
- Costiuc L., **Costiuc I.** Modeling a heat exchanger using a 3-zone model, Jubilee Symposium "40 years of REFRIGERATION" in Galati , (2000)
- Costiuc L., **Costiuc I.** – Numerical simulation model of the operation of a refrigeration installation, .11th National Conference on Thermotechnics with international participation , Univ. "Dunărea de Jos" Galați, (2001)
- Costiuc, L., **Costiuc, I.** - Ammonia Heat - Exchangers for Refrigeration.Part.1:Dynamic Regime Modelling. 2nd International Conference on Thermal Engines and Environmental Engineering Proceedings, Galati, 2007,vol.1,pg.217-222, ISBN 978-973-1724-17-1. ProQuest CSA ILLUMINA indexed, Accession Number: 201001-52-1455151 (MT).(2007)
- L.Costiuc, I.Costiuc, Solar Powered Resorption Cooling System, Bulletin of the Transilvania University of Brasov, vol.3(52)-2010, pag. 7-14, ISSN 2065-2119, EBSCO indexed (2010)
- **Costiuc, I.**, Costiuc, L., Radu, S. - Waste Heat Recovery Using Direct Thermodynamic Cycle - Bulletin of the Transilvania University of Brașov • Vol. 8 (57) No. 2- 2015, Series I: Engineering Sciences. (2015)

- **I. Costiuc**, A. Chiru, "Thermodynamic Process Modeling in Pressure Wave Superchargers", International Congress of Automotive and Transport Engineering, CONAT 2016, Braşov, România, ISSN 2069-0401 (2016)
- **I. Costiuc**, A. Chiru, "Modeling of thermodynamic processes in pressure wave compressors", Automotive Industry Magazine Nr.43/Iunie 2017, Romanian Journal of Automotive Engineering, RoJAE 23(2) 49 – 90 (2017), ISSN 2457 – 5275 (Online, English), ISSN 1842 – 4074 (Print, Online, Romanian), ISI (2017)
- **I. Costiuc**, A. Chiru, "Evolution of the Pressure Wave Supercharger Concept", International Congress of Automotive and Transport Engineering, IOP Conf. Ser.: Mater. Sci. Eng. 252 012081, doi:10.1088/1757-899X/252/1/012081, SCOPUS (2017)
- L. Costiuc, **I. Costiuc**, "Comparative Analysis of an Organic Rankine Cycle for Waste Cogeneration Plants", Bulletin of Transilvania University of Braşov, Vol. 10 (59) No. 2 - 2017, ISSN 2065-2119
- **I. Costiuc**, L. Costiuc, MESH BASED MODELING OF A PRESSURE WAVE SUPERCHARGER - The 7th International Conference on Computational Mechanics and Virtual Engineering, COMEC 2017. Brasov, ROMANIA, (2017)
- **I. Costiuc**, A. Chiru, L. Costiuc, PRESSURE WAVE TECHNOLOGY – AN INTERESTING APPROACH IN SUPERCHARGING, Romanian Journal Of Technical Sciences, No.1/2018, Vol.63, ISSN: 2601-5811 (Print), e-ISSN: 2601-582X (Online), Romanian Academy, Publisher: Publishing House of the Romanian Academy, Indexed Copernicus 84.44 (2018).
- **I. Costiuc**, L. Costiuc - Mesh less modeling of a pressure wave supercharger, The 3rd International Conference on Experimental Mechanics in Engineering, 29-31 October 2020 Transilvania University of Brasov, Romania (2020)
- L. Costiuc, **I. Costiuc**, Dynamic modelling of the condenser type heat-exchanger, Fourth International Scientific Conference, Alternative Energy Sources, Materials & Technologies (AESMT'21), Ruse, Bulgaria, Volume 3, (pp. 121-122) 2021, ISSN 2603-364X, https://www.aesmt.lima-city.de/Publication_21.html (2021)
- **Costiuc I.**, Costiuc L., "Numerical Investigation of a Pressure Wave Supercharger", 31st International Congress AITS Chişinău, Rep.Moldova (2021)
- **Costiuc I.**, Costiuc L., Chiru A. "Investigation of pressure field along the channel of a Pressure Wave Supercharger", The 31st International Congress AITS Chişinău, Rep.Moldova (2021)
- **Costiuc, I.**; Chiru, A.; Costiuc, L.; A Review of Engine's Performance When Supercharging by a Pressure Wave Supercharger. Energies 2022, 15, 2721. <https://doi.org/10.3390/en15082721>, FI=3.252, SRI=0.598

Affiliations

Member of SIAR – Society of Automotive Engineers of Romania (2016-present).