

Curriculum Vitae

PERSONAL INFORMATION



RADU Sebastian

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Gender M | Nationality Romanian

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WORK EXPERIENCE			
Oct. 2008- present	University Lecturer		
	Transilvania University of Brașov, Bd. Eroilor, no. 29, postal code 500036, <u>www.unitbv.ro</u>		
	 Expertise in various CAD/CAE research platforms with applications in structural analysis and simulations. 		
	 Setup and oversight of the CAD laboratory. 		
	 Development and supervision of the CAE laboratory. 		
	 Innovation and advancement of alternative propulsion system designs. 		
	 Modeling and analysis of internal combustion engine operations. 		
 Structural evaluation and computational analysis of engine components. Hydraulic system modeling and performance simulation. 			
	 Management of industry-focused research contracts. 		
	 Engagement in research projects secured through national competitive funding. 		
	Leadership in research efforts to develop a two-stroke engine for a hybrid hydraulic transmission.		
	 Direction of R&D initiatives for a two-stroke engine featuring opposed pistons and cylinders. 		
	Domain: teaching and research activities		
Oct. 2002- sept 2008	Assistant Lecturer Transilvania University of Brașov, Bd. Eroilor, no. 29, postal code 500036, <u>www.unitbv.ro</u>		

- Teaching activities
- Research activities
- Administrative tasks

Domain: teaching and research activities



2011-2012 Design Engineer

C-CON SRL (<u>https://www.c-con.de/</u>)

Design of stamping dies, molds, and welding fixtures for automotive body structures

Type or sector of activity: Industrial production, research and development.

2007-2009 Design Engineer

C-CON SRL (https://www.c-con.de/)

- Design of vehicle chassis systems, stamping dies, molds, and welding fixtures for automotive body structures.

Type or sector of activity: Industrial production, research and development.

2005-2006 Technical Director

SC CADITEC SRL

- Organization, management, and monitoring of projects.
- Project analysis and bidding.
- Coordination of the team of design engineers.
- Development of work procedures and technical documentation.
- Planning of company activities.
- Development and optimization of technical systems used in the automotive industry.
- Implementation of project verification and tracking procedures.

Type or sector of activity: Industrial production, research and development.

2004-2005 Technical Design Coordinator (Catia V5 and Catia V4)

SC CADITEC SRL

- · Coordination of the company's design activities for prototype development.
- Supervision of FEA activities for prototype validation.

Tipul sau sectorul de activitate Producție industrială, cercetare dezvoltare

EDUCATION AND TRAINING	
2002-2012	Doctorate in Engineering Sciences – Mechanical Engineering
	Transilvania University of Braşov
	 Research on the design and development of a pressure generator based on liquid resonance for vehicle propulsion.
2002-2003	Advanced Studies Graduation Transilvania University of Braşov, Faculty of Mechanical Engineering
	 Techniques for optimizing the human-vehicle-road system.
1997-2002	Mechanical Engineer
	Transilvania University of Brașov, Faculty of Mechanical Engineering, Department of Vehicles and Transportation

- Specialization in Automotive Engineering

Other skills



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Main language	Romanian				
Other language(s)	UNDERSTANDING		CONVERSATION		WRITING
	Listening	Reading	Participation	Oral discourse	
English	B1/B2	B1/B2	B1/B2	B1/B2	B1/B2
Communication skills	 Excellent communic Director and Chief D Transilvania Univers 	ation skills develoj esign Engineer, a ity of Brașov.	bed through the coord s well as through tead	dination of projects, bo ching and research act	th as a Technical ivities at
Organisational / managerial skills	 Leadership – Starting with coordinating teams of design engineers and continuing with organizing and optimizing processes in the companies where I have worked in various coordination positions. Organization – Organizing, managing, and monitoring projects; ensuring the flow of information between different departments of partner companies located in different locations: CADITEC Romania, Autokabel Germany, C-CON Romania, C-CON Germany. Evaluation and organization – Secretary within the institutional evaluation teams of ARACIS. Evaluation and organization – Member in the organization of licensing committees. Leadership and organization – Coordination of the assisted design laboratory within the C002 research center of the Research and Development Institute of Transilvania University of Braşov. Organization – Organizing repeated meetings between students and local entrepreneurs. 				
Job-related skills	 Expertise in quality assurance processes in higher education. Proficiency in internal combustion engine design and simulation (thermodynamics, FEA, CFD). Integration of CAD with simulation tools (FEA, CFD) for international collaboration. Project management, stakeholder communication, and coordination. Advanced 3D modeling skills: CATIA V4/V5, CREO, SIEMENS NX, SOLIDWORKS. Automation processes in CAD modeling. 			xs, FEA, CFD). n. RKS.	

Automation	processes	III CAD	modelli

Computer skills

		AUTOEVALUARE		
Procesarea informației	Comunicare	Creare de conținut	Securitate	Rezolvarea de probleme
Utilizator independent	Utilizator independent	Utilizator independent	Utilizator independent	Utilizator independent

Bună cunoaștere a instrumentelor Microsoft Office™

- Catia V5 (peste 20000 de ore)

- Catia 4.2.0 (4000 ore)
- CREO
- SOLIWORKS
- SIEMENS NX
- AMESim
- MSC Patran-Nastran (2000 ore)
- MSC ADAMS
- MSC APEX
- ADOBE ACROBAT
- ADOBE PHOTOSHOP

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Summary of key academic and research achievements.

- Doctoral thesis
- Number of books published in national publishing houses: 3
- Number of book chapters published in international publishing houses: 1
- Research contract director, awarded through national competition: 1
- Research contract director for third-party projects, total contract value: 582,487 lei
- Number of contracts in which I participated as a member: 3

Driving license

Publications

В

ADDITIONAL INFORMATION

- The IV-th International Congress of Automotive and Transport Engineering Technical University of Cluj-Napoca, Romania October 17, 2018 – October 19, 2018.
 - CONAT 2016 International Congress of Automotive and Transport Engineering, Brasov, Romania.
 - European Automotive Congress 14th EAEC Automotive Congress 9th ESFA Congress The 2015International SIAR Congress 25 – 27 November 2015 București, România.
 - The third International Conference of Mechanical Engineering, ICOME 2015, organized by the Faculty of Mechanics, University of Craiova, that will be held on 8th – 9th of October 2015 in Craiova, Romania.
 - Proceedings of the FISITA 2012 World Automotive SAE-China,
 - "5th International Fluid Power Conference " 2006, Aachen 2006
 - International Congress "Conference on Sustainable Energy 2005," Braşov
 - International Congress CONAT 2004, Braşov, under the aegis of SAE International and FISITA
 - The Study of Sonic Propulsion Systems Integrating Dynamical Wave Generation and Dynamical Energy Recovery.
 - Workshop on Numerical Methods in Fluid Mechanics and Fluid Applications, Timisoara May 22-23, 2003.
 - Numerical Analysis of Dynamical Phenomena in Liquids; Design of the Gasodynamics of Pressure Exchange Engines using the Fluent Software.

Projects	Project Director:
	 Hybrid Vehicle Technology** – Led **Project No. 231**, developing a two-stroke engine for hybrid vehicles (2014-2016).
	 Fluid Dynamics & Energy Conversion** – Directed research through **Romanian Academy Grant GAR 424**, focusing on dynamic phenomena in liquids and energy conversion (2003- 2004).
	 Hydrostatic Energy Recovery** – Managed **CNCSIS Type A Contract No. 890**, exploring oscillatory processes in liquids for vehicle damper energy recovery systems (2007-2008).
	 Diesel Engine Optimization** – Supervised **CNCSIS Contract No. 599/2001**, optimizing energy efficiency and ecological impact for a single-cylinder diesel engine with direct injection (2002-2003).
	 Advanced Vehicle Systems** – Led **SAVAT Project**, developing advanced systems for automotive and road transport (2006-2008).
	Responsible for research contracts in the industrial business sector:
	 Thermogasodynamic Analysis – Investigating combustion and fluid dynamics in piston engines.
	 - Hydraulic Loss Assessment – Using CFD simulations to evaluate pressure losses in the UniAir system, from the pump to actuator cylinders.
	Flow Process Simulation – Modeling fluid behavior in the Common MPC – basic system.
	 Rotary Drive Mechanism Development – Designing and optimizing Crank-ecoolDrive for efficient mechanical actuation.
	 Heat Pump Innovation – Developing a thermal compression cycle for improved energy efficiency.
	 - Advanced Thermogasodynamic Studies – Researching fluid dynamics and energy conversion in heat pump systems.



- Memberships Member of the Society of Automotive Engineers (SAE), USA
 - Member of the SIAR .

Academic courses • Courses Taught:

- Computer-Aided Design (CAD) Principles, methodologies, and applications in engineering.
- Internal Combustion Engine Design & Calculation Structural analysis, performance evaluation, and optimization.
- Special Vehicles Design and functionality of specialized automotive systems.
- Processes & Characteristics of Internal Combustion Engines Thermodynamic behavior, efficiency, and operational parameters

Sebastian RADU