

PERSONAL INFORMATION



BURNETE NICOLAE VLAD

📍 Muncii Blvd., Nr. 103-105, Cluj-Napoca, 400641, Romania

✉ nicolae.vlad.burnete@auto.utcluj.ro; vlad.burnete@campus.utcluj.ro

Sex Male |

| Nationality Romanian

WORK EXPERIENCE

01.03.2022 – Present day

Associate Professor

Technical University of Cluj-Napoca, Faculty of Automotive, Mechatronics and Mechanical Engineering, Department of Automotive Engineering and Transports, Muncii Blvd., Nr. 103-105, Cluj-Napoca, Romania, www.utcluj.ro

- Teaching activities – „Processes and characteristic diagrams of internal combustion engines”, “Modern auxiliary systems for internal combustion engines”, “Advanced systems and equipment for internal combustion engines”, “Internal combustion engines and thermodynamics”
- Research

Business or sector Higher education

01.10.2020 – Present day

Responsible for the MSc program *Automotive Management and Control Systems* (in partnership with Robert Bosch Romania)

Technical University of Cluj-Napoca, Faculty of Automotive, Mechatronics and Mechanical Engineering, Department of Automotive Engineering and Transports, Muncii Blvd., Nr. 103-105, Cluj-Napoca, Romania, www.utcluj.ro

Business or sector Higher education

27.02.2018 – 01.03.2022

Lecturer

Technical University of Cluj-Napoca, Faculty of Automotive, Mechatronics and Mechanical Engineering, Department of Automotive Engineering and Transports, Muncii Blvd., Nr. 103-105, Cluj-Napoca, Romania, www.utcluj.ro

- Teaching activities – „Processes and characteristic diagrams of internal combustion engines”, “Modern auxiliary systems for internal combustion engines”, “Advanced systems and equipment for internal combustion engines”, “Internal combustion engines and thermodynamics”
- Research

Business or sector Higher education

27.02.2017 - 27.02.2018

Assistant lecturer

Technical University of Cluj-Napoca, Faculty of Mechanics, Department of Automotive Engineering and Transports, Muncii Blvd., Nr. 103-105, Cluj-Napoca, Romania, www.utcluj.ro

- Teaching activities – „Processes and characteristic diagrams of internal combustion engines”
- Research

Business or sector Higher education

27.09.2015 – 27.02.2017

Assistant lecturer

Technical University of Cluj-Napoca, Faculty of Machine Building, Department of Mechanical Systems Engineering, Muncii Blvd., Nr. 103-105, Cluj-Napoca, Romania, www.utcluj.ro

- Teaching activities – „Machine elements I and II”
- Research

Business or sector Higher education

01.11.2011 – 09.09.2014

Diagnostic engineer

RMB Inter-Auto Cluj (Mercedes-Benz Dealer), Calea Turzii Str., Nr. 172, Cluj-Napoca, Cluj county, Romania, <http://www.inter-auto.ro/>

- Specific vehicle diagnostic and customer service activities

Business or sector Automotive repair workshop



EDUCATION AND TRAINING

- April 2024 **University Leadership Program (SEED Romania)**
Harvard Graduate School of Education
Topic: Leadership Bootcamp
- November 2023 **University Leadership Program (SEED Romania)**
Babson College
Topic: Entrepreneurial Bootcamp
- July 2020 – July 2021 **Postdoctoral researcher**
Technical University of Cluj-Napoca, Cluj-Napoca, Romania
▪ Thesis: "Research into the possibility to increase internal combustion engine efficiency by recouping waste thermal energy using thermoelectric generators"
- Oct. 2013 – Sept. 2016 **PhD in engineering sciences**
Technical University of Cluj-Napoca, Cluj-Napoca, Romania
▪ PhD Thesis: "Studies and researches regarding the influence of fuel injection on pollutant emissions in compression ignition engines", <http://doctorat.utcluj.ro:8080/Doctoranzi/?1>
- Oct. 2014 – July 2015 **German Academic Exchange Service (DAAD) fellow**
Steinbeis University Berlin, Steinbeis Transfer Institute Dynamic Systems, Theodor-Heuss-Straße, Nr. 1, Konstanz, Germany
▪ System and process simulation of internal combustion engines, Matlab & Simulink, Solid Dynamics, Autodesk Inventor
- Oct. 2011 – July 2013 **Master of science studies**
Technical University of Cluj-Napoca, Cluj-Napoca, Romania
Specialization: Automotive engineering and environment
▪ The interaction between the environment and automobiles: recycling, production, biofuels, environmentally friendly technologies
- Oct. 2007 – July 2011 **Bachelor studies**
Technical University of Cluj-Napoca, Faculty of Mechanics, Specialization: Automotive Engineering, Cluj-Napoca, Romania
Specialization: Automotive engineering
▪ Operation and development of the internal combustion engines; Vehicle dynamics; Operation and development of automobiles

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
German	B2	B2	B1	B1	B1
	Deutsches Sprachdiplom				
English	B2	B2	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills

- good communication skills acquired through collaboration in research/consultancy projects, teaching activities and scientific events.

Organizational / managerial skills

- good management competencies acquired during the managed research projects;
- creative thinking for solving organizational and management problems;
- organizational competencies acquired as a masters program director.

Job-related skills

- proactivity acquired while working on research projects and as a member in various teams;
- responsibility acquired as a masters program director;
- adaptability and flexibility acquired as intern for a software development company;
- good teamwork competencies acquired while working in research groups and in various teams.



Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Independent user	Proficient user

Levels: Basic user - Independent user - Proficient user

[Digital competences - Self-assessment grid](#)

- good knowledge of office suite (Microsoft Office 365, Microsoft Windows, Mac OS)
- good knowledge of simulation and computer assisted design software (AVL Boost, AVL Fire, Lotus Engine Simulation, AmeSIM, Matlab-Simulink, Autodesk Inventor, SolidWorks, Mathcad)
- programming skills (HTML, CSS, JavaScript, C#, .NET technologies)

Driving license

A, B, C, BE, CE, DE

ADDITIONAL INFORMATION

Publications

- Papers published in ISI indexed journals: 7
- Papers presented and published in ISI Proceedings volumes: 11
- Papers published in other BDI indexed publications/volumes: 7
- Other papers (published in journals / presented at conferences): 3
- Book chapters: 4
- Books / monographies: 2
- Application guides: 3

Patents

- Kopp A, Barac-Zbircea O, Burnete NV, inventators; Dr. Ing. h.c. F. Porsche Aktiengesellschaft, Technical University of Cluj-Napoca, assignee. „Verfahren einer Verbrennungskraftmaschine mit zwei mal drei Takten”, Germany, Patent No. 10 2023 104 487

Certification

- AVL Fire
- .NET Development
- Content Marketing

Contracts

Director

- 2024 VAT Contract – Evaluation of fuel influences on engine operation, value 228 098 lei, Beneficiary LION COMMUNICATION SERVICES SA
Results: Report according to contract.
- 2020 - 2021 VAT contract – Evaluation of project proposal for electric vehicle public transport, value 17 500 RON, Beneficiary SC SERVELECT SRL
Results: Report according to contract.
- 2020 VAT contract – Evaluation of project proposal for electric vehicle public transport, value 12 095 RON, Beneficiary SC SERVELECT SRL
Results: Report according to contract.
- 2019 VAT contract – Analysis of the influences of various fuels on ICE operation, value 72 186 RON, Beneficiary PETROTEL-LUKOIL SA
Results: Report according to contract.
- 2018 VAT contract – Testing of fuel consumption reduction devices, value 5 474 RON, Beneficiary SC IRON & STEEL IMPEX SRL
Results: Report according to contract.
- 2018 - 2019 eGUTS – Electric, Electronic and Green Urban Transport Systems, value 42 750 RON, Beneficiary UNIVERSITATEA POLITEHNICA TIMIȘOARA
Results: Report according to contract.
- 2017 - 2018 C.I. 2014/12.07.2017 (UTC-N), value 20 000 RON, Beneficiary UNIVERSITATEA TEHNICĂ DIN CLUJ-NAPOCA
Results:
 - 1) Burnete, N., V., Șerdean, F., M., Burnete, N., Moldovanu, D., Combustion Analysis for Single Cylinder Engine Running on Various Types of Diesel, Proceedings of the 4th International Congress of Automotive and Transport Engineering (AMMA 2018), pp. 593–600, Springer, Cham, DOI: 10.1007/978-3-319-94409-8_69
 - 2) Burnete, N., V., Burnete, N., Jurchiș, B., Iclodean, C., Influences of diesel pilot injection on ethanol autoignition - a numerical analysis. IOP Conference Series: Materials Science and Engineering 252: 012066, 2017, doi: 10.1088/1757-899X/252/1/012066

Member

- 2023 – Present day NetZeRoCities – National Competence and Solutions Center for the development of intelligent climatic neutral cities 6/16.11.2022, value 28 662 219 RON
- 2022 – Present day Innovative system fitted in the seats of commercial airplanes for reducing



SARS-CoV-2 transmission (SAFE), value 150 000 RON

- 2020 - 2022 Innovative system for extending the autonomy of electric vehicles and improving thermal comfort – XTREME, value 150 780 RON
- 2019 VAT contract – Testing of gasoline fuel, value 76 779 RON
- 2019 VAT contract – Testing of diesel fuel, value 102 040,29 RON
- 2018 VAT contract – Testing of internal combustion engines to evaluate deposits, value 109 899 RON
- 2018 - 2020 Technologies for intelligent urban electrical vehicles (URBIVEL), Action: POC-A1-A1.2.3-G-2-15 Partnerships for knowledge transfer, value 15 682 673,75 RON
- 2017 VAT contract – Testing of various fuels, value 173 996 RON

Awards

- EFISCDI - Premiarea rezultatelor cercetării – Articole Competiția 2024 - PN-IV-P2-2.3-PRECISI
- UEFISCDI - Premiarea rezultatelor cercetării – Articole Competiția 2020 - PN-III-P1-1.1-PRECISI
- UEFISCDI - Premiarea rezultatelor cercetării – Articole Competiția 2016 - PN-III-P1-1.1-PRECISI

Affiliations

- Romanian Automotive Society – since 2011
- SIA- Société des Ingénieurs de l'Automobile – since 2016
- SAE – Society of Automotive Engineers – since 2017

Cluj-Napoca, 25.09.2024

