

Curriculum Vitae

Personal information

First name(s) / Surname(s) **RUSU CĂLIN**
Telephone(s) +40745512230, +40264401755
Fax(es) -
E-mail calin.rusu@mdm.utcluj.ro
Nationality Romanian
Date of birth 08.05.1974

Work experience

Dates Oct.2023 - present
Name and address of employer Technical University of Cluj Napoca, Faculty of Automotive, Mechatronics and Mechanics, Department of Mechatronics and Machine Dynamics, B-dul Muncii, nr. 103 -105, 400641, Cluj – Napoca, Romania
Occupation or position held **Associate Professor**
Main activities and responsibilities Didactic and research activities related to: Mechanisms, Measurement systems, Technical Optics, CAD. Institutional activities

Dates 2004 – 2023
Name and address of employer Technical University of Cluj Napoca, Faculty of Automotive, Mechatronics and Mechanics, Department of Mechatronics and Machine Dynamics, B-dul Muncii, nr. 103 -105, 400641, Cluj – Napoca, Romania
Occupation or position held **Lecturer**
Main activities and responsibilities Didactic and research activities related to: Mechanisms, Measurement systems, Technical Optics, CAD. Institutional activities

Dates 2001 – 2004
Name and address of employer Technical University of Cluj Napoca, Faculty of Mechanics, Departament of Mechanisms, B-dul Muncii, nr. 103 -105, 400641, Cluj – Napoca, Romania
Occupation or position held **Assistant**
Main activities and responsibilities Didactic and research activities related to: Mechanisms, Measurement systems, Metrology, CAD

Dates 1998-2001
Name and address of employer Technical University of Cluj Napoca, Faculty of Mechanics, Departament of Mechanisms, B-dul Muncii, nr. 103 -105, 400641, Cluj – Napoca, Romania
Occupation or position held **Preparator**
Main activities and responsibilities Didactic activities

Education and training

Dates 1999 – 2005
Title of qualification awarded PhD in Mechanical Engineering
Principal subjects/occupational skills Title: Contributions regarding the mechanisms for mechatronics, Scientific advisor: Prof. dr.ing. Vistrian Mătieș
Name and type of organization providing education and training Technical University of Cluj Napoca

Dates 1997 – 1998

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Rusu Călin

Title of qualification awarded Master - Advanced Methods and Tools in Engineering and Management Quality Assurance
Principal subjects/occupational skills Quality Assurance, Quality Management
Name and type of organization providing education and training Technical University of Cluj Napoca, Faculty of Mechanics
Dates 1992 - 1997
Title of qualification awarded Mechanical Engineer , specialization Precision Mechanics
Principal subjects/occupational skills
Name and type of organization providing education and training Technical University of Cluj Napoca, Faculty of Mechanics

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s) **English**

Self-assessment <i>European level (*)</i>	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Computer skills - CATIAv5, Autodesk Inventor, SolidWorks, NX, Creo
- LabView, Matlab/Simulink
- C#, C++
- Microsoft Office™

Communication skills Good communication skills gained through participation:
- in teaching and research teams
- as a member of doctoral student guidance committees
- in national and international projects as well as attending conferences and workshops

Didactic activity

Teaching Courses Faculty of Automotive, Mechatronics and Mechanics

- **Mechanisms** – MTR, MFN, SET, MIAIA 3rd year
- **Technical Optics** – MFN, 3rd year
- **Measurement Systems** – MFN, 3rd and 4th year
- **CAD** – MFN, 3rd and 4th year
- **CAD-CAM-CAE** – ISM , Master 1st year

Faculty of Electrical Engineering

- **Mechanisms** – Electrical Engineering and Energy Engineering, 2nd year

Training Mobility -

Institutional Projects
(max 5 the most representative)

1. ERASMUS 2022-1-RO01-KA220-HED-000088365 – *International Cooperation Framework for Next Generation Engineering Students NextGEng*, TUCN Coordinator, Conf.dr.ing. Ciprian Lapusan, **Results: lecture at JAMK University of Applied Sciences, Jyväskylä Finland**
2. ERASMUS 575660-EPP-1-2016-1-FI-EPPKA2-KA – *Smart HEI-Business collaboration for skills and competitiveness HEIBus*, TUCN Coordinator, Conf.dr.ing. Ciprian Lapusan: **Results: 1 BDI scientific paper, 2 cooperation projects with: Valtra Finland and Electrolux Lehel kft Hungary**
3. ERASMUS 561894-EPP-1-2015-1-DE-EPPKA2-CBHE-JP – *Advancing University Education in Biomedical Engineering and Health Management in Kyrgyzstan KyrMEDU*, TUCN Coordinator, Conf.dr.ing. Simona Noveanu, **Results: lecture at Kyrgyz State University, Kyrgyzstan**
4. ERASMUS 540425-LLP-1-2013-1-FI-ERASMUS-EKA – *Reshaped Partnerships for Competitiveness and Innovation Potential in Mechanical Engineering RePCI*, TUCN Coordinator, Prof.dr.ing. Dan Mândru, **Results: 2 BDI scientific papers, lecture at Hochschule Esslingen, Germany**

Research

National Grants
(max 5 the most representative)

1. GNaC ARUT, cod 168, Nr.3030/05.02.2019 – *Sistem de micromanipulare cu actuatori piezoelectrice și flexibilitate funcțională – SiMFlex*, Project manager Assoc.Prof. Noveanu Simona, 2019 – 2020, **Results: 1 ISI scientific paper, 4 BDI (Scopus,WoS)**
2. Project nr.111 / CP / I 14.09.2007 – *Laborator regional multifuncțional de mecatronică*, Project manager Prof. dr. ing. Mătieș Vistrian, perioada: 2007–2010, **Results: 1 patent**
3. Project Nr 21-003/2007 – *Creșterea eficienței conversiei energiei solare în platforme fotovoltaice orientabile*, PLATSOL-PV, Project manager for UTCN: Prof. dr. ing. Mătieș Vistrian,
4. Project IDEI ID_1056, nr. 85/01.10.2007 – *Modelarea, simularea și realizarea unor familii de sisteme robotizate pentru inspecție și explorare*, Project manager: Prof. dr. ing. Olimpiu Tatar,
5. Grant A/2005 CNCSIS – *Cercetări privind sinteza axelor cinematice în mecatronică*, Project manager: Prof.dr.ing. Mătieș Vistrian,

International Grants
(max 5 the most representative)

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Scientific publications

- First author or co-author of more than 50 scientific papers published in journals or volumes of national or international conferences
- 5 books (2 single author) and 3 book chapters in national and international publishing houses (co-author)

Reviews

Reviewer at Elsevier: *Mechanism and Machine Theory (Q1)*, MDPI: *Applied Sciences(Q1)*, *Energies(Q1)*, *Machines(Q2)*, *Actuators(Q2)*, *Sensors (Q2)* and *Robotics (Q2)*

Additional information

Awards -

Membership of
Professional Societies

IFToMM - International Federation for the Promotion of Mechanism and Machine Science
ARoTMM - Romanian Association for the Theory of Machines and Mechanisms
SRR - Romanian Society of Robotics

Guest lecturer

October 2024 – *Parametric Design with CATIAv5*, JAMK University of Applied Sciences, Jyväskylä Finland

March 2019 – *Introduction in Technical Optics*, Kyrgyz State University of Construction, Transport and Architecture

October 2015 – *Design of Multifunctional Robotic Arms with Applications for In-Pipe Inspection Robots*, Hochschule Esslingen, University of Applied Sciences, Faculty of Mechanical Engineering.

**Significant books published
in the last 10 years (max 10)**

1. Rusu C. - *Mecanisme II. Suport de curs*, Editura UTPress, Cluj Napoca, 2022, ISBN 978-606-737-578-7
2. Rusu C. - *Mecanisme*, Editura UTPress, Cluj Napoca, 2021, ISBN 978-606-737-501-5

**Significant papers published
in the last 10 years (max 10)**

1. **Rusu, C.**, Tatar, M.O - *Adapting Mechanisms for In-pipe Inspection Robots: A review*, Applied Sciences, 12, 2022, ISSN 2076-3417 <https://doi.org/10.3390/app12126191>
2. S. Noveanu, I.A Ivan, D.C. Noveanu, **C. Rusu**, D. Lates - *SiMFlex Micromanipulation Cell with Modular Structure*, Applied Sciences 10, 2020, ISSN 2076-3417 <https://doi.org/10.3390/app10082861>
3. **C. Rusu**, S Besoiu, MO Tatar - *Design and closed-loop control of a piezoelectric actuator*, IOP Conference Series: Materials Science and Engineering, vol 1018, 2021, doi.org/10.1088/1757-899X/1018/1/012002.
4. **Rusu, C.**, Besoiu, S. - *Analysis of the displacement amplification ratio for a piezoelectric driven compliant mechanism*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, Vol 64, nr I, pag 87-92, 2021, ISSN 1221-5872
5. S. Noveanu, C. **Rusu, C.** Rancea, D. Lates - *Research Concerning the End-effectors for SiMFlex Microgripper*, IOP Conference Series: Materials Science and Engineering, Vol 724, nr 1, 2020, doi:10.1088/1757-899X/724/1/012055
6. S. Noveanu, D.Lates, L.Fusariu, **C. Rusu** - *A New Compliant Microgripper and Study for Flexure Hinges Shapes*, Proceedings of the 13th International Conference INTER-ENG 2019 in Procedia Manufacturing, vol 46, 2019, ISSN 2351-9789
7. **C. Rusu**, S, Besoiu, K Vidrean, C Lapusan - *New approaches in online evaluation of photovoltaic systems efficiency by implementing IoT monitoring solutions*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, Vol 62 nr IV, pag12-18, 2019, ISSN 1221-5872
8. **C. Rusu**, T.L. Tiuca, S. Noveanu, D. Mândru - *A KBE tool for solving the mechanisms kinematics*, The 7th International Conference on Advanced Concepts on Mechanical Engineering ACME2016, IOP Conference Series: Materials Science and Engineering, Vol 147, pp 652-656, ISSN 1757-8981
9. T.L. Tiuca, **C. Rusu**, S. Noveanu, D. Mândru - *General KBE model with inheritance and multi-CAD support*, The 7th International Conference on Advanced Concepts on Mechanical Engineering ACME2016, IOP Conference Series: Materials Science and Engineering, Vol 147, pp 536-543, ISSN 1757-8981
10. Lapusan C., **Rusu C.**, Brai, L., Mandru, D - *Development of a multifunctional robotic arm for in-pipe robots*, Proceeding of the 7th IEEE International Conference: Electronics, Computers and Artificial Intelligence (ECAI), 2015, ISSN: 2378-7147

Cluj-Napoca,
Date: September 2024

Assoc. Prof. eng. Călin RUSU Ph.D

