




PERSONAL INFORMATION

Mihaela Simion



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Sex Feminine | Date of birth 21/06/1985 | Nationality Romanian

CURRENT JOB

Lecturer at Technical University of Cluj-Napoca

WORK EXPERIENCE

<p>Period</p> <p>Position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p> <p>Activity type/Activity domain</p>	<p>30 January 2018 – Present</p> <p>Lecturer</p> <p>Seminars and laboratory activities at Strength of Materials Discipline to the Faculty of Mechanics and Building Machines (English and Romanian student series); Lectures, Seminars and laboratory activities at Strength of Materials Discipline to the Faculty of Building Machines from Satu-Mare; Research in field of Strength of Materials</p> <p>Technical University of Cluj-Napoca, Faculty of Mechanics, Department of Mechanical Engineering, No. 103-105, Avenue Muncii, Cluj-Napoca</p> <p>Education and Research</p>
<p>Period</p> <p>Position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p> <p>Activity type/Activity domain</p>	<p>September 1th 2014 – 30 January 2018</p> <p>Assistant Lecturer</p> <p>Seminars and laboratory activities at Strength of Materials Discipline; Research in field of Strength of Materials</p> <p>Technical University of Cluj-Napoca, Faculty of Mechanics, Department of Mechanical Engineering, No. 103-105, Avenue Muncii, Cluj-Napoca</p> <p>Education and Research</p>
<p>Period</p> <p>Position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p> <p>Activity type/Activity domain</p>	<p>July 2013 – July 2014</p> <p>Mechanical Design Engineer</p> <p>Mechanical design and technical documentation for production; Programming and operating of CNC punching machine (Ermak)</p> <p>S.C. Transcarpatica S.A., Cluj-Napoca</p> <p>Metal Fabrications</p>
<p>Period</p> <p>Position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p> <p>Activity type/Activity domain</p>	<p>February 2013 - July 2013</p> <p>Mechanical Design Engineer</p> <p>Design of parts for photogravure process</p> <p>Exella Europe SRL , Cluj-Napoca</p> <p>Photo-etching and chemical machining of metals</p>

Period: 2011 - February 2013
 Position held: **Ph.D. Assistant**
 Main activities and responsibilities: Applications/Laboratory activities in the field of Strength of Materials, Research in the field of strength of materials and industrial robots, Digital Image Correlation Analysis; Numerical Simulations (Finite Elements Analysis (Ansys))
 Name and address of employer: Technical University of Cluj-Napoca, Faculty of Mechanics Department of Mechanical Engineering No. 103-105 Muncii Avenue , Cluj-Napoca
 Activity type/Activity domain: Education and Research

EDUCATION AND TRAINING

Period: 2009 -2012
 Qualification/Diploma: **DOCTORAL** degree in Mechanical Engineering (field of Strength of Materials)
 Principal studied disciplines / occupational skills: Thesis title: **Contribution to the study of stresses and deformations of components from mechanical structure of industrial serial modular robots**
 Institution: Technical University of Cluj-Napoca, Faculty of Mechanics Department of Mechanical Engineering No. 103-105 Muncii Avenue, Cluj-Napoca

Period: 2004 -2009
 Qualification/Diploma: **MECHANICAL ENGINEER** diploma
 Principal studied disciplines / occupational skills: *Domain:* Mechatronics, *Specialty:* Industrial Robots (English)
 Specialized Knowledge and professional skills: design of industrial robots, mechanisms and mechanical transmission, stress and deformations calculus, modelling and design of mechanical structures, flexible manufacturing cell design
 Institution: Technical University of Cluj-Napoca, Faculty of Building Machines, No. 103-105 Muncii Avenue, Cluj-Napoca

PERSONAL SKILLS

Mother tongue: **Romanian**
 OTHER LANGUAGE: **English**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Replace with language	B1	B1	B1	B1	B1

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

- Communication skills:
 - Communicative, sociable, open to new ideas, understanding, perseverance, serious, team spirit
- Technical skills and competences:
 - Calculus and design of mechanical systems, robots, flexible manufacturing cells; Calculus and analysis of stress and strain/displacement in mechanical structures (analytic calculus, experimental and numerical analysis, finite elements method); General knowledge of technical engineering
- Computer skills and competences:
 - CAD software: AutoCad, SolidWorks; FEA software: Ansys, RDM, Nastran
 - Other software: Microsoft Office, CorelDraw

ADDITIONAL INFORMATION

Published scientific papers

15 published scientific papers (Conferences with ISI Proceedings, BDI)

Significant published papers:

- Petrișor S.M., **Simion M.** (2021), *Aspects Regarding the Elaboration of the Geometric, Kinematic and Organological Study of a Robotic Technological Product "Humanitarian PetSim Robot" Used as an Avant-Garde Element of the Human Factor in High Risk Areas*. In: Arai K., Kapoor S., Bhatia R. (eds) Intelligent Systems and Applications. IntelliSys 2020. Advances in Intelligent Systems and Computing, vol 1250. Springer, Cham. https://doi.org/10.1007/978-3-030-55180-3_24
- Paul Bere, Mircea Cristian Dudescu, Călin Neamțu, Nemeș Ovidiu, Cătălin Moldovan, **Mihaela Simion**, *Fabrication and Mechanical Characterization of Short Fiber-Glass Epoxy Composites*, *ASTM International Journal – Materials Performance and Characterization*, Vol. 8, No. 1, pp. 163 – 174, ISSN 2379 – 1365, 2019, DOI: 10.1520/MPC20180171.
- **Mihaela Simion**, Lavinia Socaciu, Oana Giurgiu, Silviu-Mihai Petrișor, *The selection of industrial robots for military industry using AHP method: A case study*, *Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering*, vol. 61, Issue II, June, pag. 231-40, ISSN 1221-5872, 2018.
- **Mihaela Simion**, Mircea Cristian Dudescu, Radu Chiorean, *Numerical simulation of vickers micro-indentation test to estimate micro-hardness*, *Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering*, vol. 61, Issue IV, November, pag. 593-602, ISSN 1221-5872, 2018.
- **Mihaela Simion**, Lavinia Socaciu, Paula Veronica Unguresan, *Factors which influence the thermal comfort inside of vehicles*, susținută în cadrul conferinței EENVIRO 2015, Technical University of Civil Engineering Bucharest, Faculty of Buildig Services, publicată în: Elsevier - Energy Procedia, vol. 85. pag. 472 - 480, 2016 [SCOPUS].

Published scientific books

- Bejan, M., **Simion, Mihaela**, Cherecheș, I.A., Lakatos, G.D., Vidican, I., *Compendii din Rezistența Materialelor*, Vol. 1 și 2, Editura AGIR, București, Editura MEGA, Cluj-Napoca, 2013, ISBN 978-606-543-367-0, ISBN 978-973-720-468-4.
- Hărdău, M., Dudescu, M.C., Suci, Mihaela, **Simion, Mihaela**, Chiorean, R.Ș., Rad, Ioana Alexandra, *Metode experimentale în Rezistența Materialelor. Îndrumător de lucrări de laborator*, UTPRESS, Cluj-Napoca, 2018, ISBN 978-606-737-282-3, <https://biblioteca.utcluj.ro/carti-online.html>.

Participation at national and international scientific sessions

- Attending to national and international conferences: **8 national papers** and **2 international**

Member of research contracts or scientific organizations

- **Member of research team**, Grant PN-RU-TE-2010, No. 59/2010, code C.N.C.S.I.S. TE_10, title *Research on the optimization of military logistics capabilities by implementing robotic technology solutions*, period 2010-2013.
Responsibilities: *Design Calculus and 3D design of a robot with special applications in military domain*
- **Research assistant** in contract type PN-II-PT-PCCA-2013-4-1629, Contract no. 255/9.10.2014, title *Design, construction and testing of mechatronic system for multispectral monitoring of condition of vegetation crops – MoniCult*, period 2014-2016.
Responsibilities: *The design and verification of mechanical elements of transmission and amplification mechanisms of motion by numerical methods*
- **Researcher** in mechanical structures, knowledge transfer partnerships project type POC-A1-A1.2.3-G-2-15, Contract no. : 11/01.09.2016, title: *Technologies for URBIVEL intelligent urban electric vehicles*, ID: P_40_333, MySMIS: 105565, Subsidiary contract no. 7/9.02.2018 between UTCN and BELCO AVIA S.R.L.
Responsibilities: *Mechanical testing of composite materials in order to obtain the mechanical characteristics (E, G, v). Methods: Strain Gauge Technique, mechanical traction, four points bending).*
- **Researcher** in project: *Practical realization and implementation of a technological product of a tracked mini-robot with electric drive obtained by capturing solar energy in the field of military (Acronym: AVANGARDROBO)*, Plan position: 63/2020, Contract type PSCD (Sectorial Research-Development Plan) of MApN, Romania; Development period (Stage 1, respectively Stage 2): April 2020 - December 2020.
Responsibilities: *Design of the tracked mini-robot, technical consultant for the construction of the mechanical structure of the tracked mini-robot*
- **Member** of *The General Association of Engineers from Romania – AGIR*; Association Director subsidiary Cluj-Napoca: *Prof. em. Dr.ing. Mircea Bejan*

Cluj Napoca
08.02.2021

Lect. Dr. Eng. Mihaela Simion