

PERSONAL INFORMATION

CRIȘAN ADINA - VERONICA



POSITION FOR WHICH IS APPLIED FOR

Technical University of Cluj – Napoca,  
Faculty of Industrial Engineering, Robotics and Production Management  
Department of Mechanical Systems Engineering

**ASSOCIATE PROFESSOR, Position14**

PROFESSIONAL EXPERIENCE

2013 – present day

**Senior Lecturer**

Technical University of Cluj Napoca, no. 28, Memorandumului Street, 400114, Cluj-Napoca, Romania, [www.utcluj.ro](http://www.utcluj.ro)

Teaching and research activities (lectures, laboratory works, seminars at Mechanics I-II, Robot Mechanics and Calibration and Accuracy of Industrial Robots, research activities in the field of Robotics, Mechanics, theoretical physics and Mechanical vibrations

**Field of activity:** Research and Education

2011 - 2012

**Professor Assistant (determined period)**

Technical University of Cluj Napoca, no. 28, Memorandumului Street, 400114, Cluj-Napoca, Romania, [www.utcluj.ro](http://www.utcluj.ro)

Teaching and research activities (laboratory works, seminars at Mechanics I-II, Robot Mechanics, research activities in the field of Robotics, Mechanics, Mechanical vibrations

**Field of activity:** Research and Education

2007 - 2011

**Associate teacher**

Technical University of Cluj Napoca, no. 28, Memorandumului Street, 400114, Cluj-Napoca, Romania, [www.utcluj.ro](http://www.utcluj.ro)

Teaching and research activities (laboratory works, seminars at Mechanics I-II, Robot Mechanics, research activities in the field of Robotics, Mechanics, Mechanical vibrations

**Field of activity:** Research and Education

EDUCATION AND TRAINING

2006 - 2011

**PhD. In the field of Mechanical Engineering**

EQF level - 8

Technical University of Cluj Napoca, no. 28, Memorandumului Street, 400114, Cluj-Napoca, Romania, [www.utcluj.ro](http://www.utcluj.ro)

2006 - 2011

**Diplomat Engineer in the field of Mecatronics, specialization Industrial Robots and Flexible Manufacturing Systems (English)**

EQF level - 6

Technical University of Cluj Napoca, no. 28, Memorandumului Street, 400114, Cluj-Napoca, Romania, [www.utcluj.ro](http://www.utcluj.ro)

**Main subjects studied:**

Mathematical Analysis, Algebra, Analytical and Differential Geometry, Mechanics I,II, Theory of Elasticity and Materials Strength, Tolerances and Dimensional Control, Tribology, Basics of Electrotechnics, Sensors and Transducers, Systems Theory and Automation, Engineering of Mechanical Systems, Kinematics and Dynamics of Industrial Robots, Hydro-pneumatic Drives, Industrial Robots Calculus and Design, Manufacturing Processes Robotization, Flexible Manufacturing Systems, Numerical Equipment and Industrial Robots Programming, Manufacturing Technologies, Management, Quality Engineering, C.I.M, etc.

## PERSONAL SKILLS

Native Language Rumanian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Listening	
English	B2	B2	B2	B2	B2
English Proficiency Certificate no. 02956 from 23.03.2017, level B2, issued by Technical University of Cluj - Napoca, Department of Foreign Languages and Communication					
French	B1	B1	B1	B1	B1

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

Communicational Skills The ability of expressing the ideas with clarity, the ability to speak in front of an audience

Organizational Skills

- Ability to work cooperatively and flexibly within a team
- The capacity of taking the initiative and to respond well to changes
- The ability to identify weaknesses and strengths in a given situation
- Ability to evaluate and take risks in critical situations

Workplace Acquired Skills

- Communication skills
- Relationship skills, use of persuasion techniques
- Analytical and synthesis capacity as well as association / dissociation from context
- Planning activities and time management

Computer Skills

- Good knowledge in use of Microsoft Office™, Autocad, SolidWorks, MathCad, MuPad.

Driver's License

Driving license, category B

## Additional Information

Papers / Conferences /  
Laboratory Works

### A. BOOKS AND CHAPTERS FROM BOOKS

1. Brad, S., Mocan, B., **Duca, A.**, Brad, E., *Robotizarea asistată de calculator a fabricației*, Editura UTPress, Cluj – Napoca, 2008, ISBN 978-973-662-361-5.
2. Negrean, I., **Duca, A.**, Negrean, C., Kacso, K., *Mecanică avansată în robotică*, Editura UT Press, 2008, ISBN 978-973-662-420-9, 431 p.
3. Negrean, I., Schonstein, C., Kacso, K., **Duca, A.**, *Mecanică. Teorie și aplicații*, Editura UT PRESS, ISBN 978-973-662-523-7, Cluj-Napoca, 2013, 544 p.
4. Negrean, I., Kacso, K., Schonstein, C., **Duca, A.**, *Mechanics. Theory and applications*, Editura UT PRESS, ISBN 978-606-737-061-4, Cluj-Napoca, 2015, 431 p.

### Chapters from books

1. Crișan (Duca), A., Rusu, F., Morariu Gligor, R., Kacso, K., „*Organe de masini. Metodologie de predare a disciplinei la diferite specializari*”, Editura Risoprint, ISBN 978 - 973 - 53 - 1793 – 5, Cluj – Napoca, România, 2016, 44 p.

## B. SCIENTIFIC PAPERS INDEXED IN INTERNATIONAL DATA BASES (ISI / BDI)

1. Negrean, I., Schonstein, C., Kacso, K., Negrean, C., **Duca, A.**, *Formulations about Dynamics of Mobile Robots*, The 5-th International Conference, Robotics 2010, Cluj-Napoca, Romania, 23-25 September 2010, Robotics and Automation Systems, Vol. 166-167 of Solid State Phenomena, ISSN 1012-0394, pp. 309-314.
2. Negrean, I., Schonstein, C., Kacso, K., **Duca, A.**, *Kinematical Control Functions for a 2TR Type Robot*, Acta Technica Napocensis, Series: Applied Mathematics and Mechanics, Nr. 53, Vol. III, 2010, ISSN 1221-5872, pp. 433-438.
3. Negrean, I., Schonstein C., Kacso, K., Negrean, C., **Duca, A.**, *Matrix Exponentials and Differential Principles in the Dynamics of Robots*, 13th World Congress in Mechanism and Machine Science, Guanajuato, México, 19-25 June, 2011.
4. Negrean, I., Schonstein, C., Kacso, K., **Duca, A.**, *Formulations in Advanced Dynamics of Mechanical Systems*, Springer International Publishing, DOI: 10.1007/978-3-319-01845-419, 2012, pp. 185 – 195.
5. Negrean, I., Schonstein, C., Z. Szoke, Kacso, K., **Duca, A.**, *Dynamic Modeling of the Hybrid Robots Structures*, Proceedings of AQTR 2012 IEEE, ISBN: 978-1-4673-0703-1.
6. Negrean, I., Kacso, K., Schonstein, C., **Duca, A.**, *New Formulations on Kinematics of Mechanical Systems*, The 4th International Conference on Advanced Engineering in Mechanical Systems (ADEMS 2013), Acta Technica Napocensis, vol. 56, issue 4, 2013, pp. 583 – 590.
7. **Duca, A.**, Morariu Gligor, R., *A Software Application Intended for the Numerical Modeling of Serial Robots Structures*, Acta Technica Napocensis, Series: Applied Mathematics and Mechanics, Nr. 56, Vol. II, 2013, ISSN 1221-5872, pp. 323-328.
8. Negrean, I., Schonstein, C., **Duca, A.**, *Dynamic Model for the Mobile Robot RmITA*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, ISSN 1221-5872, Vol.57, Issue II, 2014, pp. 159 – 164
9. Negrean, I., Kacso, K., Schonstein, C., **Duca, A.**, *Energies of Accelerations in Advanced Robotics Dynamics*, The VI-th International Conference on Robotics (ROBOTICS 2014), Applied Mechanics and Materials, ISSN: 1662-7482, 2014.
10. Negrean, I., Kacso, K., Schonstein, C., **Duca, A.**, Rusu, F., Cristea, F., Haragâș, *New Formulations on Motion Equations in Analytical Dynamics / The third International Conference of Mechanical Engineering, ICOME 2015, Craiova, România, 2015 Vol. 823 of Applied Mechanics and Materials pp 49-54, ISSN web 1662-7482.*
11. Negrean, I., Kacso, K., Schonstein, C., **Duca, A.**, Rusu, F., Cristea, F., Haragâș, S., *New Formulations on Acceleration Energies in Analytical Dynamics / The third International Conference of Mechanical Engineering, ICOME 2015, ISI journal, Volume 823 of Applied Mechanics and Materials (Trans Tech Publishing House, Switzerland), pp 43-48, www.scientific.net/AMM.823.43, România / Craiova, 2015, ISSN print 1660-9336, ISSN web 1662-7482, ISSN cd 1660-9336.*
12. Merie V.V., Șerdean M.F., Burnete N.V., **Crișan A.V.**, Crăciun S.I., *Deposition Temperature Influence on the Mechanical Properties of Niobium Nitride Thin Films*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics, Vol. 60, Issue IV, 2017, pp. 585-590, Cluj-Napoca.
13. **Crișan A.V.**, Șerdean M.F, Morariu – Gligor R., *The Analysis of Geometrical Errors Based on Interpolation Functions for a 5 d.o.f Serial Robot*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics, Vol. 60, Issue IV, 2017, pp. 573-578.
14. Morariu – Gligor R., **Crișan A.V.**, Șerdean M.F, *Optimal Design of an One Way Plate Compactor*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics, Vol. 60, Issue IV, 2017, pp. 557-564.
15. Șerdean M.F, Morariu – Gligor R., **Crișan A.V.**, *Enhanced KGCS for Engineering Design*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics, Vol. 60, Issue IV, 2017, pp. 621-626, Cluj-Napoca.

16. F. M. Şerdean, V. V. Merie, **A. V. Crişan**, C. Birleanu, H. G. Crişan, *The influence of Deposition Time and Testing Temperature on Mechanical Properties of Niobium Nitride Thin Films*, The 8th International Conference on Advanced Concepts in Mechanical Engineering, Iaşi, 2018, IOP Conf. Series: Materials Science and Engineering, doi: 10.1088/1757-899X/444/3/032003.
17. Negrean I., **Crişan A.V.**, *Polynomial Interpolation Functions in Advanced Dynamics*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics, Vol. 61, Issue IV, 2018, pp. 539-548, ISSN 1221-5872, Cluj-Napoca.
18. Negrean I., **Crişan A.V.**, *The Dynamics Study of an Assembly Cam - Spring*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics, Vol. 61, Issue IV, 2018, ISSN 1221-5872, pp. 539-548, Cluj-Napoca.
19. Negrean I., **Crişan A.V.**, *Matrix Exponentials in Robot Elastokynematics*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics, Vol. 62, Issue I, 2019, ISSN 1221-5872, pp. 33-40 Cluj-Napoca.
20. Deteşan, O.A., **Crişan A.V.**, *Geometric Model Of FANUC LR Mate 100IB Considering The Dimensional And Generalized Coordinates Errors*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics Vol. 62, Issue I, 2019, ISSN 1221-5872, pp. 57 - 62, Cluj-Napoca.
21. Deteşan, O.A., **Crişan A.V.**, *A Theoretical Approach On Determining The Geometrical Errors In Case Of Articulated Robot Structures*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics Vol. 62, Issue I, 2019, ISSN 1221-5872, pp. 63-70, Cluj-Napoca.
22. **Crişan A.V.**, Negrean I., *The Jacobian Matrix Based on the Transfer Matrices*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics, Vol. 62, Issue I, 2019, ISSN 1221-5872, pp. 127-133, Cluj-Napoca.
23. **Crişan A.V.**, Negrean I., *The Jacobian Matrix Based on Differential Matrices*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics, Vol. 62, Issue I, 2019, ISSN 1221-5872, pp. 135-140, Cluj-Napoca.
24. Negrean I., **Crişan A.V.**, *Formulations on Accuracy in Advanced Robot Dynamics*, Acta Technica Napocensis Series: Applied Mathematics and Mechanics, Vol. 62, Issue I, 2019, ISSN 1221-5872, pp. 23-32, Cluj-Napoca.
25. Negrean, I., **Crişan, A.V.** *Synthesis on the Acceleration Energies in the Advanced Mechanics of the Multibody Systems*, Symmetry Basel, Vol.11, 1077, 2019.
26. **Crişan A.V.**, Negrean I., *A Numerical Model for Computing the Geometrical Errors using Transfer Matrices in case of a 5R Robot*, Roumanian Journal of Acoustics and Vibration, eISSN 2602 – 0351, vol. 16, issue 1, 2019.
27. **Crişan A.V.**, Morariu Glogor R., *A Study on the Impact Force in case of Tamping Rammers*, Roumanian Journal of Acoustics and Vibration, ISSN print 1584 - 7284, eISSN 2602 – 0351, vol. 16, issue 1, 2019.
28. Negrean, I., **Crişan, A.V.**, Vlase S., *A New Approach in Analytical Dynamics of Mechanical Systems*, Symmetry Basel, Special Issue: Conservation Laws and Symmetries of Differential Equations, Vol. 12, Issue 1, 95, 2020, eISSN: 2073-8994.
29. **Crişan A.,V.**, Vancea I., *Finsler geometries from topological electromagnetism*, European Physical Journal C, Particles and Fields, Volume 80, Issue 6, 566, 2020, eISSN 1434-6052.
30. **Crişan A.,V.**, Vancea I., *Nonlinear dynamics of a charged particle in a strong non-null knot wave background*, International Journal of Modern Physics A, Volume 35, Issue 21, 2050113, 2020, ISSN 0217-751X.
31. **Crişan A.,V.**, Vancea I., *Geometric and Quantum Properties of Charged Particles in Monochromatic Electromagnetic Knot Background*, Twenty Second International Conference on Geometry, Integrability and Quantization, June 8 – 13, 2020, Varna , Bulgaria, Editors: Ivailo Mladenov, Vladimir Pulov, Akira Yoshioka, Avangard Prima, Sofia 2021, pp 107 – 120, doi: 10.7546/giq-22-2021-107-120
32. **Crişan A.,V.**, Godinho, C., Vancea I., *Gravitoelectromagnetic Knot Fields*, Universe, Volume 7, Issue 3, 46, 2021, eISSN: 2218-1997.

**C. LABORATORY WORKS**

1. Determining of gravitational acceleration using simple pendulum method.
2. Determining of sliding and rolling friction coefficient.
3. The study of kinetic and potential energy. The fly – wheel.

## Research Projects / Grants

1. The Increase in Quality Performances in Cooperation Processes in Small and Medium Sized Enterprises by Expert Systems in the Innovation Management and Engineering, Contract CEEEX II no. 140/02.10.2006, ANCS, Cod. 628, 2006-2008, project manager Prof.Eng. Brad Stelian, PhD..
2. Developing of a computer based system for the evaluation of professional illness determined by the effect of mechanical vibrations on the human operator in its working environment, acronym VIBROM, Contract PNCDI 2, no. 92112/2008, Program 4, Priority domains partnerships, project manager Prof.Eng. Arghir Mariana, PhD.
3. A Study on the Design and Implementation of a technological assembly line for industrial conveyors with aluminum frames, Contract involving third parties (VAT 38), beneficiary S.C. Indis Partner S.R.L, project carried out during 2017 – 2018, project manager Assoc. Prof. Eng. Radu Morariu Gligor, PhD.

## APPENDIX

- Copy of the engineer diploma and copy of engineer diploma supplement;
- Copy of the psycho-sociological module graduation diploma;
- The legalized copy of the PhD. Diploma in the field of Mechanical Engineering;
- Copy of the birth certificate; Copy of the I.D. card;
- The copy of the marriage certificate proving the name changing;
- A selection of 10 scientific papers / works relevant to the professional activity;
- Documents issued by DMCDI regarding the personal contribution of the undersigned to the research projects in which I was involved.

Cluj – Napoca,

21.06.2021

Applicant,

S.L. Eng. CRIȘAN Adina – Veronica, PhD.

