



## PERSONAL INFORMATION



## Florin-Alexandru COVACIU

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 Florin.COVACIU@muri.utcluj.ro, cov\_florin@yahoo.com

Sex Male | Date of birth 09/01/1980 | Nationality Romanian

## EDUCATION AND TRAINING

01/10/2012–15/10/2015

**PhD in robotics and mechanical engineering**

Technical University of Cluj-Napoca, Cluj-Napoca (Romania)

PhD thesis title: The Simulation, Actuation and Control of Parallel Robots for Brachytherapy

01/10/2009–15/02/2011

**Master's degree - Industrial Processes Automation Control System**

"Petru Maior" University of Târgu-Mureş, Târgu-Mureş (Romania)

01/10/2005–15/06/2009

**Graduate Engineering - Automation and Applied Informatics**

"Petru Maior" University of Târgu-Mureş, Târgu-Mureş (Romania)

## WORK EXPERIENCE

15/02/2016–Present

**Lecturer within Design Engineering and Robotics Department**

Technical University of Cluj-Napoca, Cluj-Napoca (Cluj)

Teaching activities in Robotics, CNC and Flexible manufacturing systems (courses, laboratory, projects).

01/10/2015–20/01/2016

**Associate Teacher**

Technical University of Cluj-Napoca, Cluj-Napoca (Romania)

Teaching activities in CNC

01/10/2013–15/06/2014

**Associate Teacher**

Technical University of Cluj-Napoca, Cluj-Napoca (Romania)

Teaching activities in Computers programming

01/10/2012–15/10/2015

**Research assistant CESTER - Research Center for Industrial Robots Simulation and Testing**

Technical University of Cluj-Napoca, Cluj-Napoca (Romania)

Research in dynamics and kinematics of parallel robots for surgical applications (programming, simulation, control and actuation)

12/10/2010–20/11/2011

**Programmer**

S.C. REEA S.R.L., Targu-Mures (Romania)

Software development

05/06/2009–12/01/2010

**Automation engineer**

Kastamonu Romania S.A, Reghin (Romania)

Automation software generation, installation, maintenance and repairing automation equipment

**PERSONAL SKILLS**

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user  
Common European Framework of Reference for Languages

Communication skills Good communication skills gained through my experience as teacher.

Organisational / managerial skills Project management skills for large-scale projects, education and research abilities, ability to respect deadlines for project activities.

Digital competence **Programming:** Assembler, C, C++, C#, Matlab, VHDL, Python, Arduino, SCADA;  
**Web design:** Html, Css, XML, JavaScript, JQuery, Angular, AJAX, JSON, ASP.NET, PHP OOP;  
**Databases:** MySQL, Microsoft SQL Server, Oracle;  
**Graphics & photo editing:** Photoshop, Dreamweaver, CorelDraw;  
**Design and Simulation:** Siemens NX, SolidWorks, OrCAD, Tecnomatix – Siemens PLM, Proteus, MATLAB-Simulink, NI LabVIEW, PLC.

Driving licence AM, A1, A2, A, B1, B

**ADDITIONAL INFORMATION**

- **Published papers (16):** ISI journal (5), SCI journal (4), national and international conferences and congress (7);
- **Published didactic books and laboratory guides:** 2;
- **Patent proposal:** A/00191/13.03.2015 „Family of parallel robots for transperineal prostate biopsy”;
- **Excellence award and gold medal with special mentions at:** *The International Exhibition of Inventions „PRO INVENT”*, XIV edition, 2016, Cluj-Napoca, Romania.

**Publications**

1. F. Covaciu; D. Ani; B. Gherman; N. Plitea; D. Pislă, "Design and Control System of a Modular Parallel robot for Medical applications", *Robotica & Management*, ISSN: 1453-2069, Vol. 20., Nr.1, pp. 22-27, 2015.
2. B. Galdău; N. Plitea; C. Vaida; F. Covaciu; D. Pislă, "Design and Control System of a Modular Parallel robot for Medical applications", 2014 IEEE International Conference on Automation, Quality and Testing, Robotics - AQTR 2014, 22-24 Mai 2014, Cluj-Napoca, Romania, ISBN 978-1-4799-3732-5.
3. F. Covaciu; B. Gherman; C. Vaida; N. Plitea; D. Pislă; F. Puskas, "Control of a Medical Parallel Robot for Brachytherapy", *Acta Electrotehnica*, ISSN 1224-2497, Vol.56, Nr. 4, pp. 152-156, 2015.
4. N. Plitea; D. Pislă; C. Vaida; B. Gherman; A. Szilaghyi; B. Galdău; D. Cocorean; F. Covaciu, "On the Kinematics of a New Parallel Robot for Brachytherapy", *Proceedings of the Romanian Academy - series A: Mathematics, Physics, Technical Sciences, Information Science*, Vol. 15, No. 4, pp. 354-361, 2014.

- 5.** N. Plitea; C. Vaida; B. Gherman; A. Szilaghyi; B. Galdău; D. Cocorean; F. Covaciu; D. Pîslă, "An innovative family of modular parallel robots for brachytherapy", The 11th IFToMM International Symposium on Science of Mechanisms and Machines - SYROM'2013, 11-12 November 2013, Brasov, Romania, published in Mechanisms and Machine Science, Vol. 18, pp. 69-79, ISBN:978-3-319-01844-7 - Springer.
- 6.** N. Plitea; C. Vaida; B. Gherman; A. Szilaghyi; B. Galdău; D. Cocorean; F. Covaciu; D. Pîslă, "Structural Analysis and Synthesis of Parallel Robots for Brachytherapy", New Trends in Medical and Service Robots - Theory and Integrated Applications, Series: Mechanisms and Machine Science, Vol. 16, ISBN 978-3-319-01591-0, DOI 10.1007/978-3-319-01592-7, 2014.
- 7.** C. Vaida; D. Pîslă; A. Szilaghyi; F. Covaciu; D. Cocorean; N. Plitea, "The Control System of a Parallel Robot for Brachytherapy", New Trends in Mechanism and Machine Science: From fundamentals to Industrial Applications, Series: Mechanisms and Machine Science, Vol. 24, ISBN:978-3-319-09410-6, pp. 563-571.
- 8.** D. Pîslă; B. Galdău; F. Covaciu; C. Vaida; D. Popescu; N. Plitea, "Singularity Analysis and Control System of an Innovative Medical Parallel Robot" , ICPR23 Conference, Manila, Philippines, 2015, Conference Proceedings.
- 9.** D. Pîslă; P. Tucan; B. Gherman; C. Nicolae; N. Plitea; F. Covaciu, "Graphical Simulation System for Functional Analysis Transperineal Prostate Biopsy", Current Solutions in Mechanical Engineering, Trans Tech Publications, Applied Mechanics and Materials Vols. 823, ISBN: 978-3-03835-566-3.
- 10.** C. Vaida; P. Tucan; D. Pîslă; F. Covaciu, "Parametric Modeling for Analyzing Diseases of the Human Spine", Current Solutions in Mechanical Engineering, Trans Tech Publications, Applied Mechanics and Materials Vols. 823, ISBN: 978-3-03835-566-3.
- 11.** A. Pîslă; D. Roman; F. Covaciu, "Process Management – Green Business – The Result of a Technological Footprint", Management and Economic Engineering, Vol. 14, Nr. 4 , pp 811- 817, 2015.
- 12.** D. Pîslă; F. Covaciu; B. Gherman; C. Vaida; N. Plitea, "A new serial communication protocol for the control of a medical parallel robot", ACTA TECHNICA NAPOCENSIS Series: Applied Mathematics, Mechanics, and Engineering, Vol. 1, 2016.
- 13.** C. Vaida, D. Pîslă; F. Covaciu; B. Gherman; A. Pîslă; N. Plitea, "Development of a control system for a HEXA parallel robot", Published in: 2016 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR), ISBN: 978-1-4673-8690-6.
- 14.** A. Pîslă; C. Vaida; F. Covaciu, "Test Bench For Space Remote Docking System", MESROB 2016 , Wednesday, 6th July 2016
- 15.** A. Pîslă, F. Covaciu, "ALTERNATIV SOLUTIONS FOR ECONOMIC ACTUATION OF THE PARALLEL KINEMATICS ROBOTS", 2016 International Conference on Production Research, July 25-30.
- 16.** D. Pîslă; B. Galdău; F. Covaciu; C. Vaida, D. Popescu; N. Plitea, "Safety issues in the development of the experimental model for an innovative medical parallel robot used in brachytherapy", International Journal of Production Research, Published online: 23 Jun 2016  
DOI:10.1080/00207543.2016.1200153