



Curriculum vitae Europass



Personal information

First name(s) / Surname(s) **Bălan Radu**
Address(es) Str. Ion Vidu nr. 13 ap. 5, cod postal 400071 Cluj-Napoca, Romania
Telephone(s) +40 264401756 Mobile: +40 741561092
Fax(es) +40 264592055
E-mail(s) radubalan@yahoo.com Radu.Balan@mmfm.utcluj.ro
Nationality(-ies) Romanian
Date of birth 01.10.1957
Gender Male

Desired employment / Occupational field

Education and research, Technical University of Cluj-Napoca

Work experience

| | |
|--------------------------------------|---|
| Dates | Oct. 1999-onwards |
| Occupation or position held | PhD Advisor (2007), Professor (2006), Assoc. Professor (2003), Lecturer (1999) |
| Main activities and responsibilities | Courses, seminars, project activities, diploma works; Scientifically Research; Institutional activities. |
| Name and address of employer | Technical University of Cluj-Napoca (TUCN), Str. Memorandumului nr. 28, Cod postal 400114, Cluj-Napoca, Romania, http://www.utcluj.ro |
| Type of business or sector | Education and research |
| Dates | Sept. 1984-Oct.1999 |
| Occupation or position held | Scientific Researcher – level 2 (1997), Scientific Researcher – level 3 (1991), Scientific Research (1987), Engineer (1984) |
| Main activities and responsibilities | Scientifically Research, Design in Electronics, Implementation and Testing; |
| Name and address of employer | Research Institute for Electronics (Institutul de cercetari electronice Bucuresti) branch Cluj, Str. G. Bîlaşcu 109 Cluj-Napoca, Romania, http://www.ice.ro |
| Type of business or sector | Research |
| Dates | Sept.1982-Oct.1984 |
| Occupation or position held | Trainee Engineer |
| Main activities and responsibilities | Installation and service automation; |
| Name and address of employer | IMSAT Bucuresti Sos.Orhideelor 27-29, Bucuresti 1, 010953. http://www.imsat.ro |
| Type of business or sector | Manufacture |

Education and training

| | |
|--|---|
| Dates | 1997-2001 |
| Title of qualification awarded | PhD in Automation |
| Principal subjects/occupational skills covered | Thesis: Adaptive Control Systems Applied to Technological Processes |
| Name and type of organisation providing education and training | Technical University of Cluj-Napoca (TUCN), – Faculty of Automation and Computer Science Education and Research ISCED6 |
| Dates | 1977-1982 |
| Title of qualification awarded | Engineer in Automation and Computer Science. |
| Principal subjects/occupational skills covered | Mathematics, Systems Theory, Computers, Programming, Industrial Automation, Process Control, Electronics, Mechanical Engineering; |
| Name and type of organisation providing education and training | Technical University of Cluj-Napoca (TUCN), – Faculty of Automation and Computer Science Education and Research ISCED5 |

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s) **English, French**

Self-assessment
European level ()*

English

French

| Understanding | | | | Speaking | | | | Writing | |
|---------------|-----------------|---------|-----------------|--------------------|-----------------|-------------------|-----------------|---------|-----------------|
| Listening | | Reading | | Spoken interaction | | Spoken production | | | |
| C1 | Proficient user | C1 | Proficient user | C1 | Proficient user | C1 | Proficient user | C1 | Proficient user |
| A2 | Basic user | A2 | Basic user | A2 | Basic user | A2 | Basic user | A2 | Basic user |

Social skills and competences Team spirit, student leader (chose) during university years, research project leader, guest professor, participated in various conferences, chairman;

Organisational skills and competences

-Research project leader (over 20 projects as director of project)

-Head of "Mechatronics and Energy" laboratory ;

-Classes, workshops and conference organiser;

-Reviewer: Mechatronics, Energy and Buildings, Energy, Engineering Applications of Artificial Intelligence, IEEE Transactions on Industrial Electronics, Electronics Letters, IET Control Theory & Applications, IEEE Transactions on Automatic Control etc.

-Research Projects (selection):

1. FP7-DEHEMS-"Digital Environment Home Energy Management Systems", leader of WP4 Control System, 2008-2011 <http://www.dehems.eu/> , director;
2. "Developing a multifunctional mobile platform for inspection in water pipes" (2012-2013), Innovation Programme, PN-II-IN-CI-2012 -1- 0239, director;
3. "Simulation, Control and Testing Platform with Applications in Mechatronics" (2006-2008), <http://www.conmec.utcluj.ro/index-en.html>), director;
4. "Researches regarding Advanced Control with Applications in Mechatronics" (2007-2010), http://zeus.east.utcluj.ro/mec/mmfm/Proiecte/ID_1072/index-en.html , director;
5. „ AMFM – Intelligent Mechatronics Systems using Advanced Shape Memory Alloys by Powder Metallurgy”, PN2-Parteneriate 2008-2011, director;
6. "E-Farm - Informatic system for designing, implementing and control of hybrid energy farms" (2008-2011, <http://www.automation.ro/e-farm/index.html>), PN2-Parteneriate, director;
7. Hydropneumatic system based on implementing of innovative shape memory effect alloy using powder metallurgy technology – MMFEH, Innovation Programme, 2009-2010, director.

- Institutional projects:

1. Joint MSc in Electrical Engineering (JMEE) – Tempus project, 2013-2017, <http://www.salford.ac.uk/computing-science-engineering/research/engineering/electronic-and-electrical-engineering/joint-msc-in-electrical-engineering-jmee> director;
2. Flexform (Flexible training in the fields of Mechatronics and Robotics), 2010-2013, <http://www.flexform.ro/> , responsible regional.

Significant Papers:

1. Balan, R; Cooper, J; Chao, KM; et al., Parameter identification and model based predictive control of temperature inside a house, Energy and Buildings Volume: 43 Issue: 2-3 Pages: 748-758 Published: 2011 DOI: 10.1016/j.enbuild.2010.10.023
2. Rada M; Balan, R et al, Evolution of the germanium-oxygen coordination number in lithium-lead-germanate glasses, JOURNAL OF NON-CRYSTALLINE SOLIDS, Vol. 437, Pages: 10-16, 2016
3. Lapusan, C; Balan, R et al, Development of a Multi-Room Building Thermodynamic Model Using Simscape Library, Energy Procedia, Volume: 85, Pages: 320-328, DOI: 10.1016/j.egypro.2015.12.258
4. Verdes, D; Balan, R; et al, Study of design, kinematics and virtual control of 4 degrees of freedom parallel robot, MECHANIKA, Issue: 2, Pages: 70-74, 2010
5. Coman, M; Balan, R, Video camera measuring application using Matlab, Robotics and Automation systems, Book Series: Solid State Phenomena, Volume: 166-167, Pages: 139-144, 2010
6. Balan, R; Stan, SD; Lapusan, C, A Model Based Predictive Control Algorithm for Building Temperature Control, 2009 3rd IEEE International Conference on Digital Ecosystems and Technologies Pages: 541-546
7. Balan, R; Maties, V; Hancu, O; et al., Applications for nonlinear processes using a predictive control algorithm, 2008 3rd International Symposium on Communications, Control and Signal Processing, Vols 1-3 Pages: 709-714
8. Balan, R; Maties, V; Hodor, V; et al., Applications of a model based predictive control to heat-exchangers, Mediterranean Conference on Control & Automation, Vols 1-4 Pages: 1326-1331 2007
9. Balan, R; Maties, V; Hancu, O; et al., Modeling and control of an electric arc furnace, Mediterranean Conference on Control & Automation, Vols 1-4 Pages: 938-943, 2007
10. Balan, R; Maties, V; Hancu, O; et al., Nonlinear control using a model based predictive control algorithm, International Symposium on Computational Intelligence in Robotics and Automation Pages: 203-208 , 2007

| | |
|----------------------------------|---|
| Technical skills and competences | <ul style="list-style-type: none"> - Areas of interest: Mechatronics, Energy efficiency, Modelling-Simulation, Control systems, Robots – Parallel robots, Sensors – Smart sensors, Computer science, Designing and testing of electronic control units, Numerical methods etc. - Articles: over 100, from which 9 indexed ISI and over 50 indexed in databases; - Books: 7, from which 3 as single author; - Book chapters: 10; |
| Computer skills and competences | Computer science (C++, Pascal, Basic, Delphi, Matlab, Microcontrollers etc.), CAD – CAE - CAM , Databases (FoxPro, Access, Delphi etc.), Microsoft Office (Word, Excel etc.), etc. |
| Artistic skills and competences | Computer aided design, Photography, Music |
| Other skills and competences | Sport: football, basket, sky, tennis, ping-pong |
| Driver's license | Vehicle category B |
| Additional Information | Faculty of Mechanics Excellency prize for scientific research for recognised researchers (2006) Other references may be submitted upon request |
| Annexes | <ol style="list-style-type: none"> 1. PhD in Automation diploma copy 2. Bachelor diploma copy |

Date: 1.02.2019

Signed,

