

Curriculum vitae Europass



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| 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 /<br>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, <u>http://www.utcluj.ro</u>                       |
| 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. Bilaşcu 109 Cluj-Napoca, Romania, <u>http://www.ice.ro</u> |
| 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

1977-1982

PhD in Automation

Education and Research

Education and Research

Title of qualification awarded Principal subjects/occupational skills covered

Name and type of organisation providing education and training

Dates

Title of qualification awarded

Principal subjects/occupational skills covered

> Name and type of organisation providing education and training

## Personal skills and competences

Romanian Mother tongue(s)

**Enalish**. French

Self-assessment

Other language(s)

English

French

| 5             | - ,             |         |                 |                    |                 |                   |                 |         |                 |
|---------------|-----------------|---------|-----------------|--------------------|-----------------|-------------------|-----------------|---------|-----------------|
| Understanding |                 |         |                 | Speaking           |                 |                   |                 | Writing |                 |
| Listening     |                 | Reading |                 | Spoken interaction |                 | Spoken production |                 | winning |                 |
| 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      |

Thesis: Adaptive Control Systems Applied to Technological Processes

ISCED6

ISCED5

Engineer in Automation and Computer Science.

Control, Electronics, Mechanical Engineering;

Technical University of Cluj-Napoca (TUCN), - Faculty of Automation and Computer Science

Mathematics, Systems Theory, Computers, Programming, Industrial Automation, Process

Technical University of Cluj-Napoca (TUCN), - Faculty of Automation and Computer Science

Social skills and competences

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

European level (\*)

Pagina 2/4 - Curriculum vitae Bălan Radu

| <ul> <li>Hield COMIN PERCENCES</li> <li>Head of "Mechatonics, and Energy" laboratory ;</li> <li>-Classes, workshops and conference organiser;</li> <li>-Reviewer: Mechatonics, Energy and Buildings, Energy, Engineering Applications of Artificial Ineligence, IEEE Transactions on Automatic Control etc.</li> <li>-Research Projects (selection);</li> <li>1. PF2-DEHKMS*Digital Environment Home Energy Management Systems*, leader of WP4 Control System, 2008-2011, http://www.dehems.su/, director;</li> <li>2. "Developing a multifunctional mobile platform for inspection in water pipes" (2012-2013), Innovation Programm, PN-II-HV-2-2012, 1-: 0230, director;</li> <li>3. "Simulating a multifunctional mobile platform with Applications in Mechatonics" (2006-2008), http://www.commec.utdlui.pdf/mexes.html), director;</li> <li>4. "Research Progets (selection);</li> <li>5. (AMPA - Ineligent Mechanized Control with Applications in Mechatonics' (2006-2008), http://www.commec.utdlui.pdf/mexes.html), director;</li> <li>6. "Selection, Environment Provide and Progetations in Mechatonics' (2007-2010), http://www.commec.utdlui.pdf/mexes.html), PN2-Parteneiata director;</li> <li>6. "Fear: Informatic system and for designing implementing and control of hybrid energy farms" (2008-2011, http://www.automatie.pdf/mechanizes.html), PN2-Parteneiata director;</li> <li>7. Hydroprexumatie system based on Implementing of control of hybrid energy farms" (2008-2011, http://www.automatien.pdf/mcani.pdf/mcani.pdf/mcani.pdf/mcani.pdf/mcani.pdf/mcani.pdf/mcani.pdf</li> <li>7. Hydroprexumatie system based on Implementing of control of hybrid energy farms" (2008-2011, http://www.automatien.pdf/mcani.pdf/mcani.pdf/mcani.pdf/mcani.pdf/mcani.pdf</li> <li>7. Hydroprexumatie system based on Implementing and control of hybrid energy farms" (2008-2011, http://www.automatien.pdf/mcani.pdf/mcani.pdf/mcani.pdf</li> <li>7. Hydroprexumatie system baced on Implementing and control of hybrid energy farms" (2008-</li></ul>  | o o d | Organisational skills | -Research project leader (over 20 projects as director of project)   |
|---|-------|-----------------------|--|
| <ul> <li>-Classes, workshops and conference organiser;</li> <li>-Reviewer: Mechatonics, Energy and Buldings, Energy: Engineering Applications of Artificial Intelligence, IEEE Transactions on Automatic Ontol etc.</li> <li>-Research Projects (selection):         <ol> <li>PP7-DEHEMS* "Digital Environment Home Energy Management Systems", leader of WP4 Control System, 2008.2011 <u>http://www.dehems.au/.</u> director;</li> <li>'Developing a multifunctional mobile platform for inspection in water pipes" (2012-2013), Innovation Programme, PM-IIN-0-2012-10-203, director;</li> <li>'Smulation. Control and Testing Platform with Applications in Mechatonics' (2006-2008), <u>http://www.doms.auto.in/mmfProiset.011</u>, 1072/cndve-en.html, director;</li> <li>'Researches regarding Advanced Control with Applications in Mechatonics' (2007-2010), <u>http://www.automaton.ou/es-en.html</u>, director;</li> <li>'LF-arm. Informatic system for designing, implementing and control of hybrid energy farms' (2008-2001), <u>http://www.automaton.ou/es-en.html</u>, director;</li> <li>'LF-arm. Informatic system for designing, implementing of Innovative shape memory Alleys by Powder Metallury? NR2-Partenniaet 2008-2011, <u>information.ex.010</u>, 007401, NP2-Partenniaet 2008-2011, <u>information.ex.010</u>, 007401, Science - anglenering/secance/indirector;</li> <li>Institutional projects;</li> <li>Johnt MS: in Electrical Engineering (JMEE) – Tempus project, 2013-2017, <u>http://www.adord.ou/outing-science-anglenering/secance/indirectorineering/secance/indirectorineering/secance/indirectorineering/secance/indirectorineering/secance/indirectorineering/secance/indirectorineering/secance/indinering/secance/indirectorindirectorineering/secance/indirector</u></li></ol></li></ul>  | anu   | competences           | -Head of "Mechatronics and Energy" laboratory ;  |
| <ul> <li>Reviewer: Mechatomics, Energy and Buildings, Energy, Englaering Applications of Antificial Intelligence, IEEE Transactions on Automatic Control etc.</li> <li>Research Projects (selection):         <ol> <li>Research Projects (selection):             <li>Research Projects (selection):             <li>Research Projects (selection):             <li>Simulation, Control etc.</li> <li>Developing a multifunctional mobile platform for inspection in water pipes' (2012-2013), Innovation             Programme, PN-LIN-VC-2012 - 1-0233, director;             <li>Developing a multifunctional mobile platform with Applications in Mechatomics' (2007-2010),             <li>Introl.</li> <li>Simulation, Control and Testing Platform with Applications in Mechatomics' (2007-2010),             <li>Introl.</li> <li>Researches regarding Advanced Control with Applications in Mechatomics' (2007-2010),             <li>Introl.</li> <li>Researches regarding Advanced Control with Applications in Mechatomics' (2007-2010),             <li>Introl.</li> <li>Researches regarding Advanced Control with Applications of Mechatomics' (2007-2010),             <li>Introl.</li> <li>Introl.</li> <li>Researches regarding Advanced Control with Applications of Mechatomics' (2007-2010),             <li>Introl.</li> <li>Introl.</li></li></li></li></li></li></li></li></li></li></li></ol></li></ul>   |       |                       | -Classes, workshops and conference organiser;  |
| <ul> <li>Research Projects (selection): <ol> <li>FP7-DEHEMS**Digital Environment Home Energy Management Systems*, leader of WP4 Control System. 2008-2011* http://www.detems.gu/_director;</li> <li>Toeveloping a multifunctional mobile platform for inspection in water pipes* (2012-2013), Innovation Programme, PM-II-NL-2012-1-0238 (interctor;</li> <li>Simulation, Control and Testing Platform with Applications in Mechatronics* (2006-2008), <a href="http://www.connec.utclu/gindee-an.html">http://www.connec.utclu/gindee-an.html</a>, director;</li> <li>Aresearchs regarding Advanced Control with Applications in Mechatronics* (2007-2010), <a href="http://www.connec.utclu/gindee-an.html">http://www.connec.utclu/gindee-an.html</a>, director;</li> <li>AMFM – Intelligent Mechatronics Systems using Advanced Shape Memory Alloys by Powder Mealurgy, PN2-Parteneriate 2008-2011, <a href="http://www.connec.utclu/gindee-an.html">http://www.connec.utclu/gindee-an.html</a>, director;</li> <li>AMFM – Intelligent Mechatronics Systems using Advanced Shape Memory Alloys by Powder Mealurgy, PN2-Parteneriate 2016. 2017. <a href="http://www.automation.no/ei-faminide2.html">http://www.automation.no/ei-faminide2.html</a>, PN2-Parteneriate, of innovative shape memory affect alloy using powder metallurgy technology – MMFEH, Innovation Programme, 2009-2010, director;</li> <li>Hydropneumalic system based on implementing of innovative shape memory affect alloy using powder metallurgy technology – MMFEH, Innovation Programme, 2009-2010, director;</li> <li>Joint MSc in Electrical Engineering (MEE) – Tempus project, 2013-2017, <a 2008-2011="" <u="" control="" digital="" energy="" environment="" home="" href="http://www.flexiom.no/ei.engineering/ieeeming/eieeming/eieetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineering/ieeetrical-engineetrica&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;-Reviewer: Mechatronics, Energy and Buildings, Energy, Engineering Applications of Artificial Intelligence, IEEE Transactions on Industrial Electronics, Electronics Letters, IET Control Theory &amp; Applications, IEEE Transactions on Automatic Control etc.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;ol&gt;     &lt;li&gt;John Wischn Electrical Engineering (JWEE) – Inephus project, 2013-2017,&lt;br&gt;http://www.siford.ac.uk/computing-science-engineering/ineering/lectronic-and-&lt;br&gt;electrical-engineering/joint-msc-in-electrical-engineering-imee director;&lt;/li&gt;     &lt;li&gt;Flexform (Flexible training in the fields of Mechatronics and Robotics), 2010-2013,&lt;br&gt;http://www.flexform.ro/ , responsible regional.&lt;/li&gt;     &lt;li&gt;Significant Papers:&lt;/li&gt;     &lt;li&gt;Balan, R; Cooper, J; Chao, KM; et al., Parameter identification and model based predictive control&lt;br&gt;of temperature inside a house, Energy and Buildings Volume: 43 Issue: 2-3 Pages: 748-758&lt;br&gt;Published: 2011 DOI: 10.1016/j.enbuild.2010.10.003&lt;/li&gt;     &lt;li&gt;Rada M; Balan, R et al, Evolution of the germanium-oxygen coordination number in lithium-lead-&lt;br&gt;germanate glasses, JOURNAL OF NON-CRYSTALLINE SOLIDS, Vol. 437, Pages: 10-16, 2016&lt;/li&gt;     &lt;li&gt;Lapusan, C; Balan, R et al, Development of a Multi-Room Building Thermodynamic Model Using&lt;br&gt;Simscape Library. Energy Procedia, Volume: 85, Pages: 30-328, DOI: 10.1016/j.egypro.2015.12.258&lt;/li&gt;     &lt;li&gt;Verdes, D; Balan, R, et al, Study of design, kinematics and virtual control of 4 degrees of freedom&lt;br&gt;parallel robot, MECHANIKA, Issue: 2, Pages: 70-74, 2010&lt;/li&gt;     &lt;li&gt;Coman, M; Balan, R, Video camera measuring application using Matlab, Robotics and Automation&lt;br&gt;systems, Book Series: Solid State Phenomena, Volume: 166-167, Pages: 139-144, 2010&lt;/li&gt;     &lt;li&gt;Balan, R; Stan, SD; Lapusan, C, A Model Based Predictive Control Algorithm for Building&lt;br&gt;Temperature Control, 2009 3rd IEEE International Conference on Digital Ecosystems and&lt;br&gt;Technologies Pages: 541-546&lt;/li&gt;     &lt;li&gt;Balan, R; Maties, V; Hancu, O; et al., Applications for nonlinear processes using a predictive control&lt;br&gt;algorithm, 10208 3rd International Symposium on Communications, Kontrol and Signal Processing,&lt;br&gt;Vols 1-3 Pages: 719-714&lt;/li&gt;     &lt;li&gt;Balan, R; Maties, V; Hancu, O; et al., Moplications of a model based predictive control b eat-&lt;br&gt;exchangers, Mediterranean Conference on Control &amp; Automation, Vols 1-4 P&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;ul&gt; &lt;li&gt;-Research Projects (selection):&lt;/li&gt; &lt;li&gt;1. FP7-DEHEMS-" leader="" management="" of="" system,="" systems",="" wp4="">http://www.dehems.eu/, director;</a></li> <li>2. "Developing a multifunctional mobile platform for inspection in water pipes" (2012-2013), Innovation Programme, PN-II-IN-CI-2012 -1- 0239, director;</li> <li>3. "Simulation, Control and Testing Platform with Applications in Mechatronics" (2006-2008), <u>http://www.conmec.utcluj.ro/index-en.html</u>), director;</li> <li>4. "Researches regarding Advanced Control with Applications in Mechatronics" (2007-2010), <u>http://zeus.east.utcluj.ro/mec/mmfm/Proiecte/ID_1072/index-en.html</u>, director;</li> <li>5. "AMFM – Intelligent Mechatronics Systems using Advanced Shape Memory Alloys by Powder Metallurgy", PN2-Parteneriate 2008-2011, director;</li> <li>6. "E-Farm - Informatic system for designing, implementing and control of hybrid energy farms" (2008-2011, <u>http://www.automation.ro/e-farm/index.html</u>), PN2-Parteneriate, director;</li> <li>7. Hydropneumatic system based on implementing of innovative shape memory effect alloy using powder metallurgy technology – MMFEH, Innovation Programme, 2009-2010, director.</li> <li>- Institutional projects:</li> </ol></li></ul> |       |                       |  |
| <ul> <li>electrical-engineering/joint-msc-in-electrical-engineering-imee director;</li> <li>2. Flexform (Flexible training in the fields of Mechatronics and Robotics), 2010-2013,<br/>http://www.flexform.ro/, responsible regional.</li> <li>Significant Papers:</li> <li>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</li> <li>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</li> <li>3. Lapusan, C; Balan, R et al, Evolution of the garges: 320-328, DOI: 10.1016/j.egypro.2015.12.258</li> <li>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</li> <li>5. Coman, M: Balan, R; Video camera measuring application using Mattab, Robotics and Automation systems, Book Series: Solid State Phenomena, Volume: 166-167, Pages: 139-144, 2010</li> <li>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</li> <li>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: 109-714</li> <li>8. Balan, R; Maties, V; Hodor, V; et al., Applications of a model based predictive control algorithm, R; Maties, V; Honcu, O; et al., Modeling and control of an electric ac furnace, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 1326-1331 2007</li> <li>9. Balan, R; Maties, V; Hancu, O; et al., Modeling and control of an electric ac furnace, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 13</li></ul>   |       |                       | 1. Joint MSc in Electrical Engineering (JMEE) – Tempus project, 2013-2017,<br>http://www.salford.ac.uk/computing-science-engineering/research/engineering/electronic-and-  |
| <ul> <li>2. Flexform (Flexible training in the fields of Mechatronics and Robotics), 2010-2013, http://www.flexform.ro/, responsible regional.</li> <li>Significant Papers: <ol> <li>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</li> <li>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</li> <li>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</li> <li>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</li> <li>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</li> <li>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</li> <li>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</li> <li>Balan, R; Maties, V; Hancu, O; et al., Modeling and control of an electric arc furmace, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 13326-1331 2007</li> <li>Balan, R; Maties, V; Hancu, O; et al., Modeling and control of an electric arc furmace, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 1326-1331 2007</li> <li>Balan, R; Maties, V; Hancu, O; et al., Modeling and control of an electric arc furmace</li></ol></li></ul>  |       |                       | electrical-engineering/joint-msc-in-electrical-engineering-jmee director;  |
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| <ol> <li>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.enpuild.2010.10.023</li> <li>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</li> <li>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</li> <li>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</li> <li>Coman, M; Balan, R, Video camera measuring application using Mattab, Robotics and Automation systems, Book Series: Solid State Phenomena, Volume: 166-167, Pages: 139-144, 2010</li> <li>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</li> <li>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</li> <li>Balan, R; Maties, V; Hodor, V; et al., Applications of a model based predictive control to heat-exchangers, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 1326-1331 2007</li> <li>Balan, R; Maties, V; Hancu, O; et al., Modeling and control of an electric arc furnace, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 938-943,2007</li> <li>Balan, R; Maties, V; Hancu, O; et al., Monlinear control using a model based predictive control algorithm, International Symposium on Computational Intelligence in Robotics and Automation Pages: 203-20</li></ol>  |       |                       | Significant Papers:  |
| <ol> <li>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</li> <li>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</li> <li>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</li> <li>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</li> <li>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</li> <li>Balan, R; Maties, V; Hancu, O; et al., Applications of a model based predictive control algorithm, 2008 3rd International Symposium on Communications, Control and Signal Processing, Vols 1-3 Pages: 709-714</li> <li>Balan, R; Maties, V; Hancu, O; et al., Applications of a model based predictive control to heat-exchangers, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 1326-1331 2007</li> <li>Balan, R; Maties, V; Hancu, O; et al., Modeling and control of an electric arc furnace, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 1326-1331 2007</li> <li>Balan, R; Maties, V; Hancu, O; et al., Modeling and control of an electric arc furnace, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 203-208, 2007</li> </ol>  |       |                       | 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  |
| <ul> <li>S. Coman, M. Baran, K. Video Camera measuring application using Matab, Robotics and Automation systems, Book Series: Solid State Phenomena, Volume: 166-167, Pages: 139-144, 2010</li> <li>G. 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</li> <li>T. 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</li> <li>8. Balan, R; Maties, V; Hodor, V; et al., Applications of a model based predictive control to heat-exchangers, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 1326-1331 2007</li> <li>9. Balan, R; Maties, V; Hancu, O; et al., Modeling and control of an electric arc furnace, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 1326-1331 2007</li> <li>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</li> </ul>  |       |                       | <ol> <li>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</li> <li>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</li> <li>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</li> </ol>   |
| <ul> <li>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</li> <li>8. Balan, R; Maties, V; Hodor, V; et al., Applications of a model based predictive control to heat-exchangers, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 1326-1331 2007</li> <li>9. Balan, R; Maties, V; Hancu, O; et al., Modeling and control of an electric arc furnace, Mediterranean Conference on Control &amp; Automation, Vols 1-4 Pages: 938-943,2007</li> <li>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</li> </ul>   |       |                       | <ol> <li>Coman, M; Balan, R, Video camera measuring application using Matlab, Robotics and Automation<br/>systems, Book Series: Solid State Phenomena, Volume: 166-167, Pages: 139-144, 2010</li> <li>Balan, R; Stan, SD; Lapusan, C, A Model Based Predictive Control Algorithm for Building<br/>Temperature Control, 2009 3rd IEEE International Conference on Digital Ecosystems and<br/>Technologies Pages: 541-546</li> </ol>   |
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| Technical skills and competences | <ul> <li>Areas of interest: Mechatronics, Energy efficiency, Modelling-Simulation, Control systems,<br/>Robots – Parallel robots, Sensors – Smart sensors, Computer science, Designing and testing of<br/>electronic control units, Numerical methods etc.</li> <li>Articles: over 100, from which 9 indexed ISI and over 50 indexed in databases;</li> <li>Books: 7, from which 3 as single author;</li> <li>Book chapters: 10;</li> </ul> |  |  |  |
|----------------------------------|---|--|--|--|
| 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)<br>Other references may be submitted upon request   |  |  |  |
| Annexes                          | <ol> <li>PhD in Automation diploma copy</li> <li>Bachelor diploma copy</li> </ol>   |  |  |  |

Date: 1.02.2019

Signed,

