

FORMAT  
EUROPEAN  
CURRICULUM VITAE



<b>Personal information</b>	
Surname(s) / First name(s)	<b>Borangiu, Theodor</b>
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E-mail(s)	theodor.borangiu@cimr.pub.ro
Nationality	Romanian
Date of birth	20.06.1948
<b>Work experience</b>	
Period	1991 - present
Occupation or position held	University Professor
Main activities and responsibilities	<p><i>Didactic</i> (courses taught at present in bold): "Automata and Microprogramming", "Robot Control Systems", "Artificial Intelligence in Robotics", "<b>Manufacturing Control Systems</b>", "Multi-agent and Holonic Manufacturing Control", "Enterprise Management Architectures", "Enterprise Modelling and Integration", "Intelligent Control Networks", "Design of Digital Devices" – Faculty of Automatic Control and Computers (A&amp;C); "Control Systems and Equipment for Industrial Robots", "Artificial Vision in Robotics and Quality Inspection (IMST Faculty); "<b>Production Systems and Group Technology</b>" and "<b>Service Management</b>" (AIMA Faculty)</p> <p><i>Director of the Master programs:</i></p> <p>(1) Service Engineering and Management, A&amp;C Faculty, in English, double degree with the Faculty of Engineering, University of Porto, Portugal;</p> <p>(2) Service Oriented Enterprise Architectures, A&amp;C Faculty, in Romanian</p> <p>(3) Management of the Digital Enterprise, AIMA Faculty, in English</p> <p><i>Founder of the Laboratories:</i> (1) Programmable Logic Controllers for Industrial Applications; (2) "Robotics and Artificial Intelligence", (3) Computer Integrated Manufacturing (CIM), (4) Service Oriented Enterprise Architectures (SOEA), (5) Cloud Manufacturing and Robotic Services; (6) Control and Management of the Digital Enterprise.</p> <p><i>Scientific research based on contracts and national / international grants</i> in the domains: Control systems with distributed intelligence; Holonic Manufacturing Execution Systems (HMES), Multi-Agent Systems (MAS) in industry; Robot control systems; Real-time image processing and artificial vision systems; Service Oriented Architectures (SOA); Product Intelligence (PI) and Product-driven automation (73 research contracts and grants)</p> <p><i>Director in 47 national research projects</i> (grants, contracts with industry, total value: 38.8 mil. lei)</p> <p><i>Director in 5 international projects:</i> "Robot Vision pro ESHED ROBOTEC" Israel (1994-96); MERCATOR, Deutsche Forschungsgemeinschaft DFG Germany (2002-03); ARCUS - Gestion informatisée des flous de transport, Grant RO-France (2006-08); Feature-Based Modelling of Material Flows for Robotized Production, Grant RO-Slovenia (2007-08), ERRIC FP7 (2010-13); he has supervised 44 ww and EMEA IBM research projects, total value 0.68 mil. USD.</p> <p><i>Scientific publications:</i> 94 monographs, books and book chapters, editor of 28 books, 312 scientific articles in journals and conferences</p> <p><i>Invited professor in foreign universities, he has taught the courses:</i></p> <ul style="list-style-type: none"> <li>• "Robot Vision", EIGIP and ENSIAME, Université de Valenciennes, France, 1996-2013</li> <li>• "Robotersteuerung u. Programmierung", University of Applied Sciences, Konstanz, Germany, 2000-05</li> <li>• "Rechnergestützte Fertigung u. Robotersteuerung", University of Lower Austria, Krems, 1994-95</li> <li>• "Control de Robots Industriales e Integracion CIM", Universidad de Murcia, Spain, 1997-98</li> <li>• "Modelling Service Systems with IT Support", Faculty of Engineering, University of Porto, 2014</li> </ul> <p><i>Member of the Scientific and Technical Committees:</i> IFAC/MIR (Robotics) 1992-present, IFAC/MIT (Manufacturing Information Technology) 1992-2000, IFAC/ MPC (Manufacturing Plant Control) 2000-present, Romanian Society of Automatic Control and Technical Informatics (SRAIT 1990-present, Romanian Society of Robotics (SRR) 1994-present, Coordinator of the International Scientific Committee (SCI) of the EU Organization "Robotics in Alpe-Adria- Danube Region</p>

	<p>(RAAD)" 2009-2011 si 2013-2014 and member of ISC RAAD 1992-present, Member of the Board of Directors ISSIP-International Society of Service Innovation Professionals (2012-present). Member of the Steering Committee "Exploring Service Science IESS (2014-present).</p> <p><i>Member of 124 Internationale Program Committees (IPC) and of 72 Nationale Program Committees (NOC) of scientific conferences, symposia and workshops</i></p> <p><i>Organiser and IPC/NOC chair of the international conferences: IFAC/IFIP (1995 – IMS, 2003 – IAD si 2012 – INCOM), RAAD (2005, 2009, 2015), Exploring Service Science" – IESS1.6, 2016, "Service Orientation in Holonic and Multi-Agent Manufacturing" - SOHOMA (2011 – ENSAM Paris, 2012- Bucharest, 2013 – Valenciennes, France, 2014 – Nancy, France, 2015 – Cambridge, UK, 2016 – Lisbon, Portugal, 2017 – Nantes, France), IFAC TC5.1 "Benchmarking Manufacturing Execution Systems BMES 2012" - Bucharest, "Integrated Information and Control Systems for Smarter Enterprise - IICS 2012" - Bucharest, "Fostering Innovation in Healthcare Systems" - Brasov 2012, "IBMTEC: Workshop on IBM Technologies for the Digital Enterprise" – Bucharest, 2015.</i></p>
	<p><i>Coordinator of Ph.D. theses in the domain System Engineering since 1992; Director in joint Ph.D. theses with the University Lille du Nord, Valenciennes, France</i></p> <p><i>Director of the Research Centre in Robotics and CIM, CIMR (1994 – present);</i></p> <p><i>Director of the Doctoral school "Automatic Control and Computers" of University Politehnica of Bucharest (UPB) 2012-present;</i></p> <p><i>Member of the UPB Senate, 2002-present; Member of the A&amp;C Council, 2012-present;</i></p> <p><i>Member of the National Council for Titles and Doctorate Certification (CNADTCU), since 2016;</i></p> <p><i>Member of the Consultative R&amp;D Council of the Ministry of Education, 2013-2017</i></p>
Name and address of employer	University Politehnica of Bucharest (UPB), Faculty of Automatic Control & Computers (A&C), Dept. of Automatic Control & Ind. Info., Spl. Independentei 313, sector 6, 060042 Bucharest, Romania
Type of business or sector	Higher Education
Period	1990 - 1991
Occupation or position held	Associate Professor
Main activities and responsibilities	Didactic: Courses created and taught: "Programmable Logic Controllers" in A&C, "Regelungstechnik" FILS, German division, seminars, laboratory activities and projects Scientific research in the areas: Modelling and multiprocessor control of robots; Educational robotics; Image processing; Guidance Vision for Robots (GVR) and Automatic Visual Inspection (AVI); PLC-based process control
Name and address of employer	Politehnic Institute of Bucharest, Faculty of Automatic Control & Computers (A&C), Dept. of Automatic Control & Ind. Info., Spl. Independentei 313, sector 6, 060042 Bucharest, Romania
Type of business or sector	Higher Education
Period	1976 - 1990
Occupation or position held	Lecturer
Main activities and responsibilities	Didactic: Courses taught: "Control systems in the machine building industry", "Automation techniques and systems", laboratory activities, seminars, projects Scientific research in the areas: PLC architectures and discrete process control, digital process control techniques, multiprocessor architectures, Numerical interpolators for CNC machines, optimization of nonlinear multivariable processes, dynamic systems with discrete events Four patents: methods, solutions and devices for automatic backup in large control systems
Name and address of employer	Politehnic Institute of Bucharest, Faculty of Automatic Control & Computers (A&C), Dept. of Automatic Control & Ind. Info., Spl. Independentei 313, sector 6, 060042 Bucharest, Romania
Type of business or sector	Higher Education
Period	1971 - 1975
Occupation or position held	University Assistant
Main activities and responsibilities	Didactic: Laboratories created and training : "Discrete control in industry", "Automatic control in the machine building industry", seminar and laboratory activities, projects Scientific research in the areas: Adaptive control of machine tools, CNC systems, discrete control techniques and systems, design of algorithmic state machines, microprogrammed devices: CPU with bit slice computing units, real time microcontrollers
<b>Education and training</b>	
Period	1976 - 1979
Title of qualification awarded	Ph.D. in Automatic Control
Principal subjects / occupational skills covered	Research and development in the area of real time discrete control systems for nonlinear, multivariable processes
Name and type of organisation providing education and training	Politehnic Institute of Bucharest, Spl. Independentei 313, sector 6, Bucharest, Romania
Level in national or international classification	ISCED 6

Period	1967 - 1971											
Title of qualification awarded	Engineer, Specialty Automatic Control											
Principal subjects / occupational skills covered	<ul style="list-style-type: none"> <li>Algebraic theory of automata / SCADA, Design of control automata</li> <li>Bases of electrical engineering / Modelling of electric processes</li> <li>Electronics, process interfaces / Design of HCI, HMI interfaces</li> <li>Automatic drives, motion control / Design of actuator control systems</li> <li>State machines, microcontrollers / Discrete controllers</li> <li>Measurements and transducers, data acquisition and processing systems</li> <li>Computer programming (high level languages, OS, software engineering) / Applications development</li> <li>Linear systems theory, nonlinear and discrete systems / Process modelling and control</li> <li>Numerical control / Design of control systems</li> <li>Process optimization / Optimization techniques</li> <li>Microprocessors, multiprocessor systems / Design of computer-based control structures (HW)</li> <li>Telemechanics, data transmission / Local Area Networks (LAN)</li> <li>Enterprise organization and management</li> <li>Accounting and analysis of economic activities / Management of economic processes</li> <li>Automatic control in the chemical and machine building industries / CAD, CAM, CAPP, CIM</li> <li>Foreign languages: English, French</li> </ul>											
Name and type of organisation providing education and training	Politehnic Institute of Bucharest, Spl. Independentei 313, sector 6, Bucharest, Romania											
Level in national or international classification	ISCED 5											
Period	1963 - 1967											
Title of qualification awarded	Graduate high school / baccalaureate											
Principal subjects / occupational skills covered	Scientific specialization											
Name and type of organisation providing education and training	Matei Basarab Lyceum, Bucharest, Romania											
Level in national or international classification	ISCED 4											
<b>Personal skills and competences</b>												
Mother tongue(s)	Romanian											
Other language(s)												
Self-assessment	<b>Understanding</b>				<b>Speaking</b>				<b>Writing</b>			
<i>European level (*)</i>	Listening		Reading		Spoken interaction		Spoken production		Writing production			
<b>English</b>	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user		
<b>French</b>	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user		
<b>German</b>	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user		
<b>Spanish</b>	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user	C 2	Proficient user		
<b>Italian</b>	C 2	Independent user	C 2	Independent user	C 2	Independent user	C 2	Independent user	C 2	Independent user		
(*) <i>Common European Framework of Reference (CEF) level</i>												
Social skills and competences	<p>Team working capabilities, work discipline in contracts – acquired through participation in many R&amp;D projects, HE and R&amp;D partnerships, visiting professor stages in EU universities, teaching in foreign languages</p> <p>Communication and public presentation skills – acquired through teaching activities, participation in scientific events, keynote presentations of scientific subjects, professional activities as visiting professor.</p>											
Organisational skills and competences	<p>Preparation and management of R&amp;D projects, transfer of knowledge, transfer of technology and follow-up of its utilization – acquired during coordination of student groups, and researchers' teams in projects.</p> <p>Capacity of finalizing projects, implementing and deployment of solutions, install and test control equipment and computing infrastructure, - acquired through participation, development and</p>											

	<p>management in research contracts and grants.  Management of fundamental and applied research activities, development of innovation, applying scientific results in industry and service companies – acquired through coordination of scientific projects and doctoral theses.  Capacity to evaluate, design and implement HE curricula and educational programs, research programs for teaching personnel and students.  Capacity to organize scientific events, training workshops, conferences in ICT, automatic control, robotics, service science  Capacity to coordinate at country level educational programs and research programs in ICR, Technical Informatics and Service Management</p>
Technical skills and competences	<p>Design and implementing computer-based control systems, Cloud services, and developing applications in control with distributed intelligence  Expert in robot motion control, robot-vision systems, image processing in robotics and manufacturing  Innovator in service systems with ICT support  Expert in Holonic Manufacturing Execution Systems and MAS for industry applications</p>
Computer skills and competences	<p>Development of control solutions and SW applications for: process control, digital manufacturing, robot control, HMI, HRI, PLM  Life cycle application management (Rational, IBM Rhapsody, BPM), data analysis and decision optimization (IBM BAO, ILOG, Cognos), integration of SW applications and SOA (IBM Websphere)  Document management (Lotus, Microsoft Office)  Robot-Vision and process control programming environments, languages and tools : V+, AdeptVision, AdeptSight, RAPID, MATLAB toolbox for ROBOTICS, VISION (robotics), STEP, TSX, ISAGRAF, SLC, GRAFCET, Bosch (PLC), MAS (Jade).</p>
Artistic skills and competences	
Other skills and competences	
Driving licence(s)	B category
<b>Other informations</b>	<p>Invited professor at the universities: TU Vienna, Austria (1992-1994), Niederösterreich Landesakademie Krems, Austria (1994), Universidad de Cartagena, Spania (teaching the course "Robots y Integracion CIM"1996-1998), Universität Darmstadt (1990), Fachhochschule Konstanz, Germania (1992, 2002-2003), Université de Valenciennes, France (teaching the course "Robot-Vision 1996-2013), Faculty of Engineering, University of Porto (teaching the course "Modelling and Design of Service Systems" 2014)</p> <p>Founding member of the institution "Casei Scoalelor", vice president R&amp;D activities, since 1994  DAAD fellow – Deutscher Akademischer Ausbildung Dienst, 1999, Univ. Konstanz, Germany  President of three public defence of Ph.D. theses at the University of Murcia, Spain, 1997-1999  Romanian Academy award "Tudor Tanasescu", Section Science and Information Technology, 2003  Director of the IBM Linux Competence Centre since 2004</p> <p>Contact persons for references:</p> <ul style="list-style-type: none"> <li>• Imre Rudas, Rector Budapest Tech. University OBUDA, <a href="mailto:rudas@bmf.hu">rudas@bmf.hu</a></li> <li>• Shimon Y. Nof, Professor Purdue University, Director PRISM Center, SUA, <a href="mailto:nof@purdue.edu">nof@purdue.edu</a></li> <li>• Alexandre Dolgui, Professor University of Nantes and Saint-Etienne, Editor in chief IJPR, France, <a href="mailto:dolgui@emse.fr">dolgui@emse.fr</a></li> <li>• Duncan McFarlane, Director Institute for Manufacturing, University of Cambridge, UK, <a href="mailto:dcm@eng.cam.ac.uk">dcm@eng.cam.ac.uk</a></li> <li>• Damien Trentesaux, Professor University of Valenciennes and Hainaut-Cambrésis, France, <a href="mailto:damien.trentesaux@univ-valenciennes.fr">damien.trentesaux@univ-valenciennes.fr</a></li> <li>• Andrew Kusiak, Profesor, The University of Iowa, USA, <a href="mailto:andrew-kusiak@uiowa.edu">andrew-kusiak@uiowa.edu</a></li> <li>• James Spohrer, Director IBM Institute for Cognitive Computing, <a href="mailto:jim.spohrer@us.ibm.com">jim.spohrer@us.ibm.com</a></li> <li>• Andre Thomas, Professor at the University of Lorraine, Director of ENSTIB, Nancy, France, <a href="mailto:andre.thomas@univ-lorraine.fr">andre.thomas@univ-lorraine.fr</a></li> <li>• Joao Falcao y Cunha, Professor, Dean Faculty of Engineering, University of Porto, <a href="mailto:jfcunha@feup.pt">jfcunha@feup.pt</a></li> </ul>
<b>Annexes</b>	List of publications and R&D grants, contracts

Date: January 2017

Signature:

