

**FORMAT  
EUROPEAN  
CURRICULUM VITAE**



**INFORMATII PERSONALE**

Nume CATALIN BUIU  
Nationalitate Romana  
Data nasterii

**EXPERIENTA PROFESIONALA**

- Perioada 1.09.1992-prezent
- Numele si adresa angajatorului UNIVERSITATEA POLITEHNICA DIN BUCURESTI
- Tipul activitatii sau Sector de Invatamant superior  
activitate
- Functia sau postul ocupat Profesor
- Principalele activitati si Educatie / cercetare  
responsabilitati
- Numele si adresa angajatorului
- Tipul activitatii sau Sector de
- activitate
- Functia sau postul ocupat
- Principalele activitati si  
responsabilitati

**EDUCATIE SI FORMARE**

- Perioada 1992-1997
- Numele si tipul institutiei de Universitatea Politehnica din Bucuresti  
invatamant si al organizatiei
- profesionale prin care s-a realizat
- formarea profesionala
- Domeniul studiat/aptitudini Automatica  
ocupationale
- Tipul calificarii/Diploma obtinuta Doctor inginer
- Nivelul de clasificare a formei de
- instruire/invatamant
- Perioada 1987-1992
- Numele si tipul institutiei de Universitatea Politehnica din Bucuresti  
invatamant si al organizatiei
- profesionale prin care s-a realizat
- formarea profesionala
- Domeniul studiat/aptitudini Automatica

- ocupationale
- Tipul calificarii/Diploma obtinuta
- Nivelul de clasificare a formei de instruire/invatamant
- Perioada
- Numele si tipul institutiei de invatamant si al organizatiei profesionale prin care s-a realizat formarea profesionala
- Domeniul studiat/aptitudini ocupationale
- Tipul calificarii/Diploma obtinuta
- Nivelul de clasificare a formei de instruire/invatamant

Master

## APTITUDINI SI COMPETENTE PROFESIONALE

Dobandite in cursul vietii si carierei dar care nu sunt recunoscute neaparat printr-un certificate sau o diploma.

LIMBA MATERNA

Romana

LIMBI STRAINE CUNOSCUTE

Engleza

- abilitatea de a citi
- abilitatea de a scrie
- abilitatea de a vorbi

f. buna

f. buna

F. BUNA

Franceza

- abilitatea de a citi
- abilitatea de a scrie
- abilitatea de a vorbi

f. buna

buna

buna

APTITUDINI SI COMPETENTE

Lucrul in colectiv

APTITUDINI SI COMPETENTE  
ORGANIZATORICE

Conducator de echipe de cercetare la un mare numar de granturi

APTITUDINI SI COMPETENTE  
TEHNICE

OPERARE CALCULATOR, SISTEME DE OPERARE, DIVERSE LIMBAJE DE PROGRAMARE

ALTE APTITUDINI SI  
COMPETENTE

Manager de proiect la 13 proiecte de cercetare nationale si internationale

PERMIS DE CONDUCERE

B

### **CĂTĂLIN BUIU - PUBLICATIONS LIST**

**A. Ph. D. Thesis** - *Intelligent Techniques for Autonomous Control Systems* (in Romanian), Bucharest, 1997

#### **B. Articles**

##### **Ba – Original articles in peer-reviewed journals**

[J16] **C. Buiu**, E. Cretoiu - *Recommendations for Interaction Design of Robotic Artists*, submitted to Advances in Electrical and Computer Engineering (ISI), **2008**

[J15] **C. Buiu** - *Integrated System for Stereoscopic Cognitive Vision, Localization, Mapping, and Communication with a Mobile Robot*, submitted to International Journal of Computers, Control, and Communication (ISI), **2008**

[J14] **C. Buiu** - *Design and evaluation of an integrated online motion control training package*, accepted for publication, IEEE Transactions on Education (ISI), ISSN 0018-9359, **2008**

[J13] **C. Buiu** - *Hybrid Educational Strategies for a Laboratory Course on Cognitive Robotics*, IEEE Transactions on Education (ISI), ISSN 0018-9359, Vol. 11, No. 1, pp. 100-107, February **2008**

[J12] **C. Buiu**, A. Dumitrascu - *A conversational interface for voice control of autonomous robots*, Periodica Politehnica, Transactions on Automatic Control and Computer Science, ISSN 1224-600X, Vol.49 (63), No. 4, pp. 87-90, ISSN 1224-600X, **2004**

[J11] **C. Buiu**, I. Dumitrache, M. Zainea - *Design and optimization of a fuzzy logic controller for a simulated autonomous robot*, Control Engineering and Applied Informatics, Vol. 5, No. 3 and 4, ISSN 1454-8658, pp. 55-63, **2003**

[J10] **C. Buiu**, I. Dumitrache, F. Mihai - *Advanced technologies to serve robotics education*, Periodica Politehnica, Transactions on Automatic Control and Computer Science, ISSN 1224-600X, Vol. 47 (61), pp. 48-51, **2002**

[J9] **C. Buiu**, A. Dumitrascu - *Instrumentatie virtuala in robotica* (Virtual instrumentation in robotics, in Romanian), Masurari si Automatizari (Measurements and Control), anul II, Nr. 4, ISSN 1582-2834, pp. 38-41, **2002**

[J8] **C. Buiu** - *Laboratoare distribuite de automatica si robotica - primii pasi* (Distributed control and robotics laboratories - first steps, in Romanian), Masurari si Automatizari (Measurements and Control), anul II, Nr. 1, ISSN 1582-2834, pp. 48-49, **2002**

[J7] **C. Buiu** - *A review of theories on intelligence*, U.P.B. Scientific Bulletin, Series C, ISSN 1220-3033, Vol. 6, No. 1, pp. 33-40, **2001**

[J6] I. Dumitrache, **C. Buiu** - *Tehnici de conducere inteligentă a proceselor* (Intelligent control techniques, in Romanian), Revista "Utilizarea Eficienta a Energiei" (Efficient Utilization of Energy), nr. 42, Nr. 4/2000, Societatea Romana pentru Eficienta Energetica - SOCER, I.S.S.N. 1224 - 5577, pp. 3 - 5, **2000**

[J5] **C. Buiu**, Mihaela Albu, I. Dumitrache, D. Gillet - *Advanced technologies for remote experimentation*, U.P.B. Scientific Bulletin, Series C, ISSN 1220-3033, Vol. 62, No. 1, pp. 73-82, **2000**

[J4] I. Dumitrache, **C. Buiu** - *Genetic learning of fuzzy controllers*, Mathematics and

Computers in Simulation, Elsevier Science, ISSN 0378-4754, Vol. 49, Nr. 1-2, pp. 13-26, **1999 (ISI)**

**[J3]** C. Buiu – *Artificial Intelligence in Education – State of the Art and Perspectives*, ZIFF Papiere, No. 111, Zentrales Institut fuer Fernstudienforschung, FernUniversitaet – Gesamthochschule – Hagen, ISSN 1435-9340, pp. 1-105, **1999**

**[J2]** I. Dumitrache, C. Buiu – *Genetic algorithms in process identification and control*, Studies in Informatics and Control, ISSN 1220-1766, Vol. 3 No. 4, pp. 373-385, **1994**

**[J1]** I. Dumitrache, G. Calcev, C. Buiu, Raluca Constantinescu – *A Survey on Tuning Techniques in Fuzzy Logic Control*, U.P.B. Scientific Bulletin, Electrical Engineering Series, ISSN 1220-3033, Vol. 54, No. 1-2, pp. 193-198, **1992**

## **Bb - Book Chapters**

**[CH1]** C. Buiu – *Autonomy, intelligence, cognition - from cell to robot*, in *Cognitive Robots - Concepts, architectures, applications* (C. Buiu, Ed.), Ed. Universitara, **2008**

**[CH2]** F. Cazan, C. Ionita, C. Buiu – *Stereoscopic cognitive vision system for a mobile robot*, in *Cognitive Robots - Concepts, architectures, applications* (C. Buiu, Ed.), Ed. Universitara, **2008**

## **Bc - Original contributions to refereed scientific conferences**

**[C42]** C. Buiu – *An integrated Internet-based package for teaching motion control: Content and testing results*, 17th IFAC World Congress, July 6-11, Seoul, South Korea, **2008**

**[C41]** C. Buiu, N. Moanta. – *Application of Web services for designing a remote laboratory for motion control of mobile robots*, In Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2008, pp. 1706-1715, Chesapeake, VA: AACE, **2008**

**[C40]** C. Buiu – *Design and Development of a Waste Cleanup Service Robot*, Proceedings of the Eurobot 2008 International Conference, pp. 194-202, Heidelberg, Germany, May 22-24, **2008**

**[C39]** C. Buiu et al., *GENESIS – A Framework for Global Engineering of Embedded Systems*, SEESE Workshop at ICSE 2008, 30<sup>th</sup> International Conference on Software Engineering, Leipzig, Germany, May 10-18, pp. 87-94, **2008**

**[C38]** Pavel Ana, C. Vasile, C. Buiu – *Cognitive Vision System for an Ecological Mobile Robot*, Proceedings of SINTES 13, The International Symposium on System Theory, Automation, Robotics, Computers, Informatics, Electronics and Instrumentation, 18-20 October, Craiova, Romania, pp. 267-272, ISBN 978-973-742-839-4, **2007**

**[C37]** C. Buiu, F. Cazan, R. Ciurlea – *Developing of a Service Robot to Recognize and Sort Waste*, Proceedings of the 16th International Conference on Control Systems and Computer Science, Bucharest, May 22-26, pp. 298-303, ISBN 978-973-718-741-3, **2007**

**[C36]** O. Buiu, C. Buiu – *A software tool for genetic optimization of multilayer mirrors*, Preprints of the 6th International Conference on Scientific Computing in Electrical Engineering, p. 132, Sept 17-22, Sinaia, Romania, **2006**

**[C35]** C. Buiu, N. Moanta – *Using multiple online robots for teaching cognitive robotics*, 50<sup>th</sup> Anniversary Summit of Artificial Intelligence, Monte Verita, July 9-15, Switzerland, **2006**

**[C34]** C. Buiu, N. Moanta – *KC#: An Internet Mobile Robot Control Application*, 7th IFAC Symposium on Advances in Control Education, 21– 23 June, Madrid, **2006**

**[C33]** C. Buiu, I. Dumitrache, A. Dumitrascu – *A Conversational Man-Robot Interface to Assist Robotics Education*, 16th IFAC World Congress, Prague, 3-8 July, **2005**

**[C32]** C. Buiu, I. Dumitrache, F. Mihai, D. Gillet – *Experiments in Remote Collective Robotics. New Pedagogical Scenarios*, In L. Cantoni & C. McLoughlin (Eds.), Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2004, pp. 3836-3841, Chesapeake, VA: AACE, **2004**

**[C31]** C. Buiu, M. Zainea, M. Popescu – *Evolutionary computing. From Natural Evolution to Intelligent Machines*, Advanced Technologies in Power Systems: Facts and A.I., University "Politehnica" of Bucharest, 26 May - 6 June 2003, Socrates-Erasmus IP 50545-IC-1-2000-1-RO-ERASMUS-IP-1, pp. 405-426, **2003**

**[C30]** C. Buiu, I. Dumitrache, M. Zainea – *Design and optimization of a fuzzy logic controller for a simulated autonomous robot*, Proceedings of the 14th International Conference on Control Systems and Computer Science (I. Dumitrache and C. Buiu,

editors), Vol. I, pp. 24-31, **2003**

**[C29] C. Buiu** – *Genetic algorithms applications*, Advanced Technologies in Power Systems: Facts and A.I., University "Politehnica" of Bucharest, 26 May - 7 June 2002, Socrates-Erasmus IP 50545-IC-1-2000-1-RO-ERASMUS-IP-1, pp. 350-375, **2002**

**[C28] C. Buiu** – *Hybrid Educational Strategy by using Wireless Communications*, MOST Conference, Technology for Mobile Society, ISBN 83-87091-42-1, Warsaw, pp. 25-28, **2002**

**[C27] C. Buiu**, I. Dumitrache, F. Mihai – *Complex behaviors of teleoperated robots*, 14<sup>th</sup> IFAC World Congress, Barcelona, Volume no. 15, Part I, **2002**

**[C26] C. Buiu** – *A distributed laboratory for automatic control and robotics education*, Proceedings of the IEEE-TTTC AQTR 2002 (THETA 13) International Conference, Vol II, pp. 1-6, May 23-25, Cluj-Napoca, Romania, **2002**

**[C25] Albu, Mihaela, F. Mihai, C. Buiu** and D. Gillet – *Enhancing the Internet-based control in teaching laboratories using software agents*, In Preprints of IBCE 2001, Workshop on Internet based control education, pp. 47-52, 12-14 December, Madrid, **2001**

**[C24] C. Buiu**, Mihaela Albu – *Modelling Complex Behaviours for Autonomous Robots*, Proceedings of the 13th International Conference on Control Systems and Computer Science, CSCS13 Bucharest, pp. 105-108, **2001**

**[C23] C. Buiu**, I. Dumitrache – *One Actor, Different Scenarios: Intelligent Control of Autonomous Robots*, Proceedings of the Second and Third Intelligent Control Systems Workshop, Bucharest 2000-2001, pp. 93-97, **2001**

**[C22] C. Buiu**, I. Dumitrache – *Advanced solutions for remote experimentation in automatic control*, Proceedings of the Second and Third Intelligent Control Systems Workshop, Bucharest 2000-2001, pp. 163-166, **2001**

**[C21] C. Buiu**, Mihaela Albu, I. Dumitrache, D. Gillet – *Remote Automatic Control via Internet*, Proceedings of the 13th International Conference on Control Systems and Computer Science, CSCS13 Bucharest, pp. 214-219, **2001**

**[C20] Mihaela Albu, C. Buiu** – *Remote experimentation in electrical engineering*, Symposium on Advanced Topics in Electrical Engineering, ATEE 2000, "POLITEHNICA" University of Bucharest, Electrical Engineering Faculty, pp. 1-4, 7-8 Decembrie 2000, București, România, **2000**

**[C19] Mihaela Albu, C. Buiu**, P. Postolache, R. Napoli – *Laborator virtual dedicat studentilor din domeniul energetic* (Virtual laboratory for power engineering education, in Romanian), Simpozion dedicat a 50 de Ani de Învățământ Energetic în Universitatea Politehnica din București, Vol. I, pp. 7-10, **2000**

**[C18] C. Buiu**, I. Dumitrache – *Tehnici avansate de conducere a proceselor din centralele termo-electrice* (Advanced control techniques for power plants, in Romanian), Simpozion dedicat a 50 de Ani de Învățământ Energetic în Universitatea Politehnica din București, Vol. II, pp. 233-238, **2000**

**[C17] C. Buiu**, P. Dillenbourg – *Prolog collaborative agents for distance education*, Advanced research in Computers and Communications in Education, New Human Abilities for the Networked Society, G. Cumming, T. Okamoto and L. Gomez (eds.), Proceedings of ICCE '99, 7th International Conference on Computers in Education, ICCE 99, Chiba, Japan, pp. 149-152, **1999**

**[C16] C. Buiu**, G. Aguirre – *Learning interface for collaborative problem solving*, Advanced research in Computers and Communications in Education, New Human Abilities for the Networked Society, G. Cumming, T. Okamoto and L. Gomez (eds.), Proceedings of ICCE '99, 7th International Conference on Computers in Education, ICCE 99, Chiba, Japan, pp. 301-303, **1999**

**[C15] Dumitrache, C. Buiu**, C. Ceconvciuc – *Advanced geno-fuzzy techniques for drum level control in thermal power plants*, Proceedings of the 13rd IFAC World Conference, Vol. O, pp. 137-142, Beijing, **1999**

**[C14] O. Buiu, C. Buiu** – *Optimizing multi-layer mirrors by using genetic algorithms*, Proceedings of the 12th International Conference on Control Systems and Computer Science, CSCS12, Vol. II, pp. 398-401, Bucharest, Romania, **1999**

**[C13] C. Buiu**, C. Ceconvciuc, P. Dillenbourg – *Prolog collaborative agents in a virtual world*, Proceedings of the 12th International Conference on Control Systems and Computer Science, CSCS12, Vol. II, pp. 58-61, Bucharest, Romania, **1999**

**[C12] I. Dumitrache, C. Buiu**, C. Ceconvciuc – *Hybrid Intelligent Techniques into Autonomous Control*, Proceedings of 1998 IEEE International Conference on Systems, Man and Cybernetics, Vol. II, pp. 1536-1539, Hyatt La Jolla, San Diego, California, USA, **1998**

**[C11] I. Dumitrache, C. Buiu**, C. Ceconvciuc – *Towards new frontiers in evolutionary computing based fuzzy control systems*, Proceedings of Joint Conference on Information Sciences, 2nd International Workshop on Frontiers in Evolutionary Algorithms, Association

for Intelligent Machinery, volume II, pp.448-451, RTP, N.C., USA, **1998**

**[C10]** O. Buiu, **C. Buiu** - *Evolutionary design of multi-layer mirrors*, Proceedings of the IVC 14 -ICSS 10 - NANO 5 - QSA 10 International Conference, pp. 361, Birmingham, United Kingdom, **1998**

**[C9]** I. Dumitrache, **C. Buiu** - *Fuzzy control: from manual design and tuning to geno-fuzzy control*, Proceedings of the AIRTC97 Conference, Kuala Lumpur, Malaysia, pp. 43-48, **1997**

**[C8]** P. Dillenbourg, P. Jermann, D. Schneider, D. Traum, **C. Buiu** - *The design of MOO agents: Implications from a study on multi-modal collaborative problem solving*, In Knowledge and Media in Learning Systems, Proceedings of AI-ED 97 World Conference on Artificial Intelligence in Education, pp. 15-22, Kobe, Japan, **1997**

**[C7]** I. Dumitrache, **C. Buiu** - *Hybrid geno-fuzzy controllers*, Proceedings of the IEEE-SMC International Conference on Systems, Man and Cybernetics, pp. 2034-2039, Vancouver, Canada, October 24-26, **1995**

**[C6]** **C. Buiu**, I. Dumitrache - *Intelligent control systems design using genetic algorithms*, Preprints of the SICICA 94 International Conference, pp. 183-189, Budapest, June 8-10, **1994**

**[C5]** I. Dumitrache, **C. Buiu** - *Evolutionary synthesis of unsupervised learning algorithms*, Proceedings of the IMACS International Symposium on Signal Processing, Robotics and Neural Networks, pp. 530--533, Lille, April 25-27, **1994**

**[C4]** I. Dumitrache, C. Janikow, **C. Buiu** - *Tuning Fuzzy Logic Controllers using Genetic Algorithms*, Proceedings of the 9th International Conference of Control Systems and Computer Science, Bucharest, vol. II, pp. 450-462, **1993**

**[C3]** **C. Buiu**, I. Dumitrache - *Genetic algorithms for training feedforward neural networks*, Proceedings of the First Symposium on Economical Informatics, Bucharest, p. 390, May 20, **1993**

**[C2]** **C. Buiu** - *An architecture for an integrated intelligent control system*, Proceedings of the Second Balkanic Conference on Artificial Intelligence and Fuzzy Systems, Trabzon, Turkey, pp. 66-70, **1992**

**[C1]** I. Dumitrache, R. Constantinescu, G. Calcev, **C. Buiu** - *A real time control experiment using a neural network based linguistic approach*, IFAC/IFIP/IMAC International Symposium on Artificial Intelligence in Real-Time Control, pp. 212-217, Delft, the Netherlands, 16-18 June, **1992**

## C. Books

**[B8]** **C. Buiu**, A. Dumitrascu - *Modelarea proceselor biologice* (Modelling biological processes, in Romanian), Electra Press, Bucuresti, ISBN 973-7728-10-6, **2004**

**[B7]** **C. Buiu** - *Sisteme avansate pentru conducerea robotilor autonomi* (Advanced control systems for autonomous robots, in Romanian), Electra Press, ISBN 973-8067-91-X, Bucuresti, **2003**

**[B6]** **C. Buiu**, Narcisa Isaila - *Informatica aplicata - agenti software* (Applied informatics - Software Agents, in Romanian), Politehnica Press, Bucuresti, Romania, ISBN 973-8449-09-X, **2003**

**[B5]** Dumitrache, **C. Buiu**, O. Ghica - *Sisteme numerice pentru conducerea proceselor* (Digital Control Systems, in Romanian), Electra Press, ISBN 973-8067-61-8, **2002**

**[B4]** **C. Buiu**, V. Pop - *Inginerie Cognitivă* (Cognitive engineering, in Romanian), ICPE Press, Bucuresti, ISBN 973-8067-45-6, **2001**

**[B3]** **C. Buiu**, Mihaela Albu - *Agenti software inteligenti* (Intelligent software agents, in Romanian), ICPE Press, Bucuresti, ISBN 973-8067-14-X, **2000**

**[B2]** Dumitrache, **C. Buiu** - *Algoritmi genetici. Fundamente teoretice si aplicatii în automatică* (Genetic algorithms - theoretical foundations and applications, in Romanian), Mediamira Press, Cluj Napoca, Romania, ISBN 973-9358-28-4, **2000**

**[B1]** Dumitrache, **C. Buiu** - *Introduction to Genetic Algorithms* (in English), POLITEHNICA Press, Bucuresti, ISBN 973-96609-2-4, **1995**

## D. University textbooks and laboratory guides

**[TLG5]** I. Mihu, S. Dumitriu, N. Constantin, **C. Buiu**, M. Dragoicea - *Ingineria reglarilor automate* (Control Engineering), Politehnica Press, **2007**

**[TLG4]** **C. Buiu**, V. Pop - *Inginerie cognitiva - Indrumar de laborator* (Cognitive Engineering - Laboratory Guide), Sapientia, Bucuresti, ISBN 973-99552-9-3, **2001**

**[TLG3]** **C. Buiu** - *Sisteme cognitive - Indrumar de laborator* (Cognitive systems -

Laboratory guide), Printech, Bucuresti, ISBN 973-652-232-6, **2000**

**[TLG2] C. Buiu** – *Introducere in Stiintele cognitive* (Introduction to cognitive science, in Romanian), Sapienția, Bucuresti, ISBN 973-98622-9-2, **2000**

**[TLG1] I. Dumitrache, G. Calcev, P. Teta, C. Buiu, R. Constantinescu** – *Tehnici de conducere inteligenta a proceselor* (Intelligent control techniques, in Romanian), **1993**