Lista de lucrari

Acad.Prof.dr.ing Ioan Dumitrache

Membru al Academiei Romane

Sectiuni

A.Carti publicate in edituri nationale _____ *2*

B. Volume ale conferintelor international, in calitate de editor _____ *4*

*C. Capitole in carti publicate de edituri internationale*_____ *6*

D. Articole publicate in reviste/ jurnale _____ *6*

E. Brevete de inventie _____ *17*

F. Articole publicate in volumele unor conferinte internationale _____ *18*

G. Lucrari publicate in volumele unor conferinte nationale – selectiv _____ *39*

H. Comunicari / Invited papers _____ *43*

I.Rapoarte stiintifice – selective _____ *50*

J. Contracte de cercetare – selectiv _____ *53*

K. Manifestari stiintifice organizate _____ *59*

A. Carti publicate in edituri nationale

1. S.Florea, **I.Dumitrache**, **Elemente de executie hidraulice si pneumatice**, Ed. Didactica si Pedagogica,1967.
2. S. Calin, **I. Dumitrache,** P.Dimo**, Automatizari electronice**, curs tiparit Ed. Didactica si Pedagogica, 1973.
3. S. Calin,M.Tertisco**,I. Dumitrache,** s.a, **Optimizari in sistemele industriale**, Ed.Tehnica, 1979.
4. S. Florea, **I. Dumitrache***,* **Elemente si circuite fluidice**, Ed. Acad. RSR., 1979.
5. **I. Dumitrache**, **Tehnica reglarii automate**, Ed. Didactica si Pedagogica, 1980.
6. S. Florea, **I.Dumitrache** s.a., **Elemente de electronica si automatizari**, Ed. Didactica si Pedagogica, 1980.
7. **I. Dumitrache** s.a., **Automatizari si echipamente electronice**, Ed. Didactica si Pedagogica, 1982.
8. S. Florea, **I. Dumitrache** s.a., **Elemente de electronica industriala si automatizari**, Ed. Didactica si Pedagogica, editie completata 1983.
9. S. Calin, **I. Dumitrache** s.a., **Reglarea numerica a proceselor tehnologice**, Ed.Tehnica, 1984.
10. **I. Dumitrache** s.a., **Automatizari electronice**, Ed. Didactica si Pedagogica, 1993.
11. **I. Dumitrache**, C. Buiu, **Introduction to Genetic Algorithms**, Editura Politehnica, Bucuresti, 1995
12. **I. Dumitrache**, **Intelligent Control of Industrial Robots**, Editura MEDIAMIRA Cluj, 1995.
13. Sylviane Gentil ,D.Popescu, **I.Dumitrache**, I. Tabus, **Comande Numerique et Intelligence Artificielle en Automatique** Ed.Tehnica 1997, ISBN 973-31-1001
14. **I.Dumitrache**, R. Munteanu, **Probleme ale reformei învățământului superior**, Editura Alternative, București, 1998.
15. **I.Dumitrache,** N.Constantin, M.Dragoicea, **Retele neuronale in Identificarea si Conducerea Proceselor**, Ed. Matrix 1999.
16. **I.Dumitrache,** C.Buiu, **Algoritmi genetici,** Ed. MEDIAMIRA Cluj, 2000
17. **I.Dumitrache**, R.Munteanu, ș.a., **Aspecte privind cercetarea științifică din învățământul superior**, Ed. Rao, 2001.
18. **I. Dumitrache**, R. Munteanu, **Către o societate bazată pe cunoștințe**, Ed. Mediamira, 2002.
19. **I. Dumitrache**, C. Buiu, O. Ghica, **Sisteme numerice pentru conducerea proceselor**, Ed. Electra, 2002.
20. **I. Dumitrache**, C.Scarlat, A.Curaj, R.Munteanu, **Managementul centrelor de cercetare științifică**, Ed. Economica – București, 2003.

21. *I. Dumitrache***,** I.Popescu (Editors) – **"File de Istorie"** – 195 de ani in Universitatea Politehnica Bucuresti, Politehnica Press.
22. **I. Dumitrache**, **Ingineria Reglarii Automate**, Editura Politehnica Press, 2005
23. **I. Dumitrache, Ingineria Reglarii Automate**, editie noua revizuita, 750 de pagini, Editura Politehnica Press, 2010
24. **I.Dumitrache, Ingineria Reglarii Automate**, editie noua completata, Editura Politehnica Press, 2016
25. I.Popescu, **I.Dumitrache**, **Istoria Universitatii "Politehnica" Bucuresti**, Editura Paideea, 2020
26. **I. Dumitrache**, D. C. Popescu, **Strategii Avansate de Conducere**, Vol. 1, Editura Politehnica Press, Bucuresti, 2024, ISBN 978-606-9608-82-1.

In calitate de Editor

1. **Tertiary education and innovation system analysis,** Editura Academiei Române, Bucureşti, 2006 (impreuna cu I.Mihailescu si A.Curaj)
2. **Automatica** vol. I. - Editura Academiei Române, Bucureşti, 2009, ISBN 978-973-1883-4,
3. **Automatica** vol. II - Editura Academiei Române, Bucureşti, 2013
4. **Automatica** vol.III – Aplicatii – *sub tipar* - Editura Academiei Române, Bucureşti, 2015

Carti de uz didactic

1. **I.Dumitrache**, **Elemente de electronica si automatizare**, curs tiparit IPB, 1973.
2. **I.Dumitrache**, **Metoda variabilelor de stare pentru analiza sistemelor automate liniare continue si discontinue**, curs tiparit IPB - 1969.
3. **I.Dumitrache** s.a., **Algoritmi de calcul pentru sisteme automate liniare**, tipografie IPB, 1973.
4. S. Florea, **I. Dumitrache**, I. Catana, **Elemente de automatizari pneumatice si hidraulice**, indrumar de laborator, tiparit IPB, 1975.
5. **I.Dumitrache**, M. Atodiroaiei, **Simularea sistemelor dinamice SIMSID**, IPB, 1975.
6. **I.Dumitrache**, **Elemente de teoria sistemelor automate**, curs tiparit IPB, 1977.
7. **I.Dumitrache**, **Elemente si echipamente de automatizare pentru masini unelte**, tiparit IPB, 1977.
8. **I.Dumitrache, Tehnica reglarii automate**, indrumar de laborator, tiparit IPB, 1977.
9. **I.Dumitrache**, **Tehnica reglarii automate**, curs tiparit IPB, 1979.
10. **I.Dumitrache**, M. Dumitru, **Pachet de programe pentru proiectarea si simularea sistemelor automate**, Tipografia IPB, 1980.
11. **I.Dumitrache, Proiectarea sistemelor numerice de reglare**, Tipografia IPB, 1985.
12. **I.Dumitrache** s.a., **Structuri de reglare**, indrumar de laborator, Tipografia IPB, 1985.

13. **I.Dumitrache** s.a., **Bazele teoretice ale reglarii automate**, indrumar de laborator, Tipografia IPB, 1986.
14. **I.Dumitrache**_s.a., **Bazele teoretice ale reglarii automate, culegere de probleme**, Tipografia IPB, 1987
15. **I.Dumitrache** s.a., **Tehnici de conducere inteligenta a proceselor**, Editura Politehnica, 1993

B. Volume ale conferintelor internationale, in calitate de editor

Volumele conferintelor internationale, publicate in edituri straine, in calitate de editor

1. **Proceedings of the IFAC/IFIP/IFORS Workshop**, Bucharest, Romania, 1995 – impreuna cu Th.Borangiu, ISBN: 0-08-042595-X
2. **The Proceedings of the second Workshop on Intelligent Manufacturing Systems** - 1996
3. **Proceedings of the IFAC International Conference Supplemental Ways for Improving International Stability SWIIS'98**– impreuna cu F.Kile siP. Kopacek – 1998, ISBN: 0-08-04231-X
4. **The Proceedings of the First International Symposium on Concurrent Enterprising ISOCE'98** – impreuna cu Prof. A.M.Stanescu – 1998
5. **The Proceedings of the 9th IFAC / IFORS / IMACS / IFIP / Symposium on Large Scale Systems** – 2001, impreuna cu F.Filip si S.Iliescu; ISBN: 0-08-043691
6. **The Proceedings of the International Workshops on Intelligent Control Systems**, Ed. Printech, ISBN 973-652-730-1, 2003
7. **The Proccedings of IFAC Conference on Manufacturing and Control of Production and Logistics, MCPL 2007**, impreuna cu F.Filip
8. **The Proceedings of the IFAC International Conference Supplementary Ways for Improving International Stability SWIIS'2010**– impreuna cu Prof. Kopacek, prof. Caramihai - 2010
9. **The Proceedings of the second IFAC Symposium on Telematics Applications**, TA 2010
10. **The Proceedings of the 14-th IFAC, Symposium on Informatic Control Problems in Manufacturing** – INCOM , impreuna cu Th. Borangiu, A.Dolgui, Fl.Filip, 2012
11. Advances in Intelligent Control Systems and Computer Science, Springer, Dumitrache, Ioan (Ed.), ISBN 978-3-642-32548-9, 2012

12. **The Proceedings of the 19-th International Conference on Control Systems and Computer Science**, **I.Dumitrache**, Adina Magda Florea, Florin Pop – Published by the IEEE Computer Society, 2013
13. "**The Proceeding of 20-th International Conference CSCS – 20/2015"**. I. Dumitrache, A.Florea, F. Pop, A. Dumitrașcu (Editors) – , Published by the IEEE Computer Society, 2015
14. "**The Proceeding of 21-th International Conference CSCS – 21/2017"**, Edited by Ioan Dumitrache, Adina Magda Florea, Florin Pop, Alexandru Dumitrașcu

Volumele conferintelor internationale, publicate in edituri nationale, in calitate de editor

15. **The Proceedings of 6thInternational Conference on Control Systems and Computer Science** - 1985
16. **The Proceedings of 7thInternational Coference on Control Systems and Computer Science** - 1987
17. **The Proceedings of 8thInternational Coference on Control Systems and Computer Science** - 1991
18. **The Proceedings of 9thInternational Coference on Control Systems and Computer Science** - 1993
19. **The Proceedings of 10th International Coference on Control Systems and Computer Science** – 1995
20. **The Proceedings of 11th International Coference on Control Systems and Computer Science** – 1997
21. **The Proceedings of 12th International Coference on Control Systems and Computer Science** – 1999
22. **The Proceedings of 13th International Coference on Control Systems and Computer Science** – 2001
23. **The Proceedings of 14th International Coference on Control Systems and Computer Science** – 2003
24. **The Proceedings of 15th International Conference on Control Systems and Computer Science** – 2005
25. **The Proceedings of 16th International Conference on Control Systems and Computer Science** – 2007
26. **The Proceedings of 17th International Conference on Control Systems and Computer Science** – 2009

27. **The Proceedings of 18th International Conference on Control Systems and Computer Science** – 2011

C. Capitole in carti publicate de edituri internationale

1. A.B. Pavel, C.I. Vasile , **I. Dumitrache, Membrane Computing in robotics Beyond Artificial Intelligence: Contemplations, Expectations, Applications** (Topics in Intelligent Engineering and Informatics), Springer, 2012
2. I. Necoara, **I. Dumitrache**, J. Suykens, **Smoothing techniques-based model predictive control algorithms for networks**, capitol carte in "Time Delay Systems: Methods, Applications and New Trends", Lectures Notes in Computes Science, Springer 2012, vol. 243
3. C.M. Dumitrascu, **I. Dumitrache, Human Skin Detection Using Texture Information and Vector Processing Techniques by Neural Networks,** pp. 59-77, capitol in Advances in Intelligent Control Systems and Computer Science, Springer, 2012
4. S.I. Caramihai, **I. Dumitrache, Urban Traffic Monitoring and Control as a Cyber Physical Systems Approach**, pp. 355-367, capitol in Advances in Intelligent Control Systems and Computer Science, Springer, 2012
5. **I. Dumitrache**, Simona Iuliana Caramihai –**The Intelligent Manufacturing Paradigm in Knowledge Society** capitol in "*Knowledge Management*"; Ed: Pasi Virtanen and Nina Helander, ISBN: 978-953-7619-94-7, Publisher: InTech, 2010S.
6. A. Guta, **I. Dumitrache**, D. McFarlone, T. Masood – **Rationals of Holonic Manufacturing Systems in Leather Industry**, pg. 199-212, in Lecture Notes in Artificial Intelligence, Springer 2013
7. S.Olaru, **I.Dumitrache**, D.Dumur – **Geometrical Analysis of Model Predictive Control: A Parametrized Polyhedral Approach**, pg.439-447 in Lecture Notes in Computer Science – Numerical Analysis and its Applications, Springer 2008

D. Articole publicate in reviste/ jurnale

1964	
1.S. Florea, **I. Dumitrache,** V. Gaburici	**Elemente folosite in tehnica calculului analogic si numeric**, Automatica si Electronica, vol.8, nr.2/1964, pag.73-79.
2.S. Florea, **I.Dumitrache**	**Elemente de calcul numeric pneumatice, bazate pe interactiunea curentilor de aer**, Automatica si Electronica, vol.8, nr.3/1964, pag.121-126.
1966	
3.S. Florea, **I. Dumitrache**	**Consideratii asupra elementelor de calcul pneumatice, bazate pe interactiunea jeturilor de aer**, IPB, nr.1/1966.

4.S. Florea, **I. Dumitrache**	**Calculul organelor de executie pentru reglarea debitelor de fluid**, Automatica si Electronica, vol.8, nr.2/1966, pag.70-75.
1967	
5.S. Florea, **I. Dumitrache**	**Unele probleme privind dinamica sistemelor hidraulice**, Bul. IPB, nr.6/1967, pag. 101-112.
1968	
6.S. Florea, **I. Dumitrache**	**Amplificatoare fluidice interconectate**, Automatica si Electronica, nr.1/1968, pag.11-16.
1969	
7.**I. Dumitrache**	**Elemente fluidice utilizate in tehnica calcului numeric**, AMC, nr.12/1969, pag. 97-105.
1970	
8.**I. Dumitrache**	**Contributii la sinteza sistemelor si circuitelor fluidice numerice**, teza de doctorat in 1970.
9.**I. Dumitrache**	**Proiectarea asistata de calculator a echipamentelor si circuitelor numerice**, Automatica si Electronica, 20/1970, nr.4, pag.171-177.
10.**I. Dumitrache**	**Principii de realizare a sumatoarelor binare fluidice**, Automatica si Electronica, nr.6/1970, pag.254-259.
1971	
11.**I. Dumitrache,** S. Florea	**Sistem de comanda automata cu elemente fluidice**, Constructia de Masini, nr.4/1971, pag.200-206.
12.**I. Dumitrache**	**Simulator fluidic de elemente si circuite numerice SELF-1**, Automatica si Electronica, nr.5/1971, pag.
13.**I. Dumitrache**	**Cercetarea experimentala a elementelor fluidice**, Automatica si Electronica, nr.5/1971, pag.
1972	
14.S. Florea, **I. Dumitrache**	**Echipament fluidic pentru protectia tehnologica a buclei de iradiere a probelor de combustibil nuclear**, Automatica si Electronica, nr.1/1972, pag.
15.**I. Dumitrache**	**Circuite fluidice comparatoare si de memorie**, Automatica si Electronica, nr.2/1972, pag. 64-69.
16.**I. Dumitrache**	**Sinteza unor circuite fluidice cu logica de prag**, Bul.IPB, nr3/1972, pag.59-67.
1973	
17.**I. Dumitrache**	**Analiza regimului stationar si tranzitoriu a elementelor fluidice numerice**, AMC, nr.19/1973, pag.
18.S. Florea, **I. Dumitrache**	**Threshold logic by means fluidic elements**, Automatica IFAC, vol.9, Pergamen Press, 1973, pag. 47-52.

1974	
19.**I. Dumitrache,** S. Dumitriu, M. Atodiroaiei	**Algoritm de calcul a sistemelor de calcul automate cu reactie dupa stare**, Automatica si Electronica, nr.1/1974, pag.13-21.
1975	
20.**I. Dumitrache**	**Algoritm de calcul al timpului de raspuns al unui bistabil fluidic**, Bul.I.P.B., nr.2/1975, pag.51-57
1976	
21.**I. Dumitrache**	**Proiectarea asistata de calculator a sistemelor fluidice numerice**, Automatica siu Electronica, nr.4/1976, pag.171-177
1977	
22.**I. Dumitrache,** D. Popescu	**Metoda sectionarii planelor pentru optimizarea sistemelor multivariabile**, Bul.I.P.B., nr.1/1977, pag.67-78
23.**I. Dumitrache**	**Sistem de comanda fluidica pentru masini-unelte**, AMC, nr.22/1977
24.**I.Dumitrache,** M.Atodiroaiei	**Limbaj de simulare a sistemelor dincamice SIMSID**, AMC, nr.22/1977, pag.181-188
1978	
25.**I. Dumitrache**	**Simularea numerica a sistemelor hidraulice**, Bul.I.P.B., 1978, pag.75-82
26.**I. Dumitrache,** D. Popescu	**Metode de gradienti pentru optimizare**, AMC, nr.26/1978
27.**I. Dumitrache,** D. Popescu	**Metode de optimizare prin "cautari" fara evaluarea derivatei**, AMC nr.27/1978, pag. 67-102
28.**I. Dumitrache,** S. Dumitriu, F. Munteanu	**Automatic Control of Biochemical Fermentation Process**, Bul.IPB, seria Elth., tom.XL, 1978,pag.83-89
1979	
29.M.Dumitrache, **I. Dumitrache**	**Rolul sistemului vizual in relatia om-masina**, Rev. Oftalmologie, nr.4/1979.
30.**I. Dumitrache,** S.Dumitriu	**Conducerea numerica cu microcalculator a unui fermentator**, Studii de biotehnologie, nr.7/1979, pag.34-45.
1980	
31.**I. Dumitrache,** D. Streja	**Sistem pupilar studiat cu ajutorul multimilor vagi**, Studii si cercetari de biotehnologie, nr.10/1980.
32.**I. Dumitrache,** M. Mugescu	**Sistemul respirator uman ca sistem adaptiv**, Studii si cercetari de biotehnologie, nr.10/1980.
1981	

33.**I. Dumitrache,** S. Dumitriu, F. Munteanu	**Optimal control algorithms for c.c. motor**, Revue Electrotechnique, nr.1/1981, pag. 63-71.
34.**I. Dumitrache**	**Utilizarea calculatoarelor in diagnosticarea automata**, Studii de Biotehnologie, nr.12/1981, pag.
1983	
35.**I. Dumitrache,** S. Dumitriu	**Sintez descretnove algoritma speremeno structuri deia upravlenii tiristornih provodov**, Bul. IPB, seria Electrotehnica, nr.3/1983, pag.257-262.
1986	
36.**I. Dumitrache**	**Conducerea on-line a proceselor de biosinteza-achizitie de date si identificarea cu microcalculator de proces SPOT-80,** Revista de chimie, nr.10/1986, pag.865-869.
37.**I. Dumitrache,** F. Munteanu, G. Musca	**Sistem cu microcalculator de proces pentru supravegherea automata a unui bioreactor**, BUL.IPB, Tom. XLVIII, seria Automatica, 1986, pag.11-28.
1987	
38.C. Spataru, G. Ionescu, **I.Dumitrache**	**Sistem adaptiv cu regulator dead-beat si estimare prin metoda variabilelor instrumentale**, Bul. IPB, 1987, pag.71-84.
1988	
39.**I.Dumitrache,** I. Mihu, G. Musca	**Nonlinear algorithms for slow processes**, Bul.IPB, seria C.C/1988.
1989	
40.P. Galan, **I. Dumitrache,** S. Dumitriu	**Modelul matematic simplificat al masinii sincrone trifazate,** Electrotehnica, Electronica, Automatica, EEA, nr.7/1989, pag.279-285.
41.**I.Dumitrache,** I. Mihu, G. Musca	**Non-standard Control Algorithms Implemented on Microprocessor based Digital Controller**, Bul.IPB, 1989.
1990	
42.**I.Dumitrache,** S. Dumitriu, G. Galan	**Acordarea blocurilor de stabilizare ale regulatoarelor de tensiune al generatorului sincron**, EEA nr.3/1990, pag.126-130.
1991	
43.**I.Dumitrache,** G.Calcev, C.Buiu	**" A survey on Tuning techniques in Fuzzy Logic Control ",** Bul.I.P.B., Seria Inginerie Electrica, LIV, no 1-2, 1991
1994	

44.**I. Dumitrache,** C. Buiu	**Genetic Algorithms in Process Identification and Control**, Studies in Informatics in Control, vol.3, nr.4, 1994, pag.383-385.
1999	
45.**I.Dumitrache,** C.Buiu	**Genetic Learning of Fuzzy Controllers,** Mathematics and Computers in Simulation 1610 (1999), pp. 1-14
2000	
46.C.Buiu, M.Albu, **I.Dumitrache**, D.Gillet	**Advanced technologies for remote experimentation**, U.P.B. Scientific Bulletin, Series C, vol. 62, No. 1, pag. 73-82, 2000
47.**I. Dumitrache**	**Intelligent Autonomous Systems**, Revue Roumaine des Sciences Techniques, no. 3, pp. 439-454, Bucuresti, 2000
2001	
48.**I.Dumitrache**, M.Caramihai	**Optimal Fed-Batch Bioprocess Control** *via* **Intelligent System Based on Hybrid Techniques**, Control Engineering and Applied Informatics Revue, April 2001, Vol. 3, No. 1, ISSN 1454-8658, pag. 5-14
2002	
49.C. Buiu, **I. Dumitrache**, F. Mihai	**Advanced technologies to serve robotics education**, Buletinul Stiintific al Universitatii "Politehnica" din Timisoara, Romania, Seria Automatica si Calculatoare (Periodica Politehnica, Transactions on Automatic Control and Computer Science), Vol. 47 (61), pp. 48-51, 2002
50.**I Dumitrache**, A. M. Stanescu, A. Curaj, S. Caramihai	**Supervisory Control and data acquisition for virtual enterprise**, Int. Journal of Production Research, vol. 2, no. 15, pp. 3545-3559, 2002
2003	
51.**I. Dumitrache**, M. Dragoicea	**Neural Mechanisms of Learning and Control in Mobile Robotic Systems,** Buletinul Stiintific al Universitatii Politehnica din Timisoara, Romania, Seria Automatica si Calculatoare, Periodica Politehnica, Transactions on Automatic Control and Computer Science, Vol.48 (62), 2003, ISSN 1224-600X, 2003
52.M. Dragoicea, **I. Dumitrache**, D.S. Cuculescu	**Multi-behavioral model based autonomous navigation of the mobile robots,** International Journal Automation Austria, Vol. 11, Nr.1, pp:1-20, ISSN 1562-2703, 2003

53.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, Nr. 3-4, pp. 55-63, ISSN 1454-8658, 2003
54.A. Cosmescu, **I. Dumitrache**	**Multivariable fuzzy controller for the activated sludge process**, Control Engineering and Applied Informatics, Vol. 5, Nr. 3-4, pp. 64-72, ISSN 1454-8658, 2003
2004	
55.**I.Dumitrache**, M. Dragoicea	**Intelligent Techniques for Cognitive Mobile Robots**, Journal of "Control Engineering and Applied Informatics", 2004, No. 2, Vol. 5, pp: 3-8 , ISSN 1454-8658
2005	
56.**I. Dumitrache**, M. Dragoicea	**Some Problems of Advanced Mobile Robot Control**, Journal of "Control Engineering and Applied Informatics", 2005, No. 4, Vol. 7, pp: 11-30, ISSN 1454-8658
2006	
57.S. Olaru, D. Dumur, **I. Dumitrache**	**Continuity of Control Laws Based on Multiparametric Linear Programs**, International Journal of Tomography and Statistics, vol. 5, 2006
58.**I. Dumitrache**, A. Chirvase, M. Caramihai	**Progress in Characterization Modeling&Control of Aerobic Bioprocesses**, Revue Romaine de Chimie, ISSN 0035-3930, 2006
59.S. Munteanu, **I. Dumitrache**	**The intelligence of a Hybrid System: DiaMed**, CEAI Journal, vol. 8, nr. 2, pp. 54-60, 2006
60.S. Munteanu, **I. Dumitrache**	**Applying DiaMed Hybrid Algorithm to the Diagnosis of Dynamic System**, The Scientific Bulletin of Politehnica University, vol. 68, 2006
2008	
61.**Dumitrache I.**	**From Model-Based Strategies to Intelligent Control Systems**, WSEAS Trans. on Systems and Control, nr. 6, vol. 3, June 2008, pp. 569-575, ISSN 1991-8763
62.**Dumitrache I.**, Iliescu S., Teta P., Fagarasan I.	**Towards Autonomous Control of Electrical Power Systems**, Journal of Control Engineering and Applied Informatics, ISSN 1454-8658, vol. 10, nr. 1, pp. 15-22, 2008
2009	
63.I. Necoara, **I. Dumitrache**	**An accelerated optimization alforithm for distributed model predictive control**, Control Engineering and

	Applied Informatics, vol. 11, no. 3, pp. 16--23, September 2009, ISSN 1454-8658.
64.I. Fadi, **I. Dumitrache**	**Optimization of Control Strategy Assignment.A Framework Structure for Multiple Mobile Robots**, Journal of Control Engineering and Applied Informatics, Vol.11, No. 4, 2009, ISSN 1454-8658, pp. 36-44.
65.M. Caramihai, **I. Dumitrache**, A. A. Chirvase	**Progress in characterization, modeling and control of aerobic bioprocess. Part II. Aerobic bioprocess modeling and control**, - Revue Roumaine de Chimie, Vol.54, No. 8, 2009, ISSN 0035-3930, pp. 619-635.
2010	
66.Fadi Issa, **I. Dumitrache**	**Hybrid Geno-Neuro for optimization of Control Solution selection in multi mobile robots**, Buletinul UPB – seria C, numarul 3, anul 2010.
67.Olumide OBE, **I. Dumitrache**	**Fuzzy Control of Autonomous mobile robots**, Buletinul UPB, seria C, numarul 3, anul 2010.
68.Sorin Olaru, Didier Dumur, **I. Dumitrache**	**On the feasibility of Constrained generalized Predictive Control**, Buletinul UPB, seria C, nr. 4, anul 2010
2011	
69.O.Arsene, **I. Dumitrache**, I. Mihu	**Medicine expert system dynamic Bayesian Networks and Ontology based**, Expert Systems with Applications, 38, 15253-15261, ISSN 0957-4, 2011
70.I. Necoara, V. Nedelcu, **I. Dumitrache**	**Parallel and distributed optimization methods for estimation and control in networks**, Journal of Process Control, vol.21, nr.5, pp 756-766, 2011
71.I.D. Niculae, **I. Dumitrache**	**Design of embedded systems able to adapt both scheduling and control parameters**, Buletinul U.P.B., seria C, Nr. 4, 2011
72.V. Balanica, **I. Dumitrache**, M. Caramihai	**Evaluation of breast cancer risk using fuzzy logic,** Buletinul U.P.B., seria C, nr. 1, 2011
2012	
73.C.I. Vasile, A.B.Pavel, **I. Dumitrache**, Gh. Paun	**On the power of enzymatic numerical P systems**, Acta Informatica, September 2012, ISI indexed Vol. 49, Issue 6, pp. 395-412.
74.B.A.Hanchevici, M.Patrascu**,** **I. Dumitrache**	**A hybrid PID-Fuzzy Control Linear SISO Systems with variant Communication Delays,** Advances in Fuzzy Systems, 2012.

75.S.Avram, D.Caragea, **I. Dumitrache**	**A new approach to bibliometrics based on semantic similarity of scientific papers,** Control Engineering and Applied Informatics, ISI indexed vol.14, nr.3, pp.35-43, 2012.
2013	
76.C.I.Vasile, A.B.Pavel, **I. Dumitrache**	**Universality of enzymatic numerical P systems** International Journal of Computer Mathematics Vol. 90, Issue 4, pg. 869-879, 2013.
77.V.Balanica, **I.Dumitrache**, Preziosi L.	**Breast Cancer Diagnosis based on Speculation Feature and Network Techniques** International journal of Computers Communications and Control Vol.8, Issue, pg. 354-365, 2013.
78.Adrian Bogdan Hanchevici, **Ioan Dumitrache**	**Robustness of fuzzy optimal control for variable communication delays in networked control systems** – UPB, Sci.Bull, Series C, vol. 75, Iss 4, pg.13-24, 2013.
79.**I.Dumitrache**	**Cyber-Physical-Systems (CPS) – factor determinant in economia bazata pe inovare si cunostinte** -. Revista Romana de Informatica si Automatica, vol.23, nr.4, 2013.
2014	
80.S.Avram, V.Velter, **I.Dumitrache**	**Semantic Analysis Applications in Computational Biometrics –** Control Engineering and Applied Informatics Journal, Vol.16, no.1, pp.62-69, 2014.
81.O.Arsene, **I.Dumitrache**, Ioana Mihu	**Expert System for medicine diagnosis using software agents –** Expert Systems and Applications, 42(2014), pag 1825-1834.
2015	
82.S.Guță, **I.Dumitrache,** Jadonnis Ioannidis	**Towards the Smart Tannery Enterprise** – Journal of the Society of Leather Technologists and chemists" (SLTC – Journal), Vol. 99, Num. 4, 2015, pages 151-156.
83.S. Guță, **I.Dumitrache**	**A multi-agent approach for leather processing monitoring and quality control"** – Buletin UPB, seria C, nr.2/2015, pag.17-30.
84.V.Vlădăreanu, **I.Dumitrache,** L.Vlădăreanu, I.Sacală, M Moisescu	**Versatile Inelligent Portable Robot Control Platform Based on Cyber-Physical- Systems Principles"** – Studies in Informatics and Control; Vol.24/2015; pag.409-419.
85.NAE, Andrei C., **Ioan DUMITRACHE.**	"**Airborne Collision Avoidance System as a Cyber-Physical System**." INCAS Bulletin 7, no. 4 (2015).

2016	
86.Cristian Ioan Vasile, **Ioan Dumitrache**	"**Multi-agent membrane system**", Scientific Bulletin UPB, U.P.B. Sci. Bull., Series C, Vol. 78, Iss. 2, 2016 ISSN 2286-3540.
87.Cătălin Mircea DUMITRESCU, **Ioan DUMITRACHE**	"**HUMAN SKIN DETECTION USING NEURAL NETWORKS AND BLOCK PROCESSING TECHNIQUES**", U.P.B. Sci. Bull., Series C, Vol. 78, Iss. 1, 2016 ISSN 2286-3540.
88.Ana Brandusa Pavel, **Ioan Dumitrache**	"**HYBRID NUMERICAL P SYSTEMS**", U.P.B. Sci. Bull., Series A, Vol. 78, Iss. 2, 2016 ISSN 1223-7027.
89.**Dumitrache, Ioan,** Dragos C. Popescu	"**Evolutionary Networks with Generalized Neurons Applied in Battery SoC Estimation**." ROMANIAN JOURNAL OF INFORMATION SCIENCE AND TECHNOLOGY 19, no. 1-2 (2016): 98-115.
2017	
90.D. Repta, M.Moisescu, I.Sacală, **I. Dumitrache,** A.M.Stănescu	**Towards the development of semantically enabled flexible process monitoring systems** International Journal of Computer Integrated Manufacturing 30.1 (2017): 96-108.
91.Octavian Arsene, **Ioan Dumitrache**	"**Mind as multiresolution system based on multiagents architecture**" Biologically inspired cognitive architectures 20 (2017): 31-38.
92.Daniela Sârbu, **Ioan Dumitrache**	**"A Conceptual Frammework for Artificial Creativity in Visual Arts**" International Journal of Computers, Communication and Control –No. 3, 2017
93.Daniela Sârbu, **Ioan Dumitrache**	"**Artificial Creativity with Kinetic Drawing systems based on stochastic motion**" Buletinul UPB, seria C, N e 2, 2017.
94.Repta, Dragos, Mihnea Alexandru Moisescu, Ioan Stefan Sacala, **Ioan Dumitrache,** Aurelian Mihai Stanescu	"**Towards the development of semantically enabled flexible process monitoring systems**." International Journal of Computer Integrated Manufacturing 30, no. 1 (2017): 96-108.
95.**DUMITRACHE Ioan**, Ioan Stefan SACALA, Mihnea Alexandru MOISESCU, Simona Iuliana CARAMIHAI.	"**A Conceptual Framework for Modeling and Design of Cyber-Physical Systems**." Studies in Informatics and Control 26, no. 3 (2017): 325-334.
2018	

96.Repta Dragos, **Ioan Dumitrache**, Ioan Sacala, Mihnea Moisescu, Aurelian Stanescu, Simona Caramihai.	"**Automated process recognition architecture for cyber-physical** systems." Enterprise Information Systems 12, no. 8-9 (2018): 1129-1148.
97.Moisescu Mihnea, Ioan Sacala, **Ioan Dumitrache,** Simona Caramihai.	"**Predictive maintenance and robotic system design**." Journal of Fundamental and Applied Sciences 10, no. 4S (2018): 234-239.
98.Nae A., **Ioan Dumitrache.**	**"Fuzzy-logic adaptive control of traffic in an urban junction."** U.P.B. Sci. Bull., Series C, Vol. 81, Iss. 2, 2019.
99.Delia Ioana DOGARU, **Ioan DUMITRACHE**	**"MODELLING THE DYNAMIC ELECTRICAL SYSTEM IN THE CONTEXT OF CYBER ATTACKS"** U.P.B. Sci. Bull., Series C, Vol. 80, Iss. 2, 2018
100.**Ioan Dumitrache**, Simona Caramihai, Octavian Arsene, Mihnea Moisescu, Ioan Sacala	**"A new Framework for human perception modelling"** Romanian Journal of Neurology, Vol. XVII Suppl. 2, 2018.
2019	
101.**Dumitrache Ioan,** Simona Iuliana Caramihai, Mihnea Alexandru Moisescu, Ioan Stefan Sacala, Luige Vladareanu, Dragos Repta.	"**A Perceptive Interface for Intelligent Cyber Enterprises**." Sensors 19, no. 20 (2019): 4422.
102.Moisescu Mihnea Alexandru, Ioan Stefan Sacala, **Ioan Dumitrache,** Simona Iuliana Caramihai, Bogdan Barbulescu, Marius Danciuc.	"**A cyber-physical systems approach to cognitive enterprise**." Periodicals of Engineering and Natural Sciences 7, no. 1 (2019): 337-342.
103.Dogaru Delia Ioana, **Ioan Dumitrache**	"**Cyber Attacks of a Power Grid Analysis Using a Deep Neural Network Approach.**", Journal of Control Engineering and Applied Informatics 21, no. 1 (2019): 42-50.
104.Dumitrescu Catalin-Mircea, **Ioan Dumitrache**	"**Combining Deep Learning Technologies with Multi-Level Gabor Features for Facial Recognition in Biometric Automated Systems.**" Studies in Informatics and Control 28, no. 2 (2019): 221-230.

105.**Dumitrache I.,** Caramihai S. I., Moisescu M. A., Sacala I. S., Vladareanu L., Repta D.	"**A Perceptive Interface for Intelligent Cyber Enterprises.**" Sensors, 19(20), 4422. (2019).
106.**Dumitrache I.,** Caramihai S. I., Moisescu M. A., Sacala, I. S.	**"Neuro-inspired Framework for cognitive manufacturing control."** IFAC-PapersOnLine, 52(13), 910-915. (2019).
2020	
107.Culita J., Caramihai S. I., **Dumitrache I.,** Moisescu M. A., Sacala, I. S.	"**A Hybrid Approach for Urban Traffic Prediction and Control in Smart Cities.**" Sensors, 20(24), 7209. (2020).
108.Popescu D. C., **Dumitrache I.,** Caramihai S. I., Cernaianu M. O.	"**High Precision Positioning with Multi-Camera Setups: Adaptive Kalman Fusion Algorithm for Fiducial Markers. Sensors**", 20(9), 2746. (2020).
2021	
109.POPESCU Dragos Constantin, **DUMITRACHE Ioan**	"**RELATIONAL MODELING FRAMEWORK FOR COMPLEX SYSTEMS.**" UPB Scientific Bulletin, Series C: Electrical Engineering and Computer Science, 2021, 83(1), pp. 15–28
110.**I. Dumitrache**, S. I. Caramihai, D. C. Popescu, M. A. Moisescu, I. S. Sacala	"**Neuro-inspired Framework for Cognitive Manufacturing Control**," International Journal of Computers Communications & Control, vol. 16, no. 6, 2021
111.Ivanescu, M., **Dumitrache, I.,** Popescu, N., Popescu, D.	"**Control Techniques for a Class of Fractional Order Systems**". Mathematics, 9(19), 2357.
2023	
112.D. C. Popescu, **I. Dumitrache**	"**Knowledge representation and reasoning using interconnected uncertain rules for describing workflows in complex systems,**" Information Fusion, vol. 93, pp. 412-428, 2023.
113.**Dumitrache, I.,** Predescu, L. S., Caramihai, S. I., Moisescu, M. A.	"**Collaborative Decisions in Knowledge Management for Intelligent Cyber-Enterprises**". Procedia Computer Science, 221, 955-962.
2024	

114.D. C. Popescu **I. Dumitrache**	"**Software Platform Based on the hLARM Formalism for Modeling Complex Systems,**" Romanian Journal of Information Science and Technology (ROMJIST), vol. 27, no. 1, pp. 65-80, 2024.
2025	
115.Chiș, D. I., & **Dumitrache, I.**	Engineering Longevity: A Hybrid AI-Driven Simulation Framework for Optimizing National Health and Economic Prosperity. Studies in Informatics and Control. Indexare: Web of Science (Science Citation Index Expanded). Publicat decembrie 2025 DOI: 10.24846/v34i4y202507
116.Chiș, D. I., & **Dumitrache, I.**	The Ethical AI Triplet: A Framework for Stress-Testing Fairness in Digital Twins in Healthcare. Control Engineering and Applied Informatics (CEAI). Indexare: Web of Science (Emerging Sources Citation Index), Scopus, INSPEC. Publicat septembrie 2025 DOI: 10.61416/ceai.v27i3.9745
117.Chiș, D. I., **Dumitrache, I.**, Chiș, T., & Caramihai, M.	Engineering Longevity: A Systems Framework Using Digital Twins and AI to Achieve Sustainable Public Health. Baltica. Indexare: Web of Science (Science Citation Index Expanded). Publicat ianuarie 2025 DOI: 10.61586/77dM
118.Chiș, D., & **Dumitrache, I.**	Inherently Explainable AI for Automated BI-RADS Classification: A Methodological Proposal. U.P.B. Scientific Bulletin, Series C: Electrical Engineering and Computer Science. Indexare: ISI Thomson Reuters, Scopus, INSPEC, Ulrich's, Elsevier Bibliographic Databases. acceptat spre publicare
119.Mateescu, A., Popescu, D. C., Stefan, I. L., Vlasceanu, I. M., Petrescu-nita, A. C., Sacala, I., & **Dumitrache, I.**	Machine learning control for assistive humanoid robots using blackbox optimization of PID loops through digital twins. Romanian Journal of Information Science and Technology, 28, 63-76.

E. Brevete de inventie

1. **I. Dumitrache,** M.Mugescu, A. Penta	**Aparat pentru ventilatie pulmonara artificiala**, Brevet de Inventie nr.71814/1979

2.	**I.Dumitrache,** s.a	**Regulator electronic cu structura variabila,** Brevet de Inventie nr. 105027/ 10.01.1992
3.	L. Vladareanu, R. l. Munteanu, T. Sireteanu, **Ioan Dumitrache** s.a.	**Metoda si dispozitiv de control hibrid "Viteza-Pozitie" cu aplicatii la platforma inteligenta de control.** Brevet N P Medalie de aur la salonul de inventii de la Geneva 31.03.2017 Diploma si medalie de aur cu mentiunea- Expozitia mondiala a inventiilor , cercetarii si noilor tehnologii — Barcelona 05.05.2017
4.	Emanoil Doina Lucia, **Ioan Dumitrache**, s.a.	**Procedeu si dispozitiv de supraveghere pentru redresor rotativ al excitatoarei generatorului sincron,** Brevet de Inventie nr. 119802 B1/ 30.03.2005

F. Articole publicate in volumele unor conferinte internationale

1970	
1.S. Florea, **I.Dumitrache,** A.M. Stanescu	**Fluidic controller for slow processes in chemistry**, Proceedings for the Fourth Fluidic Conference, 1970, J2-13-24.
1973	
2.S. Florea, **I.Dumitrache,** V.Gaburici	**A point of point positioning system**, Proceedings of the first International Fluidic Application Conference, Bratislava, 1973, pag.254-266.
1974	
3.**I. Dumitrache**	**The algorithm for optim design of fluidic digital circuits**,The Proceedings of the Fifth Jablona Fluidics Conference, Budapesta 1974
4.S. Florea, **I.Dumitrache**	**The protection systems for chemical plants**, The Proceedings of the Fifth Jablona Fluidics Conference, Budapesta 1974.
1975	
5.**I. Dumitrache,** G.Murad	**A hybrid fluidic controller for hydrostatic transmission**, The Proceedings of the Fluidic Conference, Shefield 1975.
6.**I.Dumitrache,** D.Popescu	**An algorithm for optimisation of non-linear chemical systems**, The Proceedings of the Fifth Symposium Computers in Chemical Engineering, pag.670-676, 1975
1976	
7.**I.Dumitrache,** S.Florea	**The methods for the synthesis of the fluidic logic circuits realised by using threshold elements**, The Proceedings of the Sixth Jablona Fluidics Conference, Moscova 1976

8.S. Florea, **I.Dumitrache**	**Technological protection system achieved by fluidic elements,** The Proceedings of the Sixth Jablona Fluidics Conference, Moscova 1976.
1979	
9.**I.Dumitrache,** F.Munteanu, S.Dumitriu	**Some problems concerning automatic control and optimization of the fermentation processes**, The Proceedings of 3-rd Computer and Control Systems Conference, 1979, pag.516-526
10.**I.Dumitrache,** S.Dumitriu	**On the microcomputer control of electrical D.C.Devices**, The Proceedings of 3-rd Computer and Control Systems Conference, 1979, pag.583-593
11.**I. Dumitrache**	**Non-linear fluidic controller realised by threshold logic**, The Proceedings of the 7-th Jablona Fluidics Conference, Dresda, 1979
12.**I. Dumitrache**	**Some problems about the fluidics an electronics equipments compatibility**, The Proceedings of the 7-th Jablona Fluidics Conference, Dresda, 1979.
13.V.Catuneanu, C.Penescu, **I.Dumitrache,** G.Ionescu	**Blood Pressure Control System**, The Proceedings of 3th Control Systems and Computer Science CSCS-3, 1979, vol.III, pag.712-718.
1980	
14.**I.Dumitrache,** G.Braileanu	**Some nonlinear algorithm implemented on microcomputer controller**, The Proceedings of IFAC Symposium, Londra, 1980.
15.**I.Dumitrache,** S.Florea	**Fluidic Systems with Threshold Logic Elements**, Proceedings of 8th Fluidic Conference 1980, vol.I, pag.140-148.
16.I.**Dumitrache**	**Computer-Aided Design of Fluidic Circuits**, Proceedings of 8th Fluidic Conference 1980, vol.I, pag.165-173.
1982	
17.**I. Dumitrache,** S.Dumitriu	**Diskretnii algorithm s permenoi structurnii dlia upravlenia tiristornovo privoda**, 6-ia Naucine Tech. Conf. Interelectro, vol.1, nr.22, 1982.
18.**I.Dumitrache**	**Some problems about design of distributed control systems**, The Proceedings of IFAC Symposium, Paris, 1982.
1983	
19.**I.Dumitrache,** S.Dumitriu	**Discret-time variable structure algorithm for micoprocessor control of thyristor D.C. Drives**, MECO (IASTED) International Symposium Atena, 1983, paper no. 142, Preprints.
20.**I. Dumitrache,** M.Dumitru	**PROSIM-A pachege program for computer-aided design**, The Proceedings of IASTED Symposium Lille, 1983, vol.III, pag.75-79.

1985	
21.**I. Dumitrache,** S.Dumitriu	**Adaptive structure algorithms for microprocessor control of D.C.motors**, 1-st European Power Electronics Conf. Bruxells, 1985, vol.2, pag.257-262.
22.**I. Dumitrache,** G.Musca	"**PROSID-A program package for CAD of digital control systems**", SAII-6, Bucuresti, 1985.
23.**I. Dumitrache**	**Numerical control algorithms for time delay system**, SAII-6, Bucuresti, 1985.
1986	
24.**I. Dumitrache,** S.Dumitriu	**PACSID-Program package for computer aided of distributed parameters systems**, IMACS, Lille, 1986.
25.**I. Dumitrache**	**Non-standard control algorithms for slow-processes, implemented on microprocessor based digital controller**, LCA'86, IFAC, Symposium, Valencia, 1986, pag.263-270.
26.**I. Dumitrache,** S.Dumitriu	**Adaptive control algorithms for D.C.Drives**, Intern. Conf. on Electrical Machines and Driving Systems INCEMADS, Eforie Nord, vol.2, 1986, pag.61-66.
1987	
27.**I. Dumitrache**	**Some problems about digital implementation of adaptive control algorithms**, SAII-7, IPB, 1987, vol.I, pag.66-97.
28.**I. Dumitrache,** F.Munteanu, G.Musca	**Direct digital control of a biosynthesis processes**, SAII-7, IPB, Bucuresti, 1987, vol.II, pag.76-80.
1989	
29.**I. Dumitrache, C**.Constantinescu	**A low cost fault-tolerant microcomputer for industrial control,** LCA Symposium Milano, 1989.
1991	
30.**I. Dumitrache**	**Some problems about digital implementation of predictive control algorithms**, The Proceedings of 8-th CSCS, 1991, vol.I, pag.239-244.
31.**I. Dumitrache,** S.Dumitriu	**State feedback stabilizing compensator design for syncronons generator connected to the line**, The Proceedings of 8-th CSCS, 1991, vol.I, pag.254-260.
32.**I. Dumitrache,** C.Nitu	**Algorithms and computer control structure of a drying batch process**, The Proceedings of 8-th CSCS, 1991, vol.III, pag.10-15.
33.**I. Dumitrache,** I.Mihu	**The Robustness of a Smith Controller**, 8th Int. Conf. on Control Systems and Computer Science, Bucuresti, 1991, vol.I, pag.308-313.
1992	

34.**I. Dumitrache,** G.Calcev	**An Expert System for Bioreactor Control**, IFAC Conference SICICA '92, Malaga, Spain, 1992, pag.465-471.
35.**I. Dumitrache,** G.Calcev, R.Constantinescu, C. Buiu	**A Real-time Control Experiment Using a Neural Network-based Linguistic Approach**, AIRTC 92, IFAC/IFIP/IMACS Int. Conf. on Art. Intelligence in Real Time Control, Delft, Netherlands, 1992.
36.**I. Dumitrache,** R.Constantinescu, C. Buiu, G.Calcev	**A Survey of Tuning Techniques in Fuzzy Logic Control,** First Int. Conf. on Fuzzy Systems and AI, Iasi, 1992.
1993	
37.**I. Dumitrache,** I.Mihu	**On the Robustness of PI Algorithms for Time-Delay Processes**, Proceedings of the 9-th International Conference of Control Systems and Computer Science, Bucuresti, 1993, vol.I, pag.166-172.
38.**I. Dumitrache**	**Intelligent Techniques for Control Applications**, Proceedings of the 9-th International Conference of Control Systems and Computer Science, Bucuresti, 1993, vol.I, pag.178-185.
39.G.Calcev, **I.Dumitrache**	**Synthesis of a NeuroFuzzy Controller Using CMAC Approach**, Proceedings of the 9-th International Conference of Control Systems and Computer Science, Bucuresti, 1993, vol.II, pag.247-252.
40.P. Teta, **I.Dumitrache**	**Advanced Control Techniques in Power Systems**, Proceedings of the 9-th International Conference of Control Systems and Computer Science, Bucuresti, 1993, vol.II, pag.346-352.
41.**I. Dumitrache,** C.Janikow, C.Buiu	**Tuning Fuzzy Logic Controllers using Genetic Algorithms**, Proceedings of the 9-th International Conference of Control Systems and Computer Science, Bucuresti, 1993, vol.II, pag.450-462.
42.S.Bradatan, A.Stanescu, **I.Dumitrache**	**Modelling an Intelligent Supervisor for Flexible Assembly Systems**, Proceedings of IMACS/IFAC 2nd International Symposium on Mathematical and Intelligent Models in System Simulation, Bruxelles, 1993.
43.**I. Dumitrache,** G.Calcev, M.Caramihai	**Neural Networks in Modeling and Control of Bioprocesses**, IMACS Symposium, Bruxelles, vol.I, pag. 351-355, 1993.
1994	
44.**I. Dumitrache**	**Problems Concerning the Design of Knowledge-Based Controllers,** Proceedings of the 4th International Conference on Optimization of Electric and Electronic Equipments", 1994, vol.II, pag.341-347.

45.**I. Dumitrache,** Th. Borangiu, A.Popescu	**Neural Networks in Intelligent Manufacturing Systems**, IFAC Symposium IMS'94, Vienna.
46.**I. Dumitrache,** S.Iliescu, P.Teta, P. Zdrafcovici	**New approaches in Power Systems Control**, Proceedings of National Energy Conference, Bucuresti, 1994, vol.4, pag.83-89.
47.**I. Dumitrache,** I.Catana, A.Militaru	**Fuzzy controller for an Electrohydraulic Positioning System**, ASME 1994, Chicago, pag.1-7.
48.**I. Dumitrache,** C.Buiu	**Genetic Algorithms in Intelligent Control System Design**, 2nd IFAC Symposium on Intelligent Components and Instruments for Control Applications, Budapest, Hungary, 1994, Preprints, pag.189-193.
49.I. Mihu, **I.Dumitrache**	**Decision Support Systms for Medical Diagnosis**, International Conference on Technical Informatics CONTI'94, Timisoara, Romania, Proceedings, vol.I, pag,232.237.
1995	
50.C. Nicolae, **I.Dumitrache**	**Performance in Pole Assignement Adaptive Controller Design,** The Proceedings of 10th Int. Conf. in Control Systems and Computers Science, 1995, vol.I, pag.186-192.
51.**I. Dumitrache,** S.Iliescu, C.Chiculescu	**State Prediction by Neural Networks,** The Proceedings of 10th Int. Conf. in Control Systems and Computers Science, 1995, vol.I, pag.197-203.
52.A. Popescu, **I.Dumitrache**	**Vision Based Control for External Adaptive Robots,** The Proceedings of 10th Int. Conf. in Control Systems and Computers Science, 1995, vol.II, pag.141-148.
53.Th. Borangiu, I.**Dumitrache,** A.Popescu	**Artificial Neural Networks in Robot Motion Control,** The Proceedings of 10th Int. Conf. in Control Systems and Computers Science, 1995, vol.II, pag.155-162.
54.**I. Dumitrache,** C.Buiu	**Learning the Algebric Model of a Fuzzy Controller by a Genetic Algorithm,** The Proceedings of 10th Int. Conf. in Control Systems and Computers Science, 1995, vol.III, pag.108-116.
55.**I. Dumitrache,** I.Mihu, K. Rosu	**Hybrid Decision Making System for Medical Diagnosis,** The Proceedings of 10th Int. Conf. in Control Systems and Computers Science, 1995, vol.III, pag.174-180.
56.**I. Dumitrache**, S.I.Caramihai, A.M.Stanescu	**Intelligent Supervisory for Manufacturing Systems** Preprints OF 3rd IFAC / IFIP / IFORS Workshop- Intelligent Manufacturing Systems 1995,vol I,pag.107-113
57.A.M.Stanescu, I.**Dumitrache,**	**Hierarchical Object0Oriented Mission Planning for Multilegged Autonomous Robots** Preprints OF 3rd IFAC / IFIP /

A.Curaj	IFORS Workshop- Intelligent Manufacturing Systems 1995,vol I,pag. 133-139
1996	
58.**I. Dumitrache,** A.Craciunescu, S.Dimitriu	**Intelligent Techniques in motion Control** Proceedings of the 5th International conference on Optimization of electric and Electronic Equipments, Brasov 1996, pag 1491-1499
59.A.Ionita, I.**Dumitrache**, T.Ionescu	**Noise Reduction in Biomedical Applications. A high order spectra approach;**Proceedings of the 13th IFAC World Congress, San Francisco 1996, vol.B, pag.441-447
60.G.Calcev, R.Gores, **I.Dumitrache**	**A Popov Type Approach to Stability Analyses of Fuzzy Control Systems -** Proceedings of the 4th European Congress on Intelligent Techniques and Soft Computing Aachen 1996-Vol.1, pag 3-8
61.S. Dimitriu, **I.Dumitrache**	**Advanced Robotic Motion Control –** Proceedings of International Conference- Univ.Arad, 1996 , pag. 756-761
62.**I. Dumitrache**, S.Iliescu, S.Dimitriu	**Adaptation of undergraduate curricula at the Faculty of Automatics and Computers Bucharest & ensure the compatibility with EU partners and use of ECTS"-** Workshop on University Autonomy, Curricula Compatibility and ECTS, Iasi, 1996, Proceedings, Pag.85-90
63.**I. Dumitrache,** S.Dimitriu, G.Pod	**"Use of ECTS for postgraduates studies programs in CACE offered by the Faculty of Automatics and Computers"** Workshop on University Autonomy, Curricula Compatibility and ECTS-Iasi 1996, Proceedings , pag. 137-140
1997	
64.Constantin N., **I.Dumitrache**	**"Multimodel Self-Tuning Predictive Control",** Proceedings CSCS 11, pp.161-166, Bucharest, Mai 1997.
65.**I. Dumitrache,** Mihu I., Musca Gh.	**"Control time delay processes based on Smith predictor",**IFAC 4th SSC'97, Proceedings 455-460, Bucharest, Octombrie 1997.
66.**I. Dumitrache,** Buiu C.	**"Fuzzy control: from manual design and tuning to geno-fuzzy control",** Proceedings of AIRTC 97 Conference, pp 43-48, Kuala Lumpur, Malaysia, Septembrie 1997 (invated paper)
67.**I. Dumitrache,** Dumitriu S., Calcev G.	**"Fuzzy Controller for a Biotechnological Process – A case study",** IFAC 4th SSC'97, Proceedings, pp.480-484, Bucharest, Octombrie 1997
68.Filip F., **I.Dumitrache,** Dumitriu S.	**"Cross-cutting issues concerning medical informatics education in Romania"**, Proceedings of the Health Computing Conference, pp.235, Harrogate, UK, 19-23 Martie 1997

69.Mihu I., **I.Dumitrache,** Ionescu R.	**"Hybrid diagnosis support system based on Dempster – Schafer theory",** CSCS 11, vol. II, pp.123-125, Bucharest, Mai 1997
70.A.M.Stanescu, **I.Dumitrache,** A.Curaj	**Multi-model based system design within virtual factory synergetic framework**, Proceedings of the 4th International Conference on Concurrent Enterprising (1997), pp.173-184
1998	
71.S.I.Caramihai, I.**Dumitrache,** A.M.Stanescu	**"Real Supervision fi intelligent Manufacturing Supported by T-Temporal Petri net Models",** Proceedings of the 1998 IEEE International Conference on Systems, Man and Cybernetics SMC'98, 11-14 Octombrie, San Diego, USA
72.S.I.Caramihai, I.**Dumitrache,** A.M.Stanescu, Curaj A.	**"Intelligent Supervising for virtual FMS"**, Preprints of the First International Symposium ISOCE'98, 4-6 Iunie 1998, Sinaia, Romania, pp.117-126.
73.A.Curaj, A.M.Stanescu, **I.Dumitrache**	**"FABRICATOR – A virtual factory based concept for Extended Enterprise including SMEs",** Preprints of the First International Symposium ISOCE'98, 4-6 Iunie 1998, Sinaia, Romania, pp.187-195.
74.M.Dragoicea, **I.Dumitrache**	**"Dynamical Process Modelling Using Neural Networks",**6th International Symposium on Automatic Control and Computer Science SACCS'98, 20-21 Noiembrie 1998, Iasi, Romania.
75.**I. Dumitrache,** I. Mihu, K.Rosu	**"Hybrid decision making for medical system diagnosis"**, Proceeding the third International Conference on NNSMED'98, pp. 279-285, Pisa Italia.
76.**I. Dumitrache,** C.Buiu, C.Ceconvciuc	**"Towards new frontiers in evolutionary computing based fuzzy control systems",** Proceedings of Joint Conference on Information Science, Sheraton Imperial Hotel&Convention Centre, Research Triangle park, N.C., 23-28 Octombrie 1998, pp.448-451.
77.**I. Dumitrache,** M.Dragoicea	**"Nonlinear Control Structure Based on Neural Networks for a Reactor",** 6th International Symposium on Automatic Control and Computer Science SACCS'98, 20-21 Noiembrie 1998, Iasi, Romania
78.**I. Dumitrache,** M.Dragoicea	**"From PI Control to Neural Networks Control of Mobile Robots",** Preprints of IFAC Symposium on Low Cost Automation LCA'98, Shenyang, 8-10 Septembrie 1998, China, pp.TS3 22 – TS3 26.
79.**I. Dumitrache,** I.Mihu, Gh. Musca	**"Design of Smith Predictor Controller By Meansof Rule Based Algorithms",** Preprints of IFAC Symposium on Low Cost

	Automation LCA'98, Shenyang, 8-10 Septembrie 1998, China, pp.TS7 28 – TS7 33
80.**I. Dumitrache,** C.Buiu, C.Ceconvciuc	**"Hybrid Intelligent Techniques in Autonomous Control Systems"**, Proceedings of the 1998 IEEE International Conference on Systems, Man and Cybernetics SMC'98, 11-14 Octombrie, San Diego, USA.
81.**I. Dumitrache,** A.M.Stanescu, S.I.Caramihai, A.Curaj	**"Virtual Enterprise – A Strategical Approach to Improve Socio-Economic Stability",** Proceedings of the IFAC Conference SWIIS'98, 14-16 Mai 1998, Sinaia Romania, pp.15-20.
1999	
82.N.Constantin, **I.Dumitrache**	**Advanced Adaptive Techniques for Multivariable Nonlinear Processes,** Proceedings of the 14th IFAC World Congress, 1999, vol I, pp.174-180
83.**I.Dumitrache,** C.Buiu, C.Ceconvciuc	**Advanced Geno-Fuzzy Techniques for Drum Level Control in Thermal Power Plant,** Proceedings of the 14th IFAC World Congress, 1999, vol.I, pp.137-142
84.N.Constantin, **I.Dumitrache**	**Neural Adaptive Control for Multivariable Non-Linear Processes,** European Control Conference (ECC99), 1999, CD-ROM-F508
85.N.Constantin, **I.Dumitrache**	**Advanced Adaptive Control for Complex Non-linear Processes,** Proceedings of CSCS 12 (1999), vol. I, pp. 41-47
86.**I.Dumitrache,** I.Mihu, L.Margarit	**Multimodel Adaptive Smith Predictor Controller,** Proceedings of CSCS-12 (1999), pp. 143-150
87.L.Margarit, **I.Dumitrache**	**Model Reference Adaptive Control using Multiple Models –** Proceedings of CSCS-12 (1999), vol.I, pp.150-156
88.A.M.Stanescu, **I.Dumitrache,** A.Curaj, S.I.Caramihai, G.Neagu	**Towards a Human Factors Focused Modelling Framework for Teambuilding in Concurrent Enterprising,** Proceedings of the 5th International Conference on Concurrent Enterprising (1999), pp.393-400
2000	
89.**I.Dumitrache**, S.I.Caramihai, A.M.Stanescu	**Intelligent Agent-Based Control Systems in Manufacturing,** 2000 IEEE International Symposium on Intelligent Control, pp.369-374
90.N.Constantin, **I.Dumitrache**, I.Mihu	**Self-Organizing Neural Fuzzy Inference Network for Intelligent Control**, 2000 IEEE International Symposium on Intelligent Control, pp.375-380

91.C.Buiu, **I.Dumitrache**	**Advanced Technologies for Intelligent Control Research and Teaching**, 2000 IEEE International Symposium on Intelligent Control, pp.381-384
92.C.Buiu, **I.Dumitrache**	**Remote experimentation in intelligent control systems design,** 2nd International Workshop on intelligent Control Systems, aprilie 2000, Bucuresti, Romania
93.N. Constantin **I.Dumitrache**	**Intelligent control based on selforganizing Networks,** 2nd International Workshop on intelligent Control Systems, aprilie 2000, Bucuresti, Romania
94.**I.Dumitrache** N. Constantin	**Neural Adaptive Control for Multivariable Nonlinear Processes,** UKACC International Conference CONTROL2000, CD-Rom 155.ps, Univ. Cambridge, UK, September 2000
95.**I.Dumitrache** S. Dumitriu	**Academic Quality Assurance Procedures in Technical Higher Education,** proc. of Workshop on Quality Management in Higher Education, Technical University of Vienna, nov. 2000, pp. 92-98
96.**I.Dumitrache**, S.I.Caramihai, A.M.Stanescu	**Intelligent Information Systems in Advanced Manufacturing**, Proceedings of the 6th International Conference on Concurrent Enterprising (2000), pp.241-246
97.**I.Dumitrache**, S.I.Caramihai, A.M.Stanescu	**Intelligent Agent-based Control Systems in Manufacturing,** Proceedings of the 2000 International Symposium on Intelligent Control, July 17th –19th, 2000, Rio Patras, Greece, pag. 369-374
98.S.I.Caramihai, **I.Dumitrache**, A.M.Stanescu	**Intelligent Supervision for Flexible Manufacturing Systems,** Computers and computational engineering in control, Patras, Greece, 2000, ISBN 960-8052-12-2, pp. 43-48
99.N.Constantin, **I.Dumitrache**, I.Mihu	**Self-Organizing Neural Fuzzy Inference Network for Intelligent** *Control*, Proceedings of the 2000 International Symposium on Intelligent Control, July 17th –19th, 2000, Rio Patras, Greece, pag. 375-379
100.C.Buiu, **I.Dumitrache**	**Advanced Technologies for Intelligent Control Research and Teaching**, Proceedings of the 2000 International Symposium on Intelligent Control, July 17th –19th, 2000, Rio Patras, Greece, pag. 381-384
101.**I.Dumitrache**, G.Simion, M.Truta	**Intelligent Control System Based on the Brain Model**, Proceedings of the 2000 International Symposium on Intelligent Control, July 17th –19th, 2000, Rio Patras, Greece, pag. 385-388
102.**I.Dumitrache**, I.Mihu	**Rule-Based Smith Predictor Controller**, Preprints of the 4th IFAC International Syposium on Intelligent Components and

	Instruments for Control Applications, September 13th-15th, 2000, Buenos Aires, Argentina, pag. 397-401
103.**I.Dumitrache**, N.Constantin, M.Dragoicea	**Adaptive Predictive Control Based on Neural Networks**, Preprints of the 4th IFAC International Syposium on Intelligent Components and Instruments for Control Applications, September 13th-15th, 2000, Buenos Aires, Argentina, pag. 403-407
2001	
104.N.Constantin, **I.Dumitrache**	**Robust Control of Nonlinear Process Using Multiple Models**, Proceedings of the 13th International Conference on Control Systems and Computer Science, May 31st-June 2nd, 2001, Bucharest, Romania, pag. 34-39
105.**I.Dumitrache**, M.Dragoicea	**Mobile Robots Adaptive Control Using Neural Networks**, Proceedings of the 13th International Conference on Control Systems and Computer Science, May 31st-June 2nd, 2001, Bucharest, Romania, pag. 176-181
106.N.Nezam, **I.Dumitrache**	**Intelligent System and Wastewater Tratament**, Proceedings of the 13th International Conference on Control Systems and Computer Science, May 31st-June 2nd, 2001, Bucharest, Romania, pag. 192-197
107.**I.Dumitrache**, I.Mihu, N.Constantin	**The Robusteness of Smith Compensator Based on Fuzzy Controler**, Proceedings of the 13th International Conference on Control Systems and Computer Science, May 31st-June 2nd, 2001, Bucharest, Romania, pag. 198-203
108.C.Buiu, M.Albu, **I.Dumitrache**, D.Gillet	**Remote Automatic Control Via Internet**, Proceedings of the 13th International Conference on Control Systems and Computer Science, May 31st-June 2nd, 2001, Bucharest, Romania, pag. 214-219
109.N.Constantin, **I.Dumitrache**	**Neuro-Fuzzy Inference Network for Adaptive Control**, Proceedings of the 13th International Conference on Control Systems and Computer Science, May 31st-June 2nd, 2001, Bucharest, Romania, pag. 220-225
110.**I.Dumitrache**, S.I.Caramihai, A.M.Stanescu, J.Culita, C.Munteanu	**Intelligent Autonomous Agents in Manufacturing**, Preprints of the 9th IFAC/IFORS/IMACS/IFIP/ Symposium on Large Scale Systems, July 18th-20th, 2001, Bucharest, Romania, pag. 503-508
111.**I.Dumitrache**, N.Constantin	**Adaptive Control Based on Neural Fuzzy Inference Network**, European Control Conference ECC'01, September 4th-7th, 2001, Porto, Portugal, pag. 2115-2119

112.**I.Dumitrache**, I.Mihu	**On the Robustness of Smith Predictor Controller**, European Control Conference ECC'01, September 4th-7th, 2001, Porto, Portugal, pag. 3022-3025
113.S.I.Caramihai, **I.Dumitrache**	**Hybrid Agent-based Control Archietcture Supported by T-temporal Petri Nets**, 2001 IEEE Joint International Conference on Control Applications & International Symposium on Intelligent Control CCA/ISIC'01, September 5-7, 2001, Mexico City, Mexic
114.N. Constantin, **I. Dumitrache**, M. Dragoicea	**Multiple Model Learning for Modeling and Control**, proc. Of 7th Int. Symp. An Automatic Control And Computer Science - pp. 37 CDROM, SACCS, Iasi, 2001
115.M. Dragoicea, **I. Dumitrache**, N. Constantin	**Adaptive Neural Control for Mobile Robots Autonomous Navigation**, Proceedings of the 7th Int. Symposium on Automatic Control and Computer Science SACCS, Iasi, Romania, October 26-27, 2001, ISBN 973-8292-11-5
116.**I.Dumitrache**, M. Dragoicea, G. Simion	**Reprezentation of the Internal Model in Brain and Artificial Systems**, 3rd Int. Workshop on Intelligent Control Systems ICS, November 29-30, 2001, Bucharest, Romania
117.**I.Dumitrache**, S. Dumitriu	**Advanced Motion Control using DSP Based Fuzzy Controller for Brushless Servodrives**, International Conference on Control Theory and Applications ICCTA'01, Pretoria, South Africa, December 2001
118.**I.Dumitrache**, I. Mihu	**Knowledge-Based Smith Predictor Controller**, ICS'2001, November 3rd International Workshop, Bucuresti, Romania
119.N. Constantin, **I. Dumitrache**	**Robust control of nonlinear process using multiple models**, CSCS 13 proceedings, Bucuresti, pp. 34-39, 2001
2002	
120.**I Dumitrache**, N.Constantin	**Robust Nonlinear Control based on Multiple Models**, Proceedings, 15th World IFAC Congress, CDRom,Barcelona, Spain, 2002
121.C. Buiu, **I. Dumitrache**, F. Mihai	**Complex behaviors of teleoperated robots**, IFAC World Congress, Barcelona, 2002
2003	
122.**I Dumitrache**, M. Dragoicea	**Intelligent control techniques for mobile robotics**, IFAC Workshop Intelligent Assembly and Disassembly IAD'03, October 9-11, Bucharest, Romania, pp:198-203, 2003
123.M. Dragoicea, **I. Dumitrache**	**Reactive behaviours and environment exploration strategies**, Proceedings of the 14th Int. Conference on Control Systems and Computer Science CSCS14, Bucharest, Romania, pp:82-88, 2003

124.C. Buiu, **I. Dumitrache**, M. Zainea	**Design and optimization of a fuzzy logic controller for a simulated autonomous robot**, Proceedings of CSCS14 (I. Dumitrache and C. Buiu, editors), Vol. I, pag. 24-31, 2003
125.**Ioan Dumitrache**, Mihai Spataru	**PID control of the real inverted pendulum process**, Proceedings of the 14th International Conference on Control Systems and Computer Science (Editors : I. Dumitrache,C. Buiu), Bucharest,Romania, pp.375-380, 2003
126.**I Dumitrache**, I. Mihu, R. Misleanu	**Advanced Smith Predictor Controller Based On Fuzzy Decision Functions**, Proceedings of the 14th International Conference on Control Systems and computer Science CSCS14, Bucharest, Romania, pg. 60-64, July 2003
127.N.Constantin, **I.Dumitrache**	**Advanced Multimodel Adaptive Control**, Int. Workshop on Intelligent Control Systems, pp.87-93, 2003
128.N.Constantin, **I.Dumitrache**	**Neural Networks in Predictive Control**, Int. Workshop on Intelligent Control Systems pp.72-77, 2003
129.N.Constantin, **I. Dumitrache**	**Model predictive control based on multimodel estimation**, Proc Int. Conf. on Control Systems and Computer Science, CSCS-14, 354-359, 2003
130.**I Dumitrache**, A.M. Stanescu, S.I. Caramihai, A. Curaj	**Concurent Systems Approach for Designing Virtual Enterprise**, Proceedings of the 9th ICE in Enterprise Engineering in the Networked Economy, Espoo, Finland, 16-18 June, 2003
131.A.M.Stanescu, **I. Dumitrache**, S.I. Caramihai, P.Pascu, D. Nitescu	**Knowledge management modeling framework for distributed concurrent engineering**, Proceedings of the 10th ISPE International Conference on Concurrent Engineering: Research and Applications, Madeira, Portugal, 26-30 July, 2003
132.**I. Dumitrache**	**DECID-*e* – a e-learning Pilot in the Politehnica University of Bucharest**, Proceedings of the 10th ISPE International Conference on Concurrent Engineering: Research and Applications, Madeira, Portugal, 26-30 July, 2003
2004	
133.**I.Dumitrache**, M.Dragoicea	**Intelligent control techniqus for mobile robotics**, Proceedings of the IFAC Workshop Intelligent Assembly and Disassembly IAD'03, 2004, Elsevier Press, pag. 149-153, ISBN 0-08-044065-7, ISSN 1474-6670
134.**I. Dumitrache**	**Intelligent Control of Mobile Robots**, The 7th International Conference on Mechatronics and Precision Engineering, Bucuresti, Mai, pp. 2004, 79-83.
135.**I. Dumitrache**	**A Des-Supported Agent-Based Control Arhchitecture for Flexible Manufacturing System**, IFAC DECOM-TT 2004,

	Automatic Systems for building the Infrastructure in Developing Countries, Bulgaria, Oct, 2004, pp.59-67.
136.**I. Dumitrache,** S.Olaru	**Embedded Irrigation Controllers – an Integrated Solution for Optimal Water,** IFAC DECOM-TT 2004, Automatic Systems for building the Infrastructure in Developing Countries, Bulgaria, Oct, 2004, pp.331-337.
137.**I. Dumitrache,** N. Constantin	**Multimodel learning techniques for predictive control***,* 10th IFAC Symposium on Large Scale Systems: Theory and Application, CDRom, Osaka, Japan, 2004.
138.**I. Dumitrache,** N.Constantin	**A New Neural Predictive Design Method for Complex Processes Control,** 10th IFAC Symposium on Large Scale Systems: Theory and Application, CDRom, Osaka, Japan, 2004
139.**I. Dumitrache,** C. Buiu, Mihai F., Gillet D	**Experiments in Remote Collective Robotics. New Pedagogical Scenarios**, World Conference on Educational Multimedia, Hypermedia and telecommunications, Lugano, June 21-26, 2004
2005	
140.N. Constantin, **I. Dumitrache**	**Advanced Predictive Control Based on Multimodel Learning Techniques**, 16th IFAC World Congress, Praga, 4-8 Iulie 2005
141. C. Buiu, **I. Dumitrache**, A. Dumitraşcu	**A Conversational Man-Robot Interface to Assist Robotics Education**, 16th IFAC World Congress, Praga, 4-8 Iulie 2005
142.D. Garlasu, **I. Dumitrache**	**A New Approach for E-Learning in Collaboration Networks**, Proc. of 6th Conference on Virtual Enterprise, Valencia, Spain, 2005, pp.243-248
143.A.M.Stanescu, **I. Dumitrache**	**A structural Approach for E-learning Paradigm**. Proc. of 12th ISPE International Conference on Concurrent Engineering, Dallas, USA, 2005, pp. 167-172
144.**I. Dumitrache**, I. Mihu, R. Misleanu	**On the Robustness of Modified Smith Predictor Controller for Time Delay Processes**, Proc. of 15th International Conference on Control Systems and Computer Science, Bucuresti, Mai 2005, pp. 354-359
145.**I. Dumitrache**, D. Garlasu, A.M. Stanescu, C. Ninca	**A New Approach for E-learning in Robotics**, Proc. Of RAAD'05 14th International Workshop on Robotics in Alpe-Adria-Danube Region, Bucuresti, Mai 2005, pp. 240-245
2006	
146.S. Olaru, D. Dumur, **I. Dumitrache**	**On the Continuity of Control Laws Based on Multiparametric Linear Programming**, 13th IFAC Workshop on Control Applications of Optimisation, Paris, France, 2006
2007	

147.A.M. Stanescu, **I. Dumitrache**, I. Mihu, M.A. Moisescu, M. Voinescu, O. Cangea	**Synergy-focus to Develop Complex Adaptive Systems within Collaborative Network Environment to Health Paradigm,** 8th IFIP Working Conference on Virtual Enterprises, Portugal, 2007
148.A.M. Stanescu, **I. Dumitrache**	**Towards Interroperability Based Colaborative Research to Support Environment and Health,** Projects in common Europe – Sophia Antipolis 2002, Bruxelles, 2007
149.**Dumitrache I.**, Stanescu A.M., Caramihai S.	**Next generation of intelligent manufacturing systems: a survey**, Conferinta IFAC MCPL 2007, Manufacturing and Control of Production and Logistics, Sibiu, Romania, ISBN 978-973-739-481-1, 2007
150.Caramihai S., **Dumitrache I.**, Stanescu A.M., Munteanu C., Culita J.	**Using mobile agent-based techniques in knowledge management for organisational network interoperability**, Conferinta IFAC MCPL 2007, Manufacturing and Control of Production and Logistics, Sibiu, Romania, ISBN 978-973-739-481-1, 2007
151.Stanescu, A. M., **Dumitrache, I.**, Mircea, A., Gherman L., Moisescu, M.	**Towards holistic approach for business informatics**, Conferinta IFAC MCPL 2007, Manufacturing and Control of Production and Logistics, Sibiu, Romania, ISBN 978-973-739-481-1, 2007
152.Garlasu, D., **Dumitrache, I.**, Mihu, I., Moisescu, M. A., Voinescu, M., Sacala, I. S.	**Crossdomain «ENVIRONMENT-HEALTH» Interoperable Metasystem**, Conferinta IFAC MCPL 2007, Manufacturing and Control of Production and Logistics, Sibiu, Romania, ISBN 978-973-739-481-1, 2007
153.Caramihai S., **Dumitrache I.**, Stanescu A.M., Culita J.	**A cooperative agent based control architecture**, The 5th IFAC Intl. WS DECOM-TT 2007, Cesme, Turkey, Proceedings Conf., ISBN 978-975-01864-1-1
154.**Dumitrache, I.**, Stanescu A.M.	**Collaborative networks for complex adaptive systems**, Proceedings of the 16th International Conference on Control Systems and Computer Science CSCS16, Bucharest, 2007, ISBN 978-973-718-741-3
155.**Dumitrache, I.**, Mihu, I., Voinescu, M.	**A Hybrid Medical Decision Support System**, Proceedings of the 16th International Conference on Control Systems and Computer Science CSCS16, Bucharest, 2007, ISBN 978-973-718-741-3
156.Fadi Halal, **Dumitrache, I.**	**Genetic optimization of Fuzzy controller for mobile robots**, Proceedings of the 16th International Conference on Control

	Systems and Computer Science CSCS16, Bucharest, 2007, ISBN 978-973-718-741-3
2008	
157.**Dumitrache I.**, Mihu I., Voinescu, M.	**An Advanced Decision Support System for Medical Diagnosis**, Proceedings of the 17th IFAC WC 2008, Seoul, Korea, 1:9607-9612., ISBN 978-3-902661-00-5, 2008
158.**Dumitrache I.**, Dragoicea M.	**Agent-based Theory Applied in Mobile Robotics**, Proceedings of the 17th IFAC WC 2008, Seoul, Korea, pp. 13719-13724, ISBN 978-3-902661-00-5, 2008
159.***Dumitrache I.**, Caramihai S.*	***Towards a New Generation of Intelligent Manufacturing Systems**, IS 2008 4th International IEEE Conference on Intelligent Systems, 2-6 Sept., Varna, Bulgaria, Conf. Proceeding pp. 433-438*
160.Caramihai M., **Dumitrache I.**, Chirvase A.A.	**Progress in Aerobic Bioprocess Modeling and Control. Case Study**, Int. Conference on Industrial Microbiology and Applied Biotechnology, October 9 - 11, 2008, Galaţi
2009	
161.I. Necoara, **I. Dumitrache**, J. Suykens	**Smoothing Techniques for Distributed Model Predictive Control Algorithms in Networks**, 8th IFAC Workshop on Time Delay Systems, Sinaia, Romania, September 2009, pp. 6
162.**I. Dumitrache**, S. I. Caramihai, M. A. Stanescu	**Knowledge management in intelligent manufacturing enterprise,** Proceedings of AIKED'09 the 8th WSEAS international conference on Artificial intelligence, knowledge engineering and data bases, ISBN 978-960-474-051-2 Cambridge, UK, Feb. 2009, pp. 453-458
163.**I. Dumitrache**, A. M. Stanescu, S. Caramihai, M. Voinescu, M. A. Moisescu, I. S. Sacala	**Knowledge Management Based Supply Chain in Learning Organization,** 13th IFAC Symposium on Information Control Problems in Manufacturing, 3-5 June 2009, Moscow, Russia.
164.**I. Dumitrache**, I. Mihu, M. Voinescu	**An Agent-Based Approach for Medical Diagnosis**, Conference on Control Systems and Computer Science-17, May 26-29 2009, Bucharest, Romania, ISSN 2066-4451, pp. 331-336
165.**I. Dumitrache**, I. Catana, V. Panduru, M. Patrascu	**Fuzzy control strategies for magnetorheological dampers**, 17th Intl. Conference on Control Systems and Computer Science, May 26-29 2009, Bucharest, Romania, ISSN 2066-4451, pp. 215-220
166.S. Caramihai, M. Voinescu, C. Munteanu, **I. Dumitrache**	**An Agent-Based Approach for Urban Traffic Simulation and Control**, 6th IFAC International Workshop on Knowledge and

	Technology Transfer in/to Developing countries: Automation and Infrastructure, September 26-29, 2009, Ohrid, Macedonia
167.M. Voinescu, S. Caramihai, **I. Dumitrache**	**A simulation tool for an agent-based mobile robot application,** 10th European Control Conference 2009 - ECC'09, 23-26 August 2009, Budapest, Hungary, ISSN 0947-3580, pp. 6
168.**I. Dumitrache**, I. Mihu, M. Voinescu	**An Agent-Based Approach for Medical Diagnosis**, 17th Intl. Conference on Control Systems and Computer Science, May 26-29 2009, Bucharest, Romania, ISSN 2066-4451, pp. 331-336
169.A. M. Stanescu, **I. Dumitrache**, C. Burileanu, N. Vasiliu, M. A. Moisescu, I. S. Sacala	**ARCHE3S: first Living Lab enabler in Romania aiming at cross domain synergy-based approach to sustain SMEs**, Proceedings of 15th Intl. Conference C. Engineering, ICE 2009, ISBN 978085358, pp. 25-32
170.M. Stanescu, **I. Dumitrache**, S. Caramihai, M. A. Moisescu, I. S. Sacala	**The Grand Unification : Emerging Sciences to Support Interoperability Based Complex Adaptive Systems in Intelligent Manufacturing**, 8ème Congrès International de Génie Industriel, 10-12 Juin 2009, Toulouse, France, pp. 6
2010	
171.S. Caramihai, **I. Dumitrache**	**An Agent Oriented Software platforme for Urban Traffic Networks Modelling Analysis and Control**, The proceedings of the Second IFAC Symposium on Telematics Applications – TA 2010, pag. 7 – 13
172.O. Arsene, **I. Dumitrache,** I. Mihu	**Colaborative Medical Software Agents**, The Proceedings of IFAC Workshop on Intelligent Control Systems – WICS 2010, pag. 39 – 45
173.I.Necoara**,** **I. Dumitrache,** J.A.K. Suykens	**Fast primal-dual projected linear iterations for Distributed Consesnsus in constrained convex optimization**, The Proceedings of Conference of Decizion and Control, Atlanta, dec. 2010
174.S. Caramihai, **I. Dumitrache**	**Integral modeling and control platforme for urban Traffic Networks**, 2010 IEEE International Conference on Man and Cybernetics – SMC 2010, Istanbul, 10-13 oct. 2010
2011	
175.M. Patrascu, A.B. Hanchevici, **I. Dumitrache**	**Tuning of PID Controllers for Non-Linear MIMO Systems Using Genetic Algorithms**, Proceedings of the 18th Congres, Milano, Italy, pp.12644-12649, 2011
176.I.Necoara, V.Nedelcu, **I.Dumitrache**, N.Constantin	**A primal-dual consensus algorithm for convex problems from network control and estimation**, Proceedings of the IFAC World Congress, 2011

177.C. Dumitrascu, **I. Dumitrache**	**Human Skin Detection using Texture information and vector Procesing by Neural Networks,** The proceedings of CSCS 18, 2011, pp.112-121
178.S.I. Caramihai, **I. Dumitrache**, M.C. Voinescu	**Inteligent Agent-Based Systems for Urban Traffic Monitoring and Control,** The proceedings of CSCS 18, 2011, pp.744-750
179.C. Buiu, A.B. Pavel, C. Vasile, **I. Dumitrache**	**Perspective of using Membrane Computing in the Control of Mobile Robots**, Proceedings of The International Conference Beyond AI: Interdisciplinary Aspects of a Artificial Intelligence 2011, pp.20-26
2012	
180.A.B. Hanchevici, **I.Dumitrache**	**On Line tuning of PID Controller for linaer SISO system with random Communication delay by using Genetic Algorithms,** IFAC Conference of Advances in PID Control – PID 12, Brescia, 28-30 martie 2012
181.A.B. Hanchevici, **I. Dumitrache**	**Intelligent PID control for linear SISO systems with Random Communication Delay by using On-line GA**, Proceedings of 11-th IFAC/IEEE International Conference on Programmable Devices and Embedded Systems, Brno, 2012
182.A.B.Pavel, C.I.Vasile, **I. Dumitrache**	**Numerical P systems and applications in robot controlling,** 10-th Brainstorming week Membrane Computing – Seville, 2012
183.O.Arsene, **I. Dumitrache**	**Design of Complex Software Systems,** First International Workshop on Cyber Physical Systems – IWOCPS – 2012
184.A.B.Pavel, C.I.Vasile, **I. Dumitrache**	**Robot localization implemented with enzymatic numerical P systems**, Living Machines 2012 – the International Conference on Biomimetic and Biohibrid Systems, Barcelona, Spain 2012, Proceedings in Lecture Notes in Artificial Intelligence, Springer, ISI Vol. 7375.
185.A.B.Pavel, C.I.Vasile, **I. Dumitrache**	**Improving the universality results of Enzymatic Numerical P Systems**, Proceedings of 10-th Brainstorming week on Membrane Computing., vol. 2, pp. 207-214, 2012.
186.A.B.Pavel, C.I.Vasile, **I. Dumitrache**, J. Kelemen	**Implementing obstacle avoidance and follower behaviors on robots using Numerical P systems**, ISI Proceedings of the 10-th Brainstorming Week on Membrane Computing, vol. 2, pp.215-228, 2012
2013	
187.**I.Dumitrache,** S.Caramihai, A.M.Stanescu	From Mass Production to Intelligent Cyber-Enterprise", pg.399-405; The Proceedings of 15-th International Conference on Control Systems and Computer Science, Published by the IEEE Computer Society – 2013

188. **I.Dumitrache**, S.Caramihai	**The Enterprise of Future as a Cyber-Physical-Systems** pg. 1326-1330; The proceedings of the Conference on Munufacturing, Modeling, Management and Control – IFAC Conference (Sankt Petersburg) Paper Plaza, 2013
189. **Ioan Dumitrache**, Nicolae Constantin, Ovidiu Stoica	**Some challenges for the Cyber-Physical Energy Systems**, The proceedings of the 2-th IFAC workshop (ICPS-2013) Convergence of Information tehnologies and control methods with power Systems – IFAC Paper Plaza, 2013
2014	
190. **Ioan Dumitrache,** Simona Caramihai	**Intelligent Cyber-Enterprise in the Production Context,** IFAC Proceedings Volumes, Volume 47, Issue 3, 2014, Pages 821-826
191. Nedelcu, Valentin, Ion Necoara, and **Ioan Dumitrache.**	**"Complexity of an inexact augmented lagrangian method: Application to constrained MPC."** In 19th World Congress of the International Federation of Automatic Control, pp. 2927-2932. 2014.
192. **I.Dumitrache**, S.Caramihai	**Some Challenges of Big Data on CPS modeling,** Proceedings of the 3th International Workshop on Cyber-Physical Systems IWOCS-3, pag.7-18, 2014.
193. S.Caramihai**,** **I.Dumitrache**	**CPS-Driver for next Industrial revolution – Industrie 4.0,** Proceedings of the 3th International Workshop on Cyber-Physical Systems IWOCS-3, pag.27-37, 2014.
2015	
194. Dogaru, Delia Ioana, **Ioan Dumitrache.**	**"Cyber-physical systems in healthcare networks."** In E-Health and Bioengineering Conference (EHB), 2015, pp. 1-4. IEEE, 2015.
195. Caramihai, Simona Iuliana, **Ioan Dumitrache.**	**"Agricultural Enterprise as a Complex System: A Cyber Physical Systems Approach."** In Control Systems and Computer Science (CSCS), 2015 20th International Conference on, pp. 659-664. IEEE, 2015.
196. **Dumitrache, I.,** Dogaru, D.I.,	**Smart Grid Overview: Infrastructure, Cyber-Physical Security and Challenges.** In Control Systems and Computer Science (CSCS), 2015 20th International Conference on (pp. 693-699). IEEE. 2015, May.
2016	
197. **Dumitrache, Ioan.**	"**Factories of future towards next industrial revolution**." In Automation, Quality and Testing, Robotics (AQTR), 2016 IEEE International Conference on, pp. 3-4. IEEE, 2016.
198. Repta, D., I. S. Sacala, M. A. Moisescu, **I. Dumitrache**, A. M. Stanescu.	"**Automated Process Model Generation for Internet of Things Oriented Enterprise Systems.**" In Enterprise Interoperability VII, pp. 139-149. Springer International Publishing, 2016.
199. **Ioan Dumitrache**, Simona Caramihai, Mihai A.Moisescu, Victor Vladareanu, Calin	**Addopting cyber physical systems and internet of things principles in robotic system design**, Proceedings SISOM 2016, 2016

Munteanu, Ioan St.Sacala	
2017	
200.Dogaru, Delia Ioana, **Ioan Dumitrache.**	"**Cyber security in healthcare networks**." In E-Health and Bioengineering Conference (EHB), 2017, pp. 414-417. IEEE, 2017.
201.Dogaru, Delia Ioana, **Ioan Dumitrache**.	"**Robustness of Power Systems in the Context of Cyber Attacks**." In Control Systems and Computer Science (CSCS), 2017 21st International Conference on, pp. 506-512. IEEE, 2017.
202.Dogaru, Delia Ioana, **Ioan Dumitrache.**	"**Holistic perspective of big data in healthcare**." In E-Health and Bioengineering Conference (EHB), 2017, pp. 418-421. IEEE, 2017.
203.Popescu, Dragos C., Mihail O. Cernaianu, Petru Ghenuche, **Ioan Dumitrache.**	"**An assessment on the accuracy of high precision 3D positioning using planar fiducial markers**." In 2017 21st International Conference on System Theory, Control and Computing (ICSTCC), pp. 471-476. IEEE, 2017.
204.**Dumitrache, Ioan,** Simona Iuliana Caramihai, Ioan Stefan Sacala, Mihnea Alexandru Moisescu.	"**A Cyber Physical Systems Approach for Agricultural Enterprise and Sustainable Agriculture**." In Control Systems and Computer Science (CSCS), 2017 21st International Conference on, pp. 477-484. IEEE, 2017.
205.Moisescu, Mihnea Alexandru, Ioan Stefan Sacala, **Ioan Dumitrache**, Dragos Repta.	"**Cyber physical systems based model-driven development for precision agriculture**." In Proceedings of the Symposium on Model-driven Approaches for Simulation Engineering, p. 6. Society for Computer Simulation International, 2017.
206.Sacala, Ioan Stefan, **Ioan Dumitrache**, Mihnea Alexandru Moisescu, Aurelian Mihai Stanescu, Simona Iuliana Caramihai.	"**Agricultural enterprise architecture based on cyber physical systems paradigm**." In 2017 International Conference on Engineering, Technology and Innovation (ICE/ITMC), pp. 1306-1311. IEEE, 2017.
2018	
207.Repta Dragos, Ioan Stefan Sacala, Mihnea Alexandru Moisescu, **Ioan Dumitrache.**	"**Towards Document Flow Discovery in e-health Systems.**" In 2018 International Conference on Intelligent Systems (IS), pp. 267-271. IEEE, 2018.
208.Repta Dragos, Mihnea Alexandru Moisescu, Andrei Corneliu Nae, Ioan Stefan Sacala, **Ioan Dumitrache**	"**Towards Document Flow Discovery in e-Government Systems.**" In 2018 International Symposium on Electronics and Telecommunications (ISETC), pp. 1-4. IEEE, 2018.

209.D. C. Popescu, M. O. Cernaianu, **I. Dumitrache**	"**Automatic rough alignment for key components in laser driven experiments using fiducial markers,**" In Journal of Physics: Conference Series, vol. 1079, no. 1, 2018
210.Repta, D., Sacala, I., Moisescu, M., **Dumitrache, I**	"**Cyber - Physical Systems based Process Integration for Future Enterprise Systems**" ICIST 2018 Proceedings, pp.164-168, 2018
2019	
211.Moisescu, Mihnea Alexandru, Ioan Stefan Sacala, **Ioan Dumitrache**, Simona Iuliana Caramihai, Nicolae Constantin, Bogdan Barbulescu, Marius Danciuc.	"**A Cyber-Physical Approach in Heterogeneous Communication Networks.**" In 2019 22nd International Conference on Control Systems and Computer Science (CSCS), pp. 616-621. IEEE, 2019.
212.Moisescu, Mihnea Alexandru, **Ioan Dumitrache,** Bogdan Barbulescu, Ioan Stefan Sacala, Simona Iuliana Caramihai, Marius Danciuc.	"**Cyber-Physical Systems Oriented Redundant Network Node.**" In Proceedings of the 6th Conference on the Engineering of Computer Based Systems, p. 11. ACM, 2019.
213.Dumitrescu, Catalin-Mircea, **Ioan Dumitrache.**	"**Combining Neural Networks and Global Gabor Features in a Hybrid Face Recognition System.**" In 2019 22nd International Conference on Control Systems and Computer Science (CSCS), pp. 216-222. IEEE, 2019.
214.Nae, Andrei, **Ioan Dumitrache.**	"**Neuro-Fuzzy Traffic Signal Control in Urban Traffic Junction.**" In 2019 22nd International Conference on Control Systems and Computer Science (CSCS), pp. 629-635. IEEE, 2019.
215.Dogaru, Delia Ioana, **Ioan Dumitrache.**	"**Cyber Security of Smart Grids in the Context of Big Data and Machine Learning.**" In 2019 22nd International Conference on Control Systems and Computer Science (CSCS), pp. 61-67. IEEE, 2019.
216.**Moisescu, M. A.,** Dumitrache, I., Barbulescu, B., Sacala, I. S., Caramihai, S. I., Danciuc, M.	"**Cyber-Physical Systems Oriented Redundant Network Node.**" In Proceedings of the 6th Conference on the Engineering of Computer Based Systems (pp. 1-4). (2019, September).
217.Sacala, I. S., Moisescu, M. A., **Dumitrache, I.,** Caramihai, S. I.,	**"Redundant GSM and Satellite Data Transmission Device with Application in Telemedicine."** In 2019 E-Health and Bioengineering Conference (EHB) (pp. 1-4). IEEE. (2019, November).

Constantin, N., Barbulescu, B., Calota, A. A.	
218.Dogaru, D. I., **Dumitrache, I.**	**"Big Data and Machine Learning Framework in Healthcare."** In 2019 E-Health and Bioengineering Conference (EHB) (pp. 1-4). IEEE. (2019, November).
2020	
219.Pop, E., Sirbu, A., Moisescu, M.A., Sacala, I.S., **Dumitrache, I.**	"**Modelling food business in the context of agriculture 4.0**" 11th International Conference on Simulation and Modelling in the Food and Bio-Industry, FOODSIM 2020 , 2020, pp. 109–111
220.**I. Dumitrache**, S. I. Caramihai, I. S. Sacala, M. A. Moisescu, D. C. Popescu	"**Future enterprise as an intelligent cyber-physical system,**" In IFAC-PapersOnLine, vol. 53, no. 2, pp. 10873-10878, 2020.
221.Caramihai, S. I., Dumitrache, I., Moisescu, M. A., Sacala, I. S.	"**Bio-inspired Autonomous Enterprise Systems.**" IFAC-PapersOnLine, 53(2), 10879-10884.
2021	
222.Sacala, I. S., Pop, E., Moisescu, M. A., **Dumitrache, I.**, Caramihai, S. I., Culita, J	"**Enhancing CPS architectures with soa for industry 4.0 enterprise systems**". In 2021 29th Mediterranean Conference on Control and Automation (MED) (pp. 71-76). IEEE.
223.Nae, A. C., **Dumitrache, I.**	"**Adaptive Models for Microscopic Traffic Modelling**". In 2021 23rd International Conference on Control Systems and Computer Science (CSCS) (pp. 267-273). IEEE.
224.Nae, C. A., Dumitrache, I.	"**Adaptive Driving Models for Intelligent Traffic Cyber Physical Systems**". In 2021 International Conference on Electrical, Communication, and Computer Engineering (ICECCE) (pp. 1-6). IEEE.
225.I.Dumitrache, S.Caramihai, M.Moisescu	"**A systematic view of the human brain**". In the 2nd International Conference on Neuroscience, Neuroinformatics, Neurotechnology and Neuro-Psycho-Pharmacology ICON4N, 2021.
2023	
226.Dumitrache, I., Caramihai, S. I., Dogaru, D.	"**A Cyber-Physical Systems Vision of Power Systems**" In 2023 24th International Conference on Control Systems and Computer Science (CSCS) (pp. 329-335). IEEE.
227.I.Dumitrache, S.Caramihai, D.Popescu	"**Some aspects of brain modeling as a complex adaptive system**". In the 3rd International Conference on Neuroscience, Neuroinformatics, Neurotechnology and Neuro-Psycho-Pharmacology ICON4N, 2023.

228.I.Predulescu, I.Dumitrache, S.Caramihai	"**Automated system for detection of cortical diseases using EEG analysis, virtual reality and artificial intelligence**". In the 3rd International Conference on Neuroscience, Neuroinformatics, Neurotechnology and Neuro-Psycho-Pharmacology ICON4N, 2023.
2024	
229.Caramihai, S. I., Popescu, D. C., & **Dumitrache, I.**	Future Enterprise as a self-organizing Complex system. In 2024 International Conference Automatics and Informatics (ICAI) (pp. 455-460). IEEE.
230.Popescu, D. C., Mateescu, A., Stefan, I. L., Vlasceanu, I. M., Sacala, I. S., & **Dumitrache, I.**	An assessment of modeling dynamics in EEG signals using learned sparse nonlinear representations. In 2024 IEEE International Conference on Engineering, Technology, and Innovation (ICE/ITMC) (pp. 1-9). IEEE.
2025	
231.Stefan, I. L., & **Dumitrache, I.**	Interconnected Autonomous Systems. In 2025 25th International Conference on Control Systems and Computer Science (CSCS) (pp. 149-154). IEEE.

G. Lucrari publicate in volumele unor conferinte nationale – selectiv

1974	
1. A. Oprean, F. Ionescu, **I. Dumitrache**	**Probleme ale reglarii automate ale sistemelor de actionare hidraulice a masinilor-unelte**, Lucrarile primei conferinte nationale de masini-unelte, Bucuresti, 1974, vol.2, pag.90-97.
1976	
2. A. Popescu, I**. Dumitrache,** F. Ionescu	**Proiectarea unui sistem electrohidraulic pentru selectarea turatiilor la masinile-unelte cu cutii de viteza cu roti baladoare**, Lucrarile conferintei a 2-a de Masini-Unelte, Bucuresti, 1976, vol.I, pag.90-101.
3. **I. Dumitrache,** I. Catana, A. Moldoveanu	**Proiectarea asistata de calculatora sistemelor hidraulice pentru masini-unlte**, Lucrarile Conferintei a II-a de Masini-Unelte, Bucuresti, 1976, pag. 141-150.
1980	
4. **I. Dumitrache,** S. Dumitriu	**Time optional control algorithm of electrical D.C. Drives**, Preprints of Second National Conference on Electrical Drives, Cluj-Napoca, 1980.
5. **I. Dumitrache,** M. Sturzoiu	**Utilizarea microcalculatoarelor in conducerea robotilor industriali**, Lucrarile primului simposion de Teoria Sistemelor, Craiova, 1980, vol.I, pag.221-229.
6. **I. Dumitrache,** S. Dumitriu, F. Munteanu	**Algoritmi de reglare numerica a actionarilor de curent continuu**, Lucrarile primului simposion de Teoria Sistemelor, Craiova, 1980, vol.I, pag.257-263.

7. **I. Dumitrache**	**Proiectarea asistata de calculator a sistemelor fluidice**, Conferinta Internationala de fluidica, Bucuresti, 1980., vol.I.
1981	
8. **I. Dumitrache,** A.M. Stanescu	**Structuri si algoritmi de conducere pentru roboti**, Lucrarile Simpozionului National de Roboti, 1981, vol.I, pag.85-92.
9. **I. Dumitrache,** V. Iorga	**Programe si algoritmi de reglare implementati pe microcalculatoare-regulatoare**, Lucrarile celei de-a 4-a Conferinte de Sisteme Automate si Informationale in Industrie, SAII, Bucuresti, 1981.
10. **I. Dumitrache**	**Sistemul distribuit de conducere SDC-2050**, Lucrarile celei de-a 4-a Conferinte de Sisteme Automate si Informationale in Industrie, SAII, Bucuresti, 1981.
11. **I. Dumitrache,** A.M. Stanescu	**Algoritmi si structuri de conducere pentru R.I.**, Lucrarile primului simposion de Roboti Industriali, Bucuresti, 1981, pag.85-92.
12. **I. Dumitrache,** A.M. Stanescu	**Consideratii privind alegerea optima a algoritmilor si structurilor de conducere a R.I**., Lucrarile primului simposion de Inteligenta Artificiala, 1981.
13. **I. Dumitrache,** G. Musca	**Algoritmi de reglare numerica a proceselor cu timp mort**, Lucrarile primului simposion de Microprocesoare, microcalculatoare si microaplicatii, Bucuresti, 1981.
1982	
14. **I. Dumitrache,** S. Dumitriu	**Algoritmi evoluati in conducerea cu microprocesoare a proceselor rapide**, Conferinta CNETAC, 1982, pag. 157-161.
15. **I. Dumitrache**	**Algoritm de reglare dupa stare a proceselor cu timp mort**, Lucrarile celui de-al doilea simposion de Teorie a Sistemelor, vol.2/1982, pag.
16. **I. Dumitrache**	**Programe de aplicatii pentru SRA-100**, Lucrarile celei de-a 9-a sesiuni IPA, 1982, pag.
17. **I. Dumitrache**	**Sistem distribuit de conducere a proceselor SDC-2050**, Lucrarile celei de-a 9-a sesiuni IPA, 1982, pag.
18. **I. Dumitrache**	**Unitate de reglare pe baza de SRA-100**, Lucrarile celei de-a 9-a sesiuni IPA, 1982, pag.
19. **I. Dumitrache,** S. Dumitriu F. Munteanu	**Some nonlinear digital algorithms of tiristor convertes fed D. motor**, Lucrarile Conferintei a 3-a de Actionari electrice, vol.3, pag. 61-66, 1982
20. **I. Dumitrache**	**Unele probleme privind proiectarea asistata de calculator a sistemelor de conducere a robotilor**, Lucrarile conferintei, CNETAC, 1982.
21. **I. Dumitrache**	**Structuri ale sistemelor numerice pentru comanda motoarelor de c.c**., Lucrarile conferintei CNETAC, 1982.
1983	

22. **I. Dumitrache,** M. Mugescu	**Unele probleme privind proiectarea optima a interfetei de proces pentru MCR-802**, Lucrarile celei de-a 5-a conferinte SAII/8, vol.II, pag.66-74, 1983
23. **I. Dumitrache,** I. Mihu	**Proceduri de sinteza a sistemelor multivariabile cu timp mort**, Lucrarile celei de-a 5-a conferinte SAII/8, 1983, pag.76-81.
24. **I. Dumitrache,** S. Dumitriu, F. Munteanu	**Algoritmi si structuri de conducere a proceselor**, Sesiunea de comunicari tehnico-stiintifice a Inst. Politehnic Galati, 1983, pag. 209-215.
1985	
25. **I. Dumitrache,** R. Chervase	**Modelarea proceselor de biosinteza**, A 3-a conferinta nationala de Cibernetica, vol.1, 1985.
26. **I. Dumitrache**	**Conducerea cu calculator a unui bioreactor de laborator**, Lucrarile celi de-a 3-a conferinte nationale de Cibernetica, vol.II, 1985
1986	
27. **I. Dumitrache,** I. Mihu	**Acordarea unui regulator discret cu predictor Smith pentru procese cu timp mort, pe baza functiilor de sensibilitate**, Al 4-lea simpozion national de Teoria Sistemelor, Craiova, 1986.
28. **I. Dumitrache,** S. Dumitriu, F. Munteanu	**Sisteme de achizitie si prelucrare primara de date pentru un proces de biosinteza**, SAMTEC, Bucuresti, 1986, vol.3., pag. 91-94.
29. **I. Dumitrache,** s.a.	**Algoritmi neliniari de reglare numerica implementati pe structuri de regulatoare cu microprocesor**, Lucrarile Conferintei CNETAC, Bucuresti, 1986.
30. **I. Dumitrache,** S. Dumitriu	**Optimizarea functionarii hidrogeneratoarelor prin acordarea regulatorului de excitatie cu semnale aditionale**, CNETAC, Bucuresti, 1986.
31. **I. Dumitrache,** S. Dumitriu	**Metoda de acordare asistata de calculator a regulatorului cu semnale auxiliare pentru sistemul de excitatie al generatoarelor sincrone**, Al 4-lea simpozion national de Teoria Sistemelor, Craiova, 1986, vol.2, pag.98-102.
1987	
32. **I. Dumitrache,** S. Dumitriu	**Optimizarea parametrica asistata de calculator a blocului de stabilizare a alunecarii generatoarelor sincrone**, Simp. de Electronica de putere si aplicatii, SEPA Bucuresti, 1987, B.210.
33. **I. Dumitrache,** s.a.	**Conducerea on-line a proceselor de biosinteza. Conducerea numerica directa cu microcalclatorul de proces ECAROM-881**, Revista de chimie nr.8/1987.
34. **I Dumitrache,** S. Dumitriu	**Ameliorarea functionarii in sistem a gemeratoarelor sincrone prin utilizarea stabilizarii alunecarii**, SIMECS, 1987, c16. 1-10.
1988	

35. **I.Dumitrache**	**Actualitati si tendinte in conducerea proceselor,** INFOTEC,1988, pag.67-76.
36. **I.Dumitrache,** F. Munteanu	**Organizarea algoritmilor de conducere numerica sub controlul unui executiv de timp real**, Al 5-lea simpozion de Teoria Sistemelor, Craoiva, 1988.
37. **I.Dumitrache,** S. Dumitriu	**Simularea pe calculator a regimului dinamic al generatorului sincron pe baza unui model dinamic neliniar**, SEPA, Bucuresti, 1988, pag. 48-55.
38. **I.Dumitrache**	**Stadiul actual si tendinte in automatizarea proceselor,** Lucrarile Conferintei Nationale INFOTEC, vol.I, 1988, pag.67-76.
39. **I. Dumitrache,** s.a.	**Algoritmi neliniari pentru reglarea proceselor cu timp mort,** Al 5-lea simpozion de Teoria Sistemelor, Craoiva, vol.I, 1988.
1989	
40. **I.Dumitrache,** S. Dumitriu	**Sinteza unui compensator-stabilizator pentru un generator sincron**, Al 2-lea smpozion de Structuri si Algoritmi de Conducere a Proceselor (SACP), Iasi, 1989, pag.521-526.
41. **I.Dumitrache,** G. Musca	**Algoritmi de reglare in numere intregi**, SACP-II, Iasi, 1989, pag.561-566.
42. **I.Dumitrache**, N. Tatar	**Sistem expert pentru conducerea in timp real a unui bioreactor**, SACP-II, Iasi, 1989.
1991	
43. **I.Dumitrache**	**Strategii euristice in conducerea proceselor**, Al 4-lea simpozion de Teoria Sistemelor, Craiova, vol.I,1991.
1994	
44. **I.Dumitrache**	**Advanced Process Control Techniques,** National Scientific Seminar “Process Control”, 1994, pag.193-197.
1996	
45. **I. Dumitrache,** I.Mihu, K.Rosu	**Hybrid Decision Systems for Medical Dyagnosis** 1996 INFOMEDICA
1987	
46. **I. Dumitrache,** S. Dumitriu, C. Murichescu	**“ Metoda si program de calcul pentru determinarea acordarii optime a canalelor semnalelor de reactie suplimentare ale regulatoarelor de excitatie “** Sesiunea de Comunicari Stiintifice ICSITEE-IMGB-Bucuresti, 1987, pag.491-496
2002	
47. **I. Dumitrache**, M. Dragoicea	**Design of a reactive implementation for autonomous navigation of the mobile robots**, Conferinta Nationala de Robotica CNR'2002, 17-19, Craiova Ed. Universitaria, pp. 111 – 118, Octombrie 2002
2004	

48. **I. Dumitrache**	**Intelligent Control of Mobile Robots**, The 7th International Conference on Mechatronics and Precision Engineering, Bucuresti, Mai, pp. 2004, 79-83.

H. Comunicari / Invited papers

H1. Invited papers/ plenary papers

1. **I. Dumitrache**	**Modeling and Control of Bioprocesses**, IMACS Symposium, Bruxelles, vol.II, pag.1-12, invited paper.
2. **I. Dumitrache**	**Towards a New Generation of Control System**, Plenary paper of SISTES 13, The International Symposium on System Theory, Automation, Robotics, Computers, Informatics, Electronics and Instrumentation, Craiova, Romania, ISBN 978-973-742-839-4, 2007
3. **Dumitrache, I.**	**From Model-Based Strategies To Intelligent Control Systems,** Plenary Lecture, WSEAS ICAI'08, The 9th International Conference on Automation and Information, 24-26 June, Bucharest, Romania, pp. 14, ISBN 978-960-6766-77-0, ISSN 1790-5117, 2008
4. **I. Dumitrache**, S. Caramihai, A.M. Stanescu	**Advanced Manufacturing as a Cyber Phisical Systems** – Plenary lecture on AQTR, IEEE Conference, Cluj Napoca, 2010
5. **I. Dumitrache**	**Cyber Phisical Systems – A new challenge for Control Engineering** – Plenary lecture – The second IFAC Symposium on Telematics Applications, TA 2010
6. **I. Dumitrache**	**Sisteme Autonome Complexe – O noua provocare** - Lucrare invitata la cea de a V-a Conferinta ASTR, 28-29 sept. 2010
7. **I. Dumitrache,** S. Caramihai	**Intelligent Manufacturing Systems – A new Paradigme** – invited paper IFAC – Workshop on Intelligent Control WICS 2010
8. **I. Dumitrache**	**Cyber Physical Systems – New challenges for Electric Power Systems** – invited paper on 7th International Conference on Deregulated Electricity Market Issues in South – Eastern Europe – DEMSEE 2012
9. **I. Dumitrache**	**Some Modeling and Design Challenges in Cyber Physical Systems** – invited paper on ICSTCC 2012, IEEE Conference, 2012
10. **I. Dumitrache**	**Cyber Physical Systems- new challenges on Science and Technology,** invited paper on First International Workshop on Cyber Physical Systems – Bucharest 2012

11. **I. Dumitrache**	**Cyber Physical Systems – Interdisciplinary vision**, lucrare invitata sustinuta in cadrul Conferintei Scolii Doctorale din Universitatea Politehnica din Timisoara, martie 2012
12. **I. Dumitrache**	**Managementul Cercetarii Stiintifice,** lucrare invitata sustinuta in cadrul Conferintei Scolii Doctorale din Universitatea Politehnica din Timisoara, martie 2012
13. **I. Dumitrache**	**Some problems on modeling and design of Cyber-Physical Systems (CPS),** martie 2016 - China
14. **I. Dumitrache**	**Factories of Future towards next industrial revolution,** martie 2016 - China

H2. Comunicari stiintifice - selectiv

1. **Elemente pneumatice cu piese mobile in tehnica calculului**,

Cercul de Automatica din I.P.B., dec.1964

2. **Principii noi utilizate in constructia elementelor pneumatice**,

Cercul de Automatica I.P.B., dec.1964.

3. **Elemente pneumatice miniaturizate pentru tehnica calculului numeric**,

Sesiunea cadrelor didactice din I.P.B., Mai 1965

1. **Sumatoare binare cu doua si trei intrari realizate cu elemente pneumatice tip**,
Sesiunea cadrelor didactice din I.P.B., Mai 1965

5. **Consideratii teoretice asupra elementelor de calcul pneumatice bazate pe interactiunea jeturilor de aer**,

Sesiunea cadrelor didactice din I.P.B., Mai 1965

6. **Dispozitive de calcul numeric realizate cu elemente pneumatice imprimate**,

Sesiunea cadrelor didactice din I.P.B., Mai 1966

7. **Analiza sistemelor hidraulice cu sertaras prin metoda modernizarii analogice**,

Sesiunea cadrelor didactice din I.P.B., Mai 1967

8. **Dinamica interconexiunii microelementelor pneumatice**,

Sesiunea de comunicari a Comisiei de Automatizari a Academiei R.S.R., oct.1967

9. **Consideratii asupra interconexiunii elementelor pneumatice miniaturizate,**

Sesiunea cadrelor didactice din I.P.B., Mai 1968

10. **Determinarea vitezei optime de deplasare a pistonului elementelor de executie pneumatice comandate cu elemente fluidice**,

Sesiunea cadrelor didactice din I.P.B., Noiembrie 1968

11. **Unele consideratii privind proiectarea elementelor fluidice numerice**,

Sesiunea cadrelor didactice din I.P.B., Noiembrie 1968

12. **Principii constructive si personale a elementelor fluidice**,

Sesiunea de comunicari stiintifice in domeniul calculatoarelor si Automaticii, I.P.Timisoara, Mai 1968

13. **Amplificatoare operationale cu elemente fluidice**,

Sesiunea cadrelor didactice, I.P.B., noiembrie 1968

14. **Regulatoare fluidice cu amplificatoare jet-jet**,

Sesiunea de comunicari stiintifice a cadrelor didactice, I.P.Cluj, decembrie 1969

15. **Unele probleme ale proiectarii elementelor fluidice cu atasarea jeturilor la pereti solizi**,

Cercul de Automatica, I.P.B., 1970.

16. **Circuite fluidice pentru operatii aritmetice**,

Sesiunea cadrelor didactice, Univ. Craiova, Mai 1970

17. **Elemente fluidice cu logica de prag**,

Sesiunea cadrelor didactice, I.P.B., Mai 1970

18. **Sisteme de protectie la temperaturi ridicate intr-un reactor nuclear**,

Sesiunea cadrelor didactice, I.P.B., Mai 1970

19. **Unele consideratii privind siguranta in functionare a circuitelor fluidice numerice**,

Sesiunea cadrelor didactice, I.P.B.,Aprilie 1971

20. **Echipamente fluidice pentru comanda numerica a masinilor unelte**,

Sesiunea cadrelor didactice, I.P.Brasov., februarie 1971

24. **Algoritmi de proiectare optima a elementelor si sistemelor automate hidraulice si pneumatice,**

Sesiunea cadrelor didactice, I.P.B., 1972

25. **Unele probleme privind proiectarea optima a elementelor fluidice discrete din sistemul SELF**,

Comunicare prezentata la Sesiunea de Fluidica, Ploiesti, 1972

26. **Circuite fluidice numerice pentru comanda, protectia si semnalizarea unor parametri tehnologici**,

Comunicare Ploiesti, 1972

27. **Sistem fluidic cu reglare extremala**,

Comunicare Ploiesti, 1972

28. **Subsisteme de calcul fluidic cu elemente de logica de prag**,

Comunicare Ploiesti, 1972

29. **Sinteza unui sistem fluidic pentru comanda unui motor pneumo-hidraulic de tip pas cu pas**,

Sesiunea de comunicari ICPMUA, 1973

30. **Analiza unui sistem hidraulic optimal in timp**,

Sesiunea cadrelor didactice, I.P.B., 1973

31. **Proiectarea unui cititor de banda fluidic**,

Sesiunea cadrelor didactice, I.P.B., 1973

32. **Simularea sistemelor dinamice cu ajutorul limbajului SIMSID**,

Sesiunea de comunicari stiintifice IPA, 1974

33. **Sistem de protectie tehnologica realizat cu elemente fluidice**,

Prima sesiune de comunicari stiintifice a Facultatii Automatica, Aprilie 1975

34. **Unele aspecte ale simularii sistemelor hidraulice**,

Comunicari stiintifice a Facultatii Automatica, Aprilie 1975

35. **Proiectarea sistemelor automate folosind simulare numerica**,

Sesiunea de comunicari a Academiei R.S.R., 1975

36. **Tehnici de optimizare parametrica a sistemelor multivariabile**,

Sesiunea de comunicari a Academiei R.S.R., 1975

37. **Proiectarea unui selector automat electro-hidraulic pentru cutiile de viteza cu roti baladoare**,

A II-a Conferinta de Masini Unelte, 1976

38. **Proiectarea optimala a sistemelor hidraulice cu ajutorul limbajului SIMGHID**,

A II-a Conferinta de Masini Unelte, 1976

39. **Metode moderne pentru analiza si sinteza sistemelor cu fluid**,

A II-a Sesiune de Comunicari a Facultatii Automatica, 1977

40. **Alegerea si acordarea regulatoarelor pentru procese lente prin intermediul limbajului SIMSID**,

A II-a Sesiune de Comunicari a Facultatii Automatica, 1977

41. **Optimizarea parametrica a unui sistem hidraulic folosinnd metoda cautarii planelor principale**,

A II-a Sesiune de Comunicari a Facultatii Automatica, 1977

42. **Structuri de sisteme si algoritmi de conducere a proceselor cu microcalculatoare**,

Sesiunea de Comunicari a Facultatii de Electrotehnica din Magdeburg, Mai 1978

43. **Unele probleme privind automatizarea unui fermentator pilot**,

Sesiunea de comunicari IPA, 1977

44. **Comanda numerica adaptiva a actionarilor de c.c. folosind microrpocesoare**,

Conferinta a II-a de Actionari electrice, Cluj, 1980

45. **Sisteme de conducere distribuita a proceselor inductriale SDC**,

Sesiunea de comunicari jubiliara IPA-TC-T, 1980

46. **Unele probleme privind conducerea optimala a actionarilor de c.c. cu ajutorul microcalculatoarelor**,

Sesiunea de comunicari jubiliara IPA-TC-T, 1980

47. **Proiectarea asistata de calculator a sistemelor numerice**,

Simpozionul de Teoria Sistemelor, Craiova, 1982

48. **Algoritmi de reglare adaptivi cu auto-acordare**,

Simpozionul de Teoria Sistemelor, Craiova, 1982

49. **Algoritmi si structuri de conducere distribuita a proceselor din industria metalurgica**,

Simpozionul Automatizari in metalurgie, Gtalati, 1983

50.**Structuri de reglare si algoritmi pentru conducerea cu calculator a proceselor de biosinteza**,

Simpozionul de microprocesoare 1985

51. **Sistem de conducere cu calculator de proces SPOT-80 pentru procese de biosinteza**,

Conferinta nationala de microbiologie, 1985

52. **Optimizarea functionarii hidrogeneratoarelor prin acordarea regulatorului de excitatie cu semnale aditionale**,

CNETAC, 1986

53. **Unele probleme ale proiectarii regulatoarelor numerice cu microprocesoare**,

INFOTEC 1986.

54. **Echipament cu microcalculator pentru probe si incercari ventilatoare**,

CNETAC, 1986

55. **Probleme ale conducerii numerice a proceselor de biosinteza**,

Simpozion ICECHIM 1986.

56. **Conducerea adaptiva optimala a unui bioreactor**,

Simpozion ICECHIM 1987

57. **Metoda si program de calcul pentru determinarea acordarii optime a canalelor semnalelor de reactie suplimentare ale regulatorului de executie**,

Sesiunea jubiliara ICSITEE - IMGB, 1987

58. **Ameliorarea stabilitatii generatoarelor sincrone prin optimizarea acordarii regulatoarelor de excitatie**,

Simpozionul de Masini Electrice, SIMECS 1987.

59. **Contributii la proiectarea si realizarea sistemelor distribuite de conducere**,

Sesiunea jubiliara - 100 ani de la reorganizarea scolii nationale de Poduri si Sosele din Bucuresti, 1981

60. **Strategii euristice pentru conducerea proceselor industriale**,

PROCOMP, 1989

61. **Modelarea compartimentala a proceselor biologice**,

Sesiunea Academiei Romane, 1990

62. **Sisteme expert in conducerea proceselor**,

Lucrarile sesiunii IPA, Bucuresti, 1990

63. **Conducerea proceselor biotehnologice apeland la tehnici de inteligenta artificiala,**

Sesiunea Academiei Romane, 1991

64. **Unele probleme privind robustetea algoritmilor adaptivi**,

Al 40lea simpozion de Teoria sistemelor, Craiova, 1991.

65. **Expert Systems in Power Application**,

First Workshop on Intelligent Control, Bucharest, 1992.

66. **Towards Autonomous Control in Power Systems**,

First Workshop on Intelligent Control, Bucharest, 1992.

67. **A procedure to Design a Neuro-controller**,

First Workshop on Intelligent Control, Bucharest, 1992.

68. **Methods for tuning the fuzzy controllers**,

The Third International Conference on Fuzzy Logic and Artificial Intelligence, oct.1994.

69. **Bioprocesses Fuzzy Control**,

The Third International Conference on Fuzzy Logic and Artificial Intelligence, oct.1994.

70. **Neural Networks in Predictive Control,**

ICS'2001, 3rd International Workshop On Intelligent Control Systems Bucharest, 2001

71. **Advanced Multimodel Adaptive Control,**

3rd International Workshop On Intelligent Control Systems, Bucharest, 2001

72. **Cyber-Physical Systems – new challenges for Science, Technology and Education**

20th European Concurrent Engineering Conference – ECEC 2014, Bruges

73. **From Computer Controlled Process to Intelligent Cyber-Physical Systems**

International Computer, Communications, Control Conference, ICCCC6, 2014

74. **Hybrid Intelligent Techniques in Autonomous Complex Systems**

6th International workshop on soft computing applications SORA2014

75. **Intelligent Cyber-Energy-Systems**

ICTSCC-18th International Conference on System Theory, Control and Computing, 2014

76. Ioan Dumitrache, **Pregatirea inginerilor pentru noua revolutie industrial** — Lucrarile celei de a 6-a Conferinta CREDING, mai 2017, lasi

77. Ioan Dumitrache, Octavian Arsene — **Perspectiva inginereasca asupra mintii** — Al 15-lea Congres al Societatii de Neurologie, mai 2014, Bucuresti

78. Ioan Dumitrache "**Scoala si Educatia in viziunea Academiei Romane**"- prelegeri sustinute la Universitatea din Constanta, la universitatea din Pitesti, filiala Academiei Romane din Iasi si Cluj-Napoca.

79. Coordonatorul proiectului: "**Scoala si educatia in viziunea Academiei Romane"** - in colaborare cu reprezentanti ai Academiei Romane (acad.Emil Burzo, acad. Ioan Aurel Pop, Mircea Dumitru M.C.) si reprezentanti ai universitatilor(prof.dr.ing. Ecaterina Andronescu, prof.dr.ing. Radu Munteanu, prof.dr. David Daniel, prof.dr.ing. Romeo Resiga, prof.dr.ing. Simona Iuliana Caramihai, prof.dr.Cazacu George, s.a.)

I.Rapoarte stiintifice – selective

1. **I. Dumitrache,** C. Nitu, s.a.	**Sisteme de conducere implementate cu procesoare de 32 de biti,** RT-CIB-101-1991.
2. **I. Dumitrache,** S. Dumitriu, G. Calcev	**Modelarea matematica a Bioreactoarelor,** RT-CIB-102-1991.
3. **I. Dumitrache,** I. Mihu, G. Calcev, N. Constantin	**Tendinte in stadiul actual de conducere a sistemelor multivariabile robuste,** RT-CIB-103-1991
4. **I. Dumitrache,** F. Munteanu, S. Dumitriu, G. Musca	**Structuri cu microprocesor pentru conducerea proceselor,** RT-CIB-104-1992
5. **I. Dumitrache,** I. Mihu, G. Calcev, N. Constantin	**Algoritmi de conducere robusti pentru procese multivariabile,** RT-CIB-105-1992.
6. **I. Dumitrache,** C. Buiu, K. Rosu	**Sisteme expert pentru diagnoza medicala bioenergetica bazata pe metoda Ryodoraku,** RT-CIB-106,1992.
7.R.Constantinescu, **I. Dumitrache**	**Introducerea in conducerea proceselor apeland la tehnici neurale,** RT-CIB-107, 1992.

8. **I. Dumitrache,** C. Nitu, I.Mihu, s.a. — **Dezvoltarea structurilor modulare cu microprocesoare de 32 de biti pentru conducerea proceselor industriale,** RT-CIB-109-1992.

9. **I. Dumitrache,** I.Mihu, s.a. — **Poceduri pentru sinteza sistemelor multivariabile robuste,** RT-CIB-110-1992.

10. C. Buiu, **I. Dumitrache** — **Tehnici inteligente de control,** RT-CIB-111-1992.

11.**I.Dumitrache,** S. Dumitriu, R.Constantinescu — **Algoritmi avansati de conducere a sistemelor,** RT-CIB-112-1992.

12. G. Calcev, **I.Dumitrache** — **Sisteme de control fuzzy,** RT-CIB-113-1992.

13. **I.Dumitrache,** s.a. — **Studii teoretice privind controlul euristic al proceselor neliniare multivariabile modelate cu incertitudini parametrice si structurale,** RT-CIB-115.1993.

14.**I.Dumitrache,** G. Calcev, s.a. — **Studiu comparativ privind tehnicile de conducere inteligenta pentru bioprocese,** RT-CIB-115.1993.

15. F. Munteanu, **I. Dumitrache,** s.a. — **Studiu privind alegerea sistemului de operare pentru conducerea in timp real a proceselor industriale,** RT-CIB-116.1993.

16. **I. Dumitrache,** s.a. — **Dezvoltarea programelor de aplicatii utilizand sistemul de operare in timp real OS-9,** RT-CIB-117.1993.

17. **I. Dumitrache,** s.a. — **Proceduri pentru proiectarea unui sistem expert pentru conducerea proceselor biotehnologice,** RT-CIB-118.1993.

18. **I. Dumitrache,** S. Dumitriu, B. Penescu — **Strategii de conducere adaptiva pentru diferite clase de bioprocese,** RT-CIB-123.1993.

19. S. Dumitriu , **I. Dumitrache,** G. Calcev, B. Penescu — **Optimizarea modurilor de functionare a bioproceselor,** RT-CIB-120.1993.

20. **I. Dumitrache,** F. Munteanu, S. Dumitriu — **Structuri de conducere a proceselor industriale,** RT-CIB-121.1993.

21. **I. Dumitrache,** I. Mihu, G. Musca — **Algoritmi adaptivi si optimali de control,** RT-CIB-122.1993.

22. O.K. Rosu, D. Peretianu, **I. Dumitrache** — **Unele aspecte privind modelarea si diagnoza asistata de calculator a sistemului endocrin,** RT-CIB-119.1993.

23. **I. Dumitrache,** S. Dumitriu, G. Calcev — **Dezvoltarea sistemelor fuzzy pentru controlul sistemelor modelate cu incertitudini,** RT-CIB-124.1994.

24. **I. Dumitrache** , G. Calcev, S. Dumitriu — **Dezvoltarea unui sistem adaptiv de control utilizand tehnici neurale cu aplicatii in conducearea bioproceselor,** RT-CIV-125.1994.

25. **I. Dumitrache,** s.a. — **Sisteme bazate pe procesarea cunostintelor,** RT-CIB-126.1994.

26. **I. Dumitrache,** C. Bratianu, C. Buiu — **Sisteme hibride cu procesare numerica si simbolica. Tehnici neurale, tehnici fuzzy, algoritmi genetici,** RT-CIB-127.1994

27. **I. Dumitrache,** S. Dumitriu, G. Calcev, A. Militaru — **Optimizarea modurilor de lucru a bioreactoarelor: Studiul bioproceselor de tip Batch si Fed-Batch,** RT-CIB-128.1994.

28.**I. Dumitrache,** F. Munteanu, G. Musca, S. Dumitriu — **Optimizarea structurilor de control si a programelor de aplicatii pentru controlul in timp real cu structuri modularizate,** RT-CIB-129.1994.

29. **I. Dumitrache,** G. Calcev, C. Buiu, B. Penescu, K. Rosu — **Arhitecturi pentru controlul autonom a proceselor,** RT-CIB-130.1994.

30. R.Iserman, **I.Dumitrache,** s.a. — **Arhitectures for hibrid Systems in control Applications,** Technical Report 1996; IRT- Technische Hochschule Darmstadt, 63.

31.**I.Dumitrache,** C. Buiu — **Agenti inteligenti comparativ** Raport tehnic 1998

J. Contracte de cercetare – selectiv

NOTA: *- reprezinta responsabil de contract

Internationale

1*. **Centru pentru inteligenta artificiala in educatia inginereasca**, MCT – colaborare Japonia

2. **Concurrent Engineering Network of Excellence** – ESPRIT Project no. 25946

3*. **Technology Transfer Centre in Advanced Manufacturing** –TEMPUS CME-03547-97

4. **QUALIMAN** – TEMPUS UM_JEP-13133-98

5. **Upgrading Excellence by Strengthening Cooperation between research Teams in an enlarged Europe – UNITE**, membru in echipa de cercetare, Nr. 248583 – Comisia Europeana, 2011

6. **Upgrading Excellence by Strengthening Cooperation between research Teams in an enlarged Europe – UNITE**, membru in echipa de cercetare, Nr. 248583 – Comisia Europeana, 2012

Nationale - selectiv

1. **Studii si cercetari asupra elementelor fluidice cu efect Coanda**,

   Contract IPA, 1969

2. **Sisteme de protectie la cresterea temperaturii in bucla de reglare a temperaturii combustibilului nuclear-realizare cu elemente fluidice discrete**,

   Contract IPA, 1970

3*. **Sisteme de pozitionare in doua coordonate realizate cu elemente fluidice**, Contract ICPMUA, 1971-1973.

4*. **Studii si cercetari privind conducerea numerica a proceselor**,

Contract IPA,1975

5*. **Elaborarea de noi algoritmi si programe pentru simularea sistemelor**,

Contract ICI,1975.

6. **Proiectarea si realizarea unui sistem de protectie cu elemente fluidice**,

Contract IEPAM-Barlad.

7. **Cercetari privind realizarea unui sistem unificat de automatizare pneumatice**, Contract I.P.A, 1975.

8*. **Studiul tehnico-economic privind climatizarea centrelor de calcul**,

Contract I.S.Automatica, 1975

9*. **Elaborarea unui program pentru simularea proceselor din industria chimica**,

Contract cu Centrul de Calcul al Ministerului Industriei Chimice, 1976

10. **Cercetari privind elaborarea unor algoritmi de conducere optimala a proceselor**,

Contract cu ICI, 1976

11*. **Cercetari privind conducerea procesului de fermentatie dupa raportul CO_2/O_2**,

Contract cu ICCF, 1976.

12. **Proiectarea instalatiilor de automatizare pentru fabrica de zahar**,

Contract cu ICICA, 1977

13*. **Cercetarea, proiectarea unui sistem de protectie si semnalizare cu circuite fluidice integrate**,

Contract cu Centrala Gaz-Metan Medias, 1978

14*. **Cercetari privind Realizarea unui echosistem cu microcalculator**,

Contract cu MICM si Ministerul Sanatatii, 1978

15*. **Cercetari privind realizarea unui sistem de conducere cu microcalculator**,

Contract cu I.P.A., 1979

16*. **Cercetari privind realizarea unui sistem cu microcalculator pentru controlul parametrilor fiziologici in salile de operatii**,

Contract cu IAUC 1980

17*. **Cercetari privind realizare sistemului de conducere pentru roboti industriali**,

Contract cu IPA-TC-T, 1980

18. **Cercetari privind realizarea unui sistem de control automat al tensiunii arteriale**",

Contract cu Academia de Stiinte medicale, 1978-1980

19*. **Cercetari privind realizarea sistemului distribuit de conducere SDC-2050**,

Contract cu IPA 1980-1983.

20*. **Studii si cercetari privind elaborarea pachetului de programe pentru proiectarea asistata de calculator PROSIM MINI**,

Contract cu ICI, 1981-1982-1983.

21*. **Cercetari privind elaborarea unui pachet de programe aplicative pentru ECAROM 880/881**,

Contract cu IEA 1982-1983.

22*. **Cercetari privind elaborarea algoritmilor binari si adaptivi cu autoacordare pentru regulatorul RM-16**,

Contract cu IPA, 1984.

23*. **Studiul tehnic privind sistemele distribuite si de conducere cu calculator**,

Contract cu IPA, 1985.

24*. **Cercetari privindconducerea cu microcalculatorul de proces a unui biofermentator de laborator**,

Contract cu ICECHIM,1985.

25*. **Analiza functionala a sistemului de conducere distribuit DISTRIPROM,**

Contract cu IPA, 1985

26*. **Regulator numeric multicanal, realizat cu module MULTIPROM**,

Contract cu IPA, 1985.

27*. **Sistem de programe de aplicatie destinate conducerii proceselor industriale**,

Contract cu IPA, 1985

28*. **Sistem de programe pentru reglare numerica cu algoritmi neliniari a proceselor tehnologice**,

Contract cu IPA, 1985

29*. **Simularea pe calculator a sistemului de excitatie si de reglare a tensiunii generatoarelor sincrone ale grupurilor energetice (hidrogeneratoare si turbogeneratoare)**,

Colaborare cu Catedra de Masini electrice, Contract cu IPA, 1985.

30*.**Algoritmi si programe de conducere pentru un bioreactor de laborator**,

Contract cu ICECHIM, 1986

31* **Regulator multicanal, pe module MULTIPROM**,

Colectiv mixt IPA-IPB, Contract cu IPA, 1986.

32*. **Simularea sistemului de reglare a tensiunii generatoarelor sincrone de mare putere,**

Contract cu IPA, 1986.

33*. **Modelarea proceselor de biosinteza in vederea conducerii adaptiv-optimale,**

Contract cu ICECHIM, 1987.

34*.**Cercetari privind interconectarea regulatorului multicanal MR 16 in cadrul sistemului distribuit DISTRIPROM**,

Contract cu IPA, 1987

35*. **Metode si module de acordare asistata de calculator, cu semnale auxiliare, a regulatorului pentru sistemul de excitatie al generatoarelor sincrone,**

Contract cu IPA, 1987.

36*.**Cercetarea si proiectarea unei unitati centrale cu microprocesor MC 68000,**

Contract cu IPA, 1987.

37*. **Cercetari privind elaborarea structurii de comanda si reglare procese tehnologice cu module Multiprom cu algoritmi PID si algoritmi binari**,

Contract cu IPA, 1986

38*. **Executiv de timp real MRTX 80 destinat elaborarii programelor de conducere a proceselor tehnologice**,

Contract cu IRNE Pitesti, 1988-1989

39*. **Regulator numeric peerformant cu toleranta la defecte**,

Contract IPA, 1988-1989.

40*. **Cercetarea, proiectarea si omologarea instalatiei de automatizare a autoclavelor de vopsire**,

Contract cu CIChFS Savinesti 1989.

41*. **Cercetarea, proiectarea si omologarea unor regulatoare electronice pentru motoare Diessel**, Contract cu ICPE, 1987-1990.

42*. **Regulator pentru motor cu aprindere prin scanteie destinat agregatelor frigorifice**,

Contract cu INMT, 1989-1990.

43*. **Structuri modularizate cu procesoare de 32 biti pentru conducerea proceselor,**

Contract MCT, 1990-1994

44*. **Sisteme multivariabile Robuste**, Contract MCT, 1991-1993

45*. **Sisteme expert pentru diagnoza medical bioenergetica bazata pe metoda Ryodorak**,

Contract cu IPA, 1992

46*. **Conducerea inteligenta a proceselor biotehnologice**, Contract cu MCT, 1991-1995.

47*. **Conducerea adaptiv-optimala a bioproceselor**, Contract cu MCT, 1992-1994.

48*. **Procesarea paralela a cunostintelor**, Contract cu MCT, 1994-1996.

49*. **Sisteme hibride de conducere**, Contract cu MCT, 1994-1996.

50*. **Sisteme autonome de conducere a proceselor**, Contract cu CNCSU, 1995.

51*. **Sisteme de conducere Fuzzy Multivariabile**", Contract cu Insititutul de Microtehnologie, 1994-1996.

52*. **Optimizarea sistemelor microelectronice apeland la algoritmi genetici**,

Contract cu Insititutul de Microtehnologie, 1994-1996.

53*. **Tehnici avansate de conducere a bioproceselor**, Contract ICECHIM, 1995.

54*. **Tehnici de conducere inteligenta a actionarilor electrice**,

Contract cu MCT, 1994-1996.

55*. **Sisteme de aprindere electronica cu tensiune si putere marita**,

Contract cu INMT, 1993-1996.

56*. **Conducerea adaptiva a unui manipulator cu doua grade de libertate**,

Contract (Colaborarea) Univ. de Constructii Bucuresti, 1995-1996.

57*. **Modelarea proceselor biotehnologice**, Contract cu ICLVF.

58*. **Dezvoltarea bibliotecii de obiecte cu descriere formala a acestora si proiectarea mecanismului de interactiune intre ele pentru sisteme de productie**, MCT.

59*. **Sisteme autonome de comanda a proceselor complexe**, Grant CNCSU

60*. **Studiul de fezabilitate documentare WWW cadru de integrare EU, Standarde internationale (STEP)**, MCT

61*. **Tehnici de conducere avansata a actionarilor electrice**, Grant Academia Romana

62*. **Modelare si problematica conducerii inteligente a sistemelor de actionare**, MCT

63*. **Agenti robotici colaborativi**, CNCSU

64*. **Tehnici inteligente in conducerea actionarilor electrice de mica si medie putere cu aplicatii in robotica**, MCT

65*. **Tehnici de conducere avansata a actionarilor electrice**, MCT

67*. **Sisteme Inteligente de Conducere**, CNCSIS – Banca Mondiala, 2000 - 2002

68. **FABRICATOR – Fabrica Virtuala bazata pe agenti inteligenti, programare orientate obiect si tehnologii informatice** – CNCSIS – Banca Mondiala

71*. **Retea de Centre de Educatie Continua in domeniul Managementului Intreprinderilor Virtuale** – CNFIS – Banca Mondiala

73*. **Tehnici inteligente de conducere a proceselor complexe –** 531/MEC- A40 – programul "Orizont 2000" 2000 – 2002

74*. **Echipament inteligent de comanda si reglare pentru sistemele de excitatie ale hidrogeneratoarelor** – programul "Relansin", contract 46, 2002 – 2003

75***** **Sistem informatic integrat pentru conducerea si monitorizarea amenajarilor de irigatii**

INFOSOC – 155 / 2004, 2005, 2006

76*. **Sisteme autonome avansate pentru controlul oscilatiilor structurilor**

Contract CEEX – 51 / 2005, 2006, 2007, 2008

77*. **Integrarea resurselor din institutele de cercetare si universitati intr-o retea moderna bazata pe TIC, cu scopul sprijinirii inovarii, transferului tehnologic si accesarii programului *Competitivitate si Inovare*** – Strategia Lisabona 2007-2013, IN-TECH-TRANSFER, CEEX Modul CERES 72-2 / 2006, 2007, 2008

78. **Tehnici Inteligente pentru modelarea, analiza si optimizarea traficului urban**, proiect TIM OUT, participare in calitate de expert, 2010

78*. **Cresterea competitivitatii intreprinderilor prin perfectionarea resurselor umane in domeniul tehnologiilor avansate, intr-o societate bazata pe cunoastere si dezvoltare durabila** - Com HighTech, director de proiect, contract nr.53084 (2010-2013)

79*. **Doctoratul in scoli de excelenta – Evaluarea cercetarii stiintifice din universitati –** ENEC – responsabil in proiectul nr.4141 (2009-2011) –2011

80. **Algoritmi avansati de decizie multicriteriala si conducerea inteligenta a biotehnologiilor de preparare a produselor terapeutice de uz uman** –membru in echipa de cercetare pentru proiectul Nr. 62051 (2008-2011), 2011, Planul National ATHENA

K. Manifestari stiintifice organizate

1. CSCS21 —The 21th International Conference on Control Systems and Computer Science (http://cscs21.hpc.pub.ro/)
2. Perspective interdiciplinare in cercetarea structurii si functiilor creierului uman — Simpozion - GFCC in cadrul Congresului de Neurologie
3. Al IV-Iea workshop — IWOCPS in cadrul CSCS 21
4. Sesiune invitata: Cyber-Physical Systems Paradigm-Challenges for New Generation of Advanced Engineering Systems- 23 rd/ICE/ IEEE International Conference on Engineering, Technology and Innovation — Madeira 27-29 June 2017.
5. Prima conferinta nationala - Neurostiinte — Neuroinformatica — Neurotehnolgie — Neuro-psihofarmacologie organizata sub egida Academiei Romane- Grupul Roman pentru Ceretarea Creierului