

# Sergiu-Viorel CARAMAN

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## Activitate științifică

### ➤ Lucrări publicate

#### [C1] Articole/studii publicate în reviste de circulație internațională, ISI

1. Belea R., **Caraman S.**, Palade V., *Diagnosing the Population State in a Genetic Algorithm Using Hamming Distance*, Volume 3215/2004 - Knowledge-Based Intelligent Information and Engineering Systems, **Lecture Notes in Computer Science (ISI Journal + indexata in baza de date Inspec)**, Publisher: Springer-Verlag GmbH, ISSN: 0302-9743, pp.246-255.
2. **Caraman, S.**, Sbarciog, M., Barbu, M., *Predictive control of a wastewater treatment process*, **International Journal of Computers, Communications and Control** (<http://journal.univagora.ro/>), Vol. 2, No.2, pp. 132-142.
3. M. Barbu, **S. Caraman**, E. Ceanga, *Optimal Control Strategy of a Biotechnological Process Using a Fuzzy Zonal Model*, *International Journal of Romanian Biotechnological Letters*, Vol. 13, No. 5, September – October 2008, pp. 29-38.
4. M. Barbu, **S. Caraman**, E. Ceanga, *A Modified ASM3 Model for a Trickle Filter*, *International Journal of Romanian Biotechnological Letters*, Vol. 13, No. 5, September – October 2008, pp. 39-48.

#### [C2] Articole publicate in reviste indexate in baze de date internationale\*

1. Belea R., **Caraman S.**, Palade V., *Convergence Analysis of Genetic Algorithm Using a Unified Representation of Genes*, *International Journal of Knowledge-Based Intelligent Engineering Systems*, Vol. 10, No. 1, 2006, pp. 29-40, ISSN 1327-2314, **(ISI Journal + indexata in baza de date Inspec)**.

#### [C3] Articole/studii publicate în reviste din țară recunoscute de CNCSIS

1. **Caraman, S.**, Frangu, L., Ceangă, E., *Modeling and Optimal Control Techniques of Biosynthesis Processes in Batch Bioreactors*, **Control Engineering and Applied Informatics**, *Revista Societatii Romane de Automatica si Informatica Tehnica (SRAIT)*, București, **3**, nr. 1/2001, pp. 15-28, ISSN 1454-8658.
2. Frangu, L., **Caraman, S.**, Ceangă E., *Model Based Predictive Control using Neural Network for Bioreactor Process Control*, **Control Engineering and Applied Informatics**, *Revista Societatii Romane de Automatica si Informatica Tehnica (SRAIT)*, București, **3**, nr. 1/2001, pp. 29-38, ISSN 1454-8658.
3. **Caraman, S.**, Barbu, M., *Mean Age Control Strategies Techniques of the Continuous and Discontinuous Biosynthesis Processes. Comparative Study*, **Control Engineering and Applied Informatics**, *Revista Societatii Romane de Automatica si Informatica Tehnica (SRAIT)*, **5**, No. 2, pp. 31-40, June 2003, ISSN 1454-8658.

4. **S. Caraman**, L. Frangu, *Software generator of the biotechnological processes models*, **Control Engineering and Applied Informatics**, Revista Societatii Romane de Automatica si Informatica Tehnica (SRAIT), București, **4**, nr. 3/2002, pp. 33-38, ISSN 1454-8658.
5. M. Barbu, **S. Caraman**, E. Ceanga, *Stochastic Estimation Techniques for Biotechnological Processes*, **Control Engineering and Applied Informatics**, Revista Societatii Romane de Automatica si Informatica Tehnica (SRAIT), București, **6**, nr. 4/2004, pp. 43-51, ISSN 1454-8658.
6. **Caraman, S.**, Barbu, M., Ceanga E., *Robust Multimodel Control Using QFT Techniques of a Wastewater Treatment Process*, **Control Engineering and Applied Informatics**, Revista Societatii Romane de Automatica si Informatica Tehnica (SRAIT), București, **7**, nr. 2/2005, pp. 10-17, ISSN 1454-8658.
7. S. Bumbaru, E. Ceanga, **S. Caraman**, Gh. Mencinicopschi, *Biosynthesis Process Optimizing Modelling of Alfaamilase and Bacterial Proteasis*, **Analele Universitatii din Galati**, Fascicula III, anii 1987-1989, pp. 30-32 (ISSN 1221-454X).
8. S. Bumbaru, Gh. Mencinicopschi, E. Ceanga, **S. Caraman**, *Modelling and Numerical Simulation of Biosynthesis Process of Some Enzymes in view of Digital Control*, **Buletinul Institutului Politehnic din Iasi**, Vol. XXXVII, fascicula 1-4, pp. 61-64, 1991, ISSN 1220-2169.
9. C. Tudorie, **S. Caraman**, *Keyword-based human-computer interface*, **The Annals of "Dunarea de Jos" University of Galati**, Fascicle III, years 1990-1992, pp. 42-45, ISSN 1221-454X.
10. **S. Caraman**, E. Ceanga, S. Bumbaru, *Some Results Regarding Modelling and Control of Alphaamilase and Protease Biosynthesis Process in Discontinuous Bioreactors*, **The Annals of "Dunarea de Jos" University of Galati**, Fascicle III, 1996, pp. 28-32, ISSN 1221-454X.
11. **S. Caraman**, E. Ceanga, S. Bumbaru, *Variable Structure Models Applied to Inference Engine of Enzymatic Biosynthesis Process Control Expert Systems*, **The Annals of "Dunarea de Jos" University of Galati**, Fascicle III, 1997, pp. 49-53, ISSN 1221-454X.
12. **S. Caraman**, *Approaches of Uncertainty in the Expert Systems of the Biotechnological Operator Assistance and Controlling of Enzymatic Biosynthesis Processes*, **The Annals of "Dunarea de Jos" University of Galati**, Fascicle III, 1997, pp. 70-74, ISSN 1221-454X.
13. **S. Caraman**, E. Ceanga, L. Tulvan, *Modelarea matematica a proceselor de biosinteza utilizand informatii de varsta*, Sesiunea stiintifica jubiliara "50 de ani de la infiintarea Universitatii PETROL-GAZE", Ploiesti, mai 1998, **Buletinul Universitatii PETROL-GAZE**, Vol. XLVII-L (1995-1998), Nr. 12, pp. 202 - 207, ISSN 0376-4156.
14. **S. Caraman**, E. Ceanga, *Tehnici de estimare a marimilor de stare in procesele biotehnologice*, Sesiunea stiintifica jubiliara "50 de ani de la infiintarea Universitatii PETROL-GAZE", Ploiesti, mai 1998, **Buletinul Universitatii PETROL-GAZE**, Vol. XLVII-L (1995-1998), Nr. 12, pp. 208 - 211, ISSN 0376-4156.
15. Z. Vasiliu, V. Dugan, **S. Caraman**, S. Judele, A. Cocu, *Development of an Expert System for Fault Diagnosis in Power Systems*, **Buletinul Stiintific al Universitatii Politehnica din Timisoara**, Tom 44 (58), 1999, Fascicola 2, pp. 185-190, ISSN 1224-6034.

16. **S. Caraman**, E. Ceanga, E. Arinton, *Modelling Techniques of a Biomass Producing Process in a Batch Bioreactor*, **Buletinul Universitatii PETROL-GAZE**, Ploiesti, Vol. LII, Seria Tehnica, Nr. 1/2000, pp. 79 - 84, ISSN 1221-9371.
17. **S. Caraman**, C. Cucos, *Semiquantitative Modelling of the Bioprocesses*, **The Annals of "Dunarea de Jos" University of Galati**, Fascicle III, 1999, pp. 38-42, (ISSN 1221-454X).
18. M. Turtoi, T. Hopulele, **S. Caraman**, *Modelling of the Biodegradation in Multiphase Stirred Tank Reactor*, **The Annals of "Dunarea de Jos" University of Galati**, Fascicle III, 2001, pp. 80-85, ISSN 1221-454X.
19. **S. Caraman**, M. Barbu, *Fuzzy Models for Alphaamylase Biosynthesis Process with Bacillus Subtilis*, **Buletinul Univ. Petrol-Gaze din Ploiesti**, Vol. LV, Seria Tehnica, Nr.2/2003, pp. 43-47.
20. **S. Caraman**, M. Barbu, *Fuzzy and Neural Modelling of the Biotechnological Processes*, **Analele Universitatii din Craiova, Seria: Inginerie Electrica**, Anul 27, nr. 27, 2003, Vol. 1, pp. 1-8.
21. **Caraman, S.**, Ceanga, E., Minzu, V., Barbu, M., Haivas, R., 2002, *Expert System for the Control of the Continuous Casting Process*, 5<sup>th</sup> International Conference on Technical Informatics, CONTI'2002, Timisoara, Romania, **Buletinul Științific al Universitatii "Politehnica" din Timisoara, Seria AUTOMATICA si CALCULATORARE**, Volum 47 (61), Nr. 3, pp. 44-49, ISSN 1224-600X.
22. Barbu, M., **Caraman, S.**, Ceanga, E., 2004, *State and Parameter Estimators for the Biosynthesis Processes*, 6<sup>th</sup> International Conference on Technical Informatics, CONTI'2004, Timisoara, Romania, **Buletinul Științific al Universitatii "Politehnica" din Timisoara, Seria AUTOMATICA si CALCULATORARE**, Volum 49 (63), Nr. 1/2004, pp. 139-144, ISSN 1224-600X.
23. *Barbu, M., Caraman, S.*, Robust Multivariable Control Of A Wastewater Treatment Process Based On The RGA Analysis Of Input/Output Influences, **Petrol-Gaze University of Ploiesti Scientific Bulletin**, Vol. LVIII, Nr. 1, pp. 79-84, 2006, ISSN 1224-8495.
24. **S. Caraman**, S. Bumbaru, Gh. Mencinicopschi, A Qualitative Model of the Mass Proteic Accumulation from Polyporus Mycelium, *Revista Institutului de Chimie Alimentara Bucuresti, Stiinte si Tehnologii Alimentare*, Vol. 3, Nr. 3, mai - iunie 1995, pp. 64-65, ISSN 1222 0000.

**D. Studii publicate în volumele unor manifestări științifice internaționale recunoscute din țară și din străinătate (cu ISSN sau ISBN)**

**[D1] Studii publicate în volumele unor manifestari științifice internaționale recunoscute indexate în baze de date internaționale**

1. **S. Caraman**, M. Barbu, C. Munteanu, *Expert System Based on Fuzzy Rules for Alpha-Amylase Production With Bacillus Subtilis*, Proceedings of the 9th IFAC International Symposium on Computer Applications in Biotechnology, Elsevier, Editors M.N. Pons, J.F.M. Van Impe, 2004, pp. 487-492, ISBN 0-08-044251-X.
2. L. Frangu, E. Ceangă, **S. Caraman**, Y. Boutalis, *A Pattern Recognition Approach to Intelligent Behaviour: Switching the Strategies*, **Proceedings of First International IEEE Intelligent**

**Symposium - Intelligent Systems**, September 10-12<sup>th</sup>, 2002, Varna, Bulgaria, (**indexata BDI-IEEE Explorer + Inspec**), Editors T. Samad, V. Sgurev, 2002, pp. 369 – 372, ISBN 0-7803-7134-8.

3. Barbu, M., **Caraman, S.**, Ceanga, E., *QFT robust control of a wastewater treatment process*, 16<sup>th</sup> IFAC World Congress, Prague, Czech Republic, July 4-8, 2005, Elsevier, ISBN 008045108X.
4. M. Barbu, **S. Caraman**, E. Ceanga, *Bioprocess Control Using a Recurrent Neural Network Model*, Proceedings of the IEEE International Symposium on Intelligent Control and Mediterrean Conference on Control and Automation, (**indexata BDI-IEEE Explorer + Compendex + Inspec**), Editor M. Polycarpou, 2005, pp. 479 – 484, ISBN 0-7803-8937-9.
5. **Caraman, S.**, Barbu, M., Dumitrascu, G., *Wastewater Treatment Process Identification Based on the Calculus of State Variables Sensibilities with respect to the Process Coefficinets*, IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics, AQTR 2006, Cluj-Napoca, Proceedings IEEE Tome 2, 2006, pp. 199-204, ISBN 1-4244-0360-X (**indexata BDI-IEEE Explorer + Inspec**).
6. Barbu, M., Ceanga, E., **Caraman, S.**, „*Self-tuning of PI Controllers Using Fuzzy Techniques*”, 11<sup>th</sup> Mediterranean Conference on Control and Automation - MED2003, Rhodes, Greece, June 18-20, 2003, Proceedings CD-ROM, ISBN 960-87706-0-2, (indexata in baza de date **Inspec**).
7. **S. Caraman**, E. Ceanga, S. Bumbaru, *Expert Control of a Biotechnological Process, Modelled as a Variable Structure System*, **IFAC Conference on System Structure and Control - Preprints**, Nantes, France, July 8-10, 1998, pp. 819-824, **Proceedings Ed. Elsevier**, pp. 787-792, ISBN 0 0804 3035-X, (indexata in baza de date **Inspec**).
8. L. Frangu, **S. Caraman**, *Measuring System of the Slab's Position in a Metalurgical Plant Using Artificial Vision Techniques*, **6-th IEEE International Conference on Electronics Circuits and Systems, ICECS'99**, Pafos, September 5 - 8, 1999, Cyprus, Vol. II, pp. 871-874, ISBN 0-7803-5682-9, (indexata in baza de date **Inspec**).
9. **S. Caraman**, M. Barbu, *The Identification and Robust Control of a Biological Wastewater Treatment Process*, International Conference on Automation, Quality and Testing, Robotics, AQTR 2008, Cluj Napoca, Romania (**indexata BDI-IEEE Explorer**).

**[D2] Studii publicate în volumele unor manifestări științifice internaționale recunoscute din țară**

1. **Caraman, S.**, Sbarciog, M., Barbu, M., *Predictive control of a wastewater treatment process*, 1<sup>st</sup> IFAC Workshop on Applications of Large Scale Industrial Systems - ALSIS'06, August 30-31, Proceedings on the CD-ROM, 2006, ISBN 952-5183-28-9.
2. **S. Caraman**, E. Ceanga, L. Frangu, Gh. Mencinicopschi, *Modelling and Controlling techniques of Microorganisms Mean Age in Biotechnological Processes*, **European Control Conference ECC'99**, Karlsruhe, Germany, 31.08 – 3.09.1999, Proceedings-CD.
3. **S. Caraman**, L. Frangu, E. Ceanga, M. Butunoiu, I. Durbaca, *Model Based Predictive Control for Bioprocesses Using a Feedforward Neural Network*, **IFAC 8-th International Conference on Computer**

**Applications in Biotechnology, CAB 8**, Quebec City, Chateau Frontenac, Canada, June 24-27, 2001, pp. 341 – 346, **Proceedings Ed. Elsevier**, pp. 337-342, ISBN 0 0804 3681-1.

4. **S. Caraman**, C. Cucos, L. Frangu, *A Real-Time Expert System Based on Fuzzy Rules in Enzymes Biosynthesis Control in Batch Bioreactors*, **IEEE International Conference on Intelligent Engineering Systems, INES'99**, Poprad, High Tatras, Stara Lesna, Slovakia, Nov. 1 - 3, 1999, pp. 271-278, ISSN 1562-5850, ISBN 80-88964-25-3.
5. L. Frangu, E. Ceanga, **S. Caraman**, *Learning Pattern Recognition Models for Non-Linear Plants*, **IEEE International Conference on Intelligent Engineering Systems, INES'99**, Poprad, High Tatras, Stara Lesna, Slovakia, Nov. 1 - 3, 1999, pp. 111-115, ISSN 1562-5850, ISBN 80-88964-25-3.
6. **S. Caraman**, I. Durbaca, D. Carstoiu, *Knowledge Bases Techniques for Expert Systems Used to Control the Enzyme Biosynthesis Processes in Batch Bioreactors*, **EURISCON/SOFTCOM'98 Conference Proceedings, Third European Robotics Intelligent System & Control**, Atena, Grecia, 21 - 25 iunie, 1998, pp. 315-324.
7. **S. Caraman**, E. Ceanga, E. Arinton, *A Case Study Regarding the Modelling of Enzymes Biosynthesis Processes, in Batch Bioreactors*, **The 1st International Conference on Simulation in Food and Bioindustries, Foodsim'2000**, Nantes, France, June 25-27, 2000, pp. 23-28, ISBN 1-56555-205-9.
8. **S. Caraman**, L. Frangu, E. Ceanga, *Neuro-fuzzy Control of Microorganism Mean Age in Biotechnological Processes*, **10<sup>th</sup> Mediterranean Conference on Control and Automation**, 9-12 Iulie, 2002, Lisabona, Portugalia, sesiune invitata FA-2 (Modelarea si conducerea proceselor biotehnologice), Proceedings-CD.
9. Barbu, M., **Caraman, S.**, Ceanga, E., „*The Optimal Control of the Alpha-amylase Biosynthesis Process with Bacillus Subtilis Microorganism Using a Fuzzy Zonal Model*”, **12<sup>th</sup> Mediterranean Conference on Control and Automation - MED2004**, Kusadasi, Turkey, June 6-9, 2004, Proceedings CD-ROM
10. Belea. R., **Caraman S.**, Barbu M., “The Identification of a Biosynthesis Process Using Genetic Algorithm”, **Automatic Systems for Building the Infrastructure in Developing Countries, IFAC Workshop, Bansko, Bulgaria, 2004**, pp. 207-212.
11. Barbu, M., **Caraman, S.**, Ceanga, E., „*Control Strategies of a Multivariable Wastewater Treatment Process*”, **Workshop on Modelling and Control of Complex Systems, Ayia Napa, Cipru, 30 iunie – 1 iulie, 2004**, Proceedings CD-ROM..
12. **Caraman, S.**, Belea, R., Barbu, M., “*The Identification of a Wastewater Treatment Proces Based on Genetic Algorithm*”, **IEEE International Workshop on Soft Computing Applications, 27 – 30 August, 2005, Szeged – Ungaria, Arad – Romania**, Proceedings pp. 79-84, ISBN 9632190017.
13. S. Bumbaru, E. Ceanga, **S. Caraman**, Gh. Mencinicopschi, 1995, *Optimisation System of a Process of Biosynthesis of Enzymes*, 8-th International Conference on Control Systems and Computer Science, Bucuresti, pp. 63-70.
14. L. Frangu, **S. Caraman**, 1995, *Control Algorithm for the Thermal Treatment Process of the Hot Milled Strips*, 10-th International Conference on Control Systems and Computer Science, Bucuresti,

pp. 38-41.

15. L. Frangu, **S. Caraman**, 2001, *A Pattern Recognition Controller Applied to the Bioprocess Control*, 13-th International Conference on Control Systems and Computer Science, Bucuresti, pp. 182-186, ISBN 973-85237-1-0.
16. **S. Caraman**, S. Bumbaru, L. Frangu, T. Nicolau, 1996, *Q-Fuzzy - An Integrated Environment for Fuzzy Logic Applications*, Symposium CONTI-96, Timisoara, pp. 211-218, ISSN 1224-600X.
17. **S. Caraman**, V. Dugan, E. Arinton, 2000, *Neuro and Neuro-Fuzzy Techniques for Enzymes Biosynthesis Processes Modelling in Batch Bioreactors*, Fourth International Conference on Technical Informatics, CONTI'2000, Timisoara, Romania, pp. 129 – 134, ISSN 1224-600X.
18. **S. Caraman**, T. Nicolau, 1998, *A Software Tool for Fuzzy Logic Applications Simulation*, A&Q'98 International Conference on Automation and Quality Control, Cluj-Napoca, Vol. A, pp. A505 - A510, Ed. MINERVA, ISBN 973-9358-15-2.
19. **S. Caraman**, L. Frangu, 2002, *Software Generator of the Biotechnological Processes Models*, IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics (A&QT-R 2002), Cluj-Napoca, Romania, pp. 128-133, ISBN 973-9357-10-3.
20. **S. Caraman**, L. Popescu, 1998, *Fuzzy Logic Techniques Used to Control Microorganisms Mean Age In the Biosynthesis Processes*, 6<sup>th</sup> International Symposium on Automatic Control and Computer Science, SACCS'98, Iasi, Romania, Ed. MATRIX-ROM- Bucuresti, Vol. 1, pp. 198-201, ISBN 973-9390-42-0.
21. **S. Caraman**, L. Frangu, E. Ceanga, 2001, *Linearizing control techniques of the biotechnological processes using state neuro-observers*, 7<sup>th</sup> International Symposium on Automatic Control and Computer Science, SACCS'2001, Iasi, pp. 45, ISBN 973-8292-10-7.
22. **S. Caraman**, E. Ceanga, L. Tulvan, 1998, *Controlling Techniques of Microorganisms Mean Age in Biotechnological Processes*, International Symposium on System Theory, SINTES'9, Craiova, Romania, Vol. 1, pp. 133-139.
23. **S. Caraman**, E. Ceanga, I. Durbaca, L. Frangu, 2000, *Optimal Control Algorithm for Enzymes Biosynthesis Processes in Batch Bioreactors*, International Symposium on System Theory, SINTES'10, Craiova, Romania, pp. A80-A83, ISBN973-98836-6-4.
24. **S. Caraman**, 2000, *A Fuzzy Model for Enzymes Biosynthesis Processes in Batch Bioreactors*, Workshop Perspective d'Utilisation Rationnelle de l'Energie - TEMPUS PEC - 12018/97, Bucharest, pp. 137-142.
25. **S. Caraman**, S. Bumbaru, Gh. Mencinicopschi, 1995, *A Qualitative Model of the Mass Proteic Accumulation from Polyporus Mycelium*, International Symposium Modelling for Improved Bioreactor Performance III, Poiana Brasov, Romania, pp. 19 (abstract).
26. L. Frangu, **S. Caraman**, 1995, *Algorithm for recognition of the evolution phase of the population in a biotechnological process*, International Symposium Modelling for Improved Bioreactor Performance III, Poiana Brasov, Romania, pp. 20 (abstract).
27. **S. Caraman**, S. Bumbaru, C. Tudorie, A. Bratcu, 1996, *Qualitative Modelling of the Biotechnological Processes*, 4<sup>th</sup> International Symposium Biotechnology Now&Tomorrow, Bucharest (lucre

comunicata).

28. **S. Caraman**, 1998, *Simulation Environment for Fuzzy Logic Applications. Application for the Temperature Control of Furnace for Heating Plates*, Workshop Application of Artificial Intelligence in Industrial Automation - TEMPUS M-JEP 11467/96 COMPANION, Galati, Romania, pp. 24-1: 24-12.
29. M. Turtoi, T. Hopulele, **S. Caraman**, 2001, *Modelling of the Biodegradation in Multiphase Stirred Tank Reactor*, 11-th International Symposium on Modelling Simulation and Identification Systems SIMSIS-2001, pp. 148-153, ISBN973-8139-98-8.
30. M. Iliev, R. Popa, **S. Caraman**, G-A. Cristea, 2001, *Fuzzy Signal Processing. The Filtering of Noisy Measurement Data*, 11-th International Symposium on Modelling Simulation and Identification Systems SIMSIS-2001, pp. 205-210, ISBN973-8139-98-8.
31. Barbu, M., **Caraman, S.**, Ceanga, E., 2004, *Biotechnological Processes Identification Using Dynamic Neural Network*, 1<sup>st</sup> Romanian-Hungarian Joint Symposium on , ISBN 963-7154-26-4.
32. **Caraman, S.**, Barbu, M., 2003, *Fuzzy and Neural Models for the Accumulation Process of the Proteic Mass from Superior Mushroom Micelium of Polyporus Type*, 11<sup>th</sup> International Symposium on System Theory, SINTES-11, Craiova, Romania, Vol. 1, pp. 14-17, ISBN 973-8043-415-5.
33. **Caraman, S.**, Barbu, M., 2003, *Modelling and Control Techniques of the Continuous and Discontinuous Biosynthesis Processes. Comparative study*, 14<sup>th</sup> International Conference on Control Systems and Computer Science, CSCS-14, Bucharest, Romania, Vol. 2, pp. 34-39, (ISBN 973-8449-17-0, ISBN 973-8449-18-9).
34. Barbu, M., **Caraman, S.**, Ceanga, E., 2004, *QFT robust control of biotechnological processes*, 2004 IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics, AQTR 2004 – THETA 14, Cluj-Napoca, Romania, Proceedings Tome 1, pp. 129-134, ISBN 973-713-046-4.
35. **Caraman, S.**, Barbu, M., Ceanga, E., 2005, *Robust Multimodel Control Using QFT Techniques of a Wastewater Treatment Process*, 15<sup>th</sup> International Conference on Control Systems and Computer Science, CSCS-15, Bucharest, Romania, pp.394-399, 2005, (ISBN 973-8449-89-8, ISBN 97-8449-90-1).
36. Barbu, M., **Caraman, S.**, Ceanga, E., 2005, „*Multivariable Control of a MIMO Wastewater Treatment Process*”, Innovation in the Field of Water Supply, Sanitation and Water Quality Management Conference, Bucuresti, Romania, 15 – 17 iunie, 2005, pp.421-429, ISBN 973-0-03972-0.
37. Barbu, M., **Caraman, S.**, *Sliding-Mode Observer for a Wastewater Treatment Process*, Proceedings of the 7th International Conference On Technical Informatics, CONTI 2006, ISBN 973-625-319-8, Vol. 1, Pp. 67-70, Timisoara, 8-9 Iunie, 2006.
38. **S. Caraman**, M. Barbu, *The Design of a Biological Wastewater Treatment Plant Controlled by the Process Computer*, 8th International Conference on Technical Informatics, CONTI'2008, Vol. 3, First Workshop on Computational Intelligence in Measurement, Control and Instrumentation, First Workshop on New Directions in Real-Time Networked Control Systems, Timisoara, Romania, 5-6 Iunie 2008.

39. M. Barbu, **S. Caraman**, *Design of a Sliding-Mode Observer for a Biotechnological Process*, CAB'2007, Cancun Mexico, pp. 215 – 220.
40. M. Barbu, **S. Caraman**, *Decentralized Multimodel Control of a Wastewater Treatment Process with Activated Sludge*, Proceedings CSCS 16, 22 – 25 May, 2007, Vol. 1, pp. 49 – 55 ISBN 978-973-718-741-3, ISBN 978-973-718-742-0.
41. **S. Caraman**, M. Barbu, E. Arinton, *The Linearizing Control of a Wastewater Treatment Process with the Removal of Two Substrates*, SINTES 13, Craiova, Romania.
42. M. Barbu, **S. Caraman**, *QFT Multivariabil Control of a Biotechnological Wastewater Treatment Process Using ASM1 Model*, CAB'2007, Cancun Mexico, pp. 291 – 296.

### [D3] Studii publicate în volumele unor manifestări științifice naționale

1. S. Bumbaru, Gh. Mencinicopschi, E. Ceanga, **S. Caraman**, 1989, *A Microbiotechnologic Process Control Model*, Symposium I.C.A Bucuresti, pp. 15-18.
2. Gh. Mencinicopschi, S. Bumbaru, **S. Caraman**, E. Ceanga, 1989, *Results from Computer Simulations of Biosynthesis Processes*, Symposium I.C.A Bucuresti, lucrare comunicata.
3. S. Bumbaru, Gh. Mencinicopschi, E. Ceanga, **S. Caraman**, 1989, *Numerical Modelling and Simulation of Some Biosynthesis Enzymes Processes for Numerical Control*, The 2-nd Symposium on Structures, Algorithms and Equipment for Industrial Processes Control, Iasi, pp. 19-23.
4. Gh. Mencinicopschi, S. Bumbaru, **S. Caraman**, E. Ceanga, A. Petrescu, C. Socaciu, M. Popa, 1990, *Principles for Obtaining an Expert System for Biosynthesis Process Control*, Symposium I.C.A Bucuresti, lucrare comunicata.
5. S. Bumbaru, **S. Caraman**, E. Ceanga, Gh. Mencinicopschi, 1991, *An Approach to Knowledge Basis of an Expert System intended for Biosynthesis Products Control*, Symposium SINTES-6 Hardware and Software Numerical Computers, Craiova, pp. 112-116.
6. S. Bumbaru, C. Tudorie, **S. Caraman**, 1992, *Man-Machine Dialogue in a Bioreactor Automatic Control in Constrained Roumanien Language*, Symposium SIMSIS-7, Galati, pp. 229-234.
7. S. Bumbaru, E. Ceanga, **S. Caraman**, Gh. Mencinicopschi, 1994, *Sistem de conducere optimala a procesului de biosinteza a alfaamilazei si proteazei bacteriene*, Seminarul Stiintific National "Automatizarea Proceselor", Ploiesti 6 Mai, pp. 47-53.
8. **S. Caraman**, L. Frangu, 1994, *Control System for the Temperature after Thermal Treatment in Hot Strip Mills*, The 8-th Symposium on Modelling Simulation and Identification Systems SIMSIS-94, Galati, pp. 233-238.
9. C. Tudorie, **S. Caraman**, 1996, *Dialog in limbaj natural bazat pe analizor cu cuvinte cheie*, Simpozionul de Informatica, Galati, pp. 72-77.
10. L. Frangu, **S. Caraman**, N. Roman, C. Antohi, 1993, *Modelul matematic al procesului de tratament termic al benzilor laminate la cald*, Al II-lea Colocviu de Analiza, Proiectare si Conducere Automata in Sistemele Electrice, Galati, pp. 217-223.



11. **S. Caraman**, I. Durbaca, 1996, *Software for the Development and Implementation of Fuzzy Logic Controllers in Real-Time Applications*, 9-th Symposium on Modelling Simulation and Identification Systems SIMSIS-96, Galati, Romania, pp. 280-283.
12. **S. Caraman**, E. Ceanga, S. Bumbaru, 1996, *Some Results Regarding Modelling and Control of Alphaamilase and Protease Biosynthesis Process in Discontinuous Bioreactors*, 9-th Symposium on Modelling Simulation and Identification Systems SIMSIS-96, Galati, Romania, pp. 6-11.
13. **S. Caraman**, E. Ceanga, L. Tulvan, 1998, *Controlling Techniques of Microorganisms Mean Age in Biotechnological Processes*, SINTES 9, International Symposium on System Theory, Robotics, Computers and Process Informatics, Craiova, Vol. 1, pp. 133 - 139.
14. Durbaca, **S. Caraman**, 1998, "A Software for Fuzzy Logic Controllers Design", 10-th Symposium on Modelling Simulation and Identification Systems SIMSIS-98, Galati, Romania, pp. 31-34.
15. C. Mihalca, **S. Caraman**, D. Cristea, 1998, *Rule-Based Intelligent Control System for BZ (Slag Bath) Welding Process*, 10-th Symposium on Modelling Simulation and Identification Systems SIMSIS-98, Galati, Romania, pp. 45-50.
16. **S. Caraman**, L. Frangu, E. Ceanga, 1997, *Sistem de masurare a dimensiunilor bramelor la incarcarea cuptoarelor cu propulsie utilizand tehnici de vedere artificiala*, Simpozion Tehnologii Moderne in Industrie, Editura Tehnica, Bucuresti, pp. 377-384 (ISBN-973-31-1139-2, ISBN-973-31-1141-4).
17. **S. Caraman**, L. Frangu, E. Ceanga, 1997, *Tehnici de prelucrare a imaginilor pentru determinarea dimensiunilor bramelor la incarcarea cuptoarelor cu propulsie*, Simpozion Tehnologii Moderne in Industrie, Editura Tehnica, Bucuresti, pp. 385-392 (ISBN-973-31-1139-2, ISBN-973-31-1141-4).
18. Frangu, L., Ceangă, E., **Caraman, S.**, 2001, *A Pattern Recognition Method for Strategy Switching*, 3<sup>rd</sup> Intelligent Control Systems Workshop, Universitatea Politehnica București, pp.38-42 (ISBN 973-652-739-1).
19. N. Roman, T. Nicolau, I-R. Mihalcea, E. Ceanga, **S. Caraman**, I. Bivol, 2004, *Metode de reglare numerica a grosimii benzilor cu optimizarea parametrilor si constantelor specifice procesului de laminare la rece*, AI 12 – lea SIMPOZION A.A.I.R. – Mamaia, lucrare comunicata.
20. **S. Caraman**, E. Ceanga, M. Barbu, I-R. Mihalcea, N. Roman, T. Nicolau, 2004, *Regulator fuzzy cu structura variabila pentru reglarea temperaturii intr-un cuptor clopot*, AI 12 – lea SIMPOZION A.A.I.R. – Mamaia, lucrare comunicata.
21. E. Ceanga, M. Barbu, **S. Caraman**, *Complexitatea modelelor in procesele de biofiltrare: de la ecologie la conducerea automata a sistemelor de epurare a apelor*, Lucrarile celei de-a Treia Conferinta Nationale a Academiei de Stiinte Tehnice din Romania: Ingineria Romaneasca: Trecut, Present si Viitor, Cluj-Napoca, Romania, 12-13 Noiembrie 2008.