

# Alexandru CĂRĂUŞU

## L I S T A lucrărilor științifice publicate

1. A. CĂRĂUŞU : Asupra studiului statistic al stilului. *Gazeta Matematică* - Seria A, Vol.**LXX** (1965), No.12, 469-475.
2. A. CĂRĂUŞU : Asupra posibilităților de aplicare a unor procedee de modelare matematică la construirea Limbajului Intermediar. *Studii & Cerc. Doc. și Bibliologie* **3** (1965), 261-272.
3. A. CĂRĂUŞU : Asupra modelării matematice a unor noțiuni sintactice. *St. Cerc. Ling.* anul **XVIII** (1967), No.6, 601-608.
4. A. CĂRĂUŞU : Remarks on the algebraic modelling of certain syntactic structures. *Bull. Mathématique de la Société Sci. Mathématiques de la R.S. Roumanie*, Tome **11(59)**, No.3, 1967, 11-18.
5. A. CĂRĂUŞU & Dumitru STAN : Un punct de vedere probabilist-informațional în problema paternității croniciei "Istoriile domnilor Țării Românești". *St. Cerc. Ling.* anul **XIX** (1968), No.2, 163-175.
6. A. CĂRĂUŞU: Algebraic ways of defining the syntagm. *Actes du X<sup>e</sup> Congrès International des Linguistes* (Bucarest, 28 Août - 2 Sept., 1967), Editions de l'Académie de la R.S. Roumanie, Bucarest 1970, 965-968.
7. A. CĂRĂUŞU : On strong structural properties of context-sensitive languages. *Proc. of the 6th Yugoslav International Symposium on Information Processing*, Bled (Slovenija), September 23-26, 1970, Section B-2, 1-4.
8. A. CĂRĂUŞU : On a natural ordering of rules in context-sensitive grammars. *Proc. of the Eleventh International Congress of Linguists* (Bologna-Firenze, Aug.28 - Sept.2, 1972), Vol.II, Società editrice il Mulino, Bologna 1975, 1037-1045.
9. A. CĂRĂUŞU : On ordered rewriting systems. *Cahiers Ling. Théorique et Appliquée* **9** (1972), fasc.2, 277-284.
10. A. CĂRĂUŞU : Precedence parsers of context sensitive langauges. *Proceedings Symposium INFORMATICA - 9th Yugoslav International Symposium on Information Processing*, Bled (Slovenija), October 7-12, 1974, Section 1.29, 1-12.
11. Adrian VULPE, Victor-Florin POTERAŞU & A. CĂRĂUŞU : Analiza probabilității de cedare a structurilor ca o problemă de programare neliniară. *Lucrările Sesiunii tehnico-științifice jubiliare a Facultății de Hidrotehnică* - I.P.Iași, 28-29 octombrie 1978, 140-145.
12. Adrian VULPE, Victor-Florin POTERAŞU & A. CĂRĂUŞU : Evaluarea probabilistă a siguranței structurilor prin indicatori de moment doi generalizați. *Lucrările Sesiunii tehnico-științifice jubiliare a Facultății de Hidrotehnică* - I.P.Iași, 28-29 octombrie 1978, 146-152.
13. A. CĂRĂUŞU, Adrian VULPE & Victor-Florin POTERAŞU : On the second moment reliability analysis of structures. *Buletinul Inst. Politehnic Iași*, Tom XXV(XXIX) - 1979, Secția V, fasc.1-2, 9-14.

14. Adrian VULPE, A. CĂRĂUŞU & Victor-Florin POTERAŞU : Selection of probabilistic model in structural reliability analysis in terms of decision theory. *Buletinul Inst. Politehnic Iaşi*, Tom **XXVI** (XXX) - 1980, Secţia V, fasc.1-2, 7-14.
15. A. CĂRĂUŞU & Gheorghe PĂUN : String intersection and short concatenation. *Revue Roumaine de Mathématiques Pures et Appliquées* Tome **XXVI**, No.5 (1981), 713-726.
16. Adrian VULPE, Victor-Florin POTERAŞU & A. CĂRĂUŞU : Boundary solution and finite element methods in the earthquake response analysis of dam-water-foundation interaction system. *Proceedings 7 ECEE (7th European Conference on Earthquake Engineering)*, Athens, June 1982.
17. Adrian VULPE, Victor-Florin POTERAŞU & A. CĂRĂUŞU : Boundary solution and finite element methods in the dynamic response analysis of dam-water-foundation interaction system. *Comptes rendus du 3e Congrès International sur les Méthodes numériques de l'ingénieur* (GAMNI - ISINA - AFCET), Paris 14-16 mars 1983, Tome 1, 383-391.
18. Adrian VULPE & A. CĂRĂUŞU : Metodă iterativă de analiză a siguranței structurilor cu condiții neliniare de cedare. *Lucrările Conferinței pe țară a C.N.I.T. - I. Politehnic Iași "Proiectarea, realizarea și expertizarea structurilor în zone seismice"*, Iași, 13-14 mai 1983, Vol.IV (apărut 1984), B.9, 204-213.
19. Adrian VULPE, A. CĂRĂUŞU & Victor-Florin POTERAŞU : Failure probability and parameter estimation for structures with Weibull-distributed strength. *Probabilistic Methods in the Mechanics of Solids and Structures - Proc. IUTAM Symposium* (W.Weibull in memoriam), Stockholm, June 1984, Springer-Verlag, Berlin 1985, 517-526.
20. A. CĂRĂUŞU : On the relationship between the syntactic graphs of Loeckx - Hart and Hibbard's G-graphs. *Cercetări Matematice* - supliment la *Buletinul Inst. Politehnic Iaşi*, 1985, 213-217.
21. David RIMER & A. CĂRĂUŞU : Une division du simplex en polyèdres avec applications dans la chimie et la technique. *Buletinul Inst. Politehnic Iaşi*, Tom **XXXI** (XXXV) - 1985, Secţia I (Mecanică, Matematică), fasc.1-4, 51-60.
22. A. CĂRĂUŞU, Adrian DANILIUC & Adrian VULPE : Energy-based analysis of structures subjected to earthquake excitations. *Proceedings 18th Yugoslav Congress of Theoretical and Applied Mechanics*, Zadar (Croatia), June 2-6, 1986, Vol.A - Opšta Mehanika, 259-265.
23. Valentina AGRIGOROAOIEI & A. CĂRĂUŞU : Modele logico-temporale pentru reprezentarea unor structuri temporale din limba franceză (bazate pe extensiuni ale sistemului  $K_t$ ). *Lucrările primului Colocviu Național de Limbaje, Logică, Lingvistică matematică*, Univ. Brașov, 5-7 iunie 1986, 19-30. Versiunea extinsă (în l. franceză) a lucrării : Modèles logico-temporels pour représenter des structures temporelles du français (une extension du Système  $K_t$ ), *Revue Romane de Linguistique*, tome **XXXII**, No.2 (Mars-Avril), 1987, 171-181.
24. Adrian VULPE & A. CĂRĂUŞU : Nonstationary models in the seismic risk analysis of structural systems. *Proceedings 8 ECEE (8th European Conference on Earthquake Engineering)*, Lisbon, September 7-12, 1986, Section 2.4, 15-22.
25. Adrian VULPE & A. CĂRĂUŞU : On some graph-theoretic concepts and techniques applicable in reliability analysis of structural systems. *Reliability and Optimization of Structural Systems - Proc. 1st IFIP WG 7.5 Working Conf.*, Instituttet for Bygningsteknik, Univ. of Aalborg (Denmark), May 6-8, 1987 : *Lecture Notes in Engineering* **33**, P.Thoft-Christensen - Editor, Springer-Verlag, Berlin, 1987, 399-416.

- 26.** Adrian VULPE & A. CĂRĂUŞU : Asupra unor metode și tehnici de evaluare a riscului seismic utilizând indici de siguranță. *Lucrările simpozionului "Metode actuale de calcul al structurilor din regiuni seismice"*, C.N.I.T. - I.P. Iași, 1-3 octombrie 1987, Vol.I, 348-357.
- 27.** Adrian VULPE & A. CĂRĂUŞU : Evaluarea fragilității structurilor în analiza probabilistă a riscului seismic. *Lucrările simpozionului "Metode actuale de calcul al structurilor din regiuni seismice"*, C.N.I.T. - I.P. Iași, 1-3 oct. 1987, Vol.II, 311-318.
- 28.** Adrian VULPE & A. CĂRĂUŞU : Stochastic response analysis of large and composite structural systems under earthquake loading. *Proc. ASCE EMD Specialty Conference*, Virginia Polytechnic Institute and State University, Blacksburg, VA, May 22-25, 1988, Session 27: "Dynamics IV - Damping and Secondary Systems", Abstracts Volume.
- 29.** Neculai CURTEANU, Gabriel HOLBAN & A. CĂRĂUŞU : Asupra unificării de trăsături lingvistice. *Lucrările celui de al doilea Colocviu Național de Limbaje, Logică și Lingvistică matematică*, Univ. Brașov, 2-4 iunie 1988, 93-110.
- 30.** A.VULPE & A. CĂRĂUŞU : Seismic reliability analysis of reinforced concrete structures with progressive failure. *Re-Evaluation of Concrete Structures - Reliability & Load Carrying Capacity* - Proc. International Symposium, Technical University of Denmark, Copenhagen - Lyngby, June 13 -15, 1988, 249-258.
- 31.** A.VULPE & A. CĂRĂUŞU : Structural reliability assessment by minimal representations in a mechanism approach. *Reliability & Optimization of Structural Systems* - Proc. 2nd IFIP WG 7.5 Conf., London, September 26-28, 1988. *Lecture Notes in Engineering* **48**, Springer-Verlag, 1989, 385-399.
- 32.** A. CĂRĂUŞU : Limbaje recursive de tip 0 și de tip 1. *Lucrările Sesiunii jubiliare de comunicări științifice "175 ani de învățământ tehnic superior în limba română"*, Iași, 10-12 noiembrie 1988, Vol.V, Secțiunea XI (Algebră - Geometrie), 77-80.
- 33.** A. VULPE & A. CĂRĂUŞU : An integrated technique for the seismic probabilistic risk assessment of structural systems. *Transactions 10th SMiRT* (Structural Mechanics in Reactor Technology) *International Conf.*, Anaheim (California), August 14-18, 1989, Vol.P, 169-174.
- 34.** A.VULPE & A. CĂRĂUŞU : Seismic risk analysis of structures based upon the DPD method and fragility models. *Proc. 9 ECEE* (9th European Conf. on Earthquake Engineering), Moscow, September 11-16, 1990, Vol.10-A, 46-55.
- 35.** Dan POPOVICI & A. CĂRĂUŞU : Assessment of some road traffic characteristics requiring signalized intersections. *Buletinul Institutului Politehnic din Iași*, Tom **XXXVI**(XL), 1990, Fasc. 1-4, S. V : Construcții, Îmbunătățiri funciare, 83-88.
- 36.** A.VULPE & A. CĂRĂUŞU : Stochastic response analysis and risk evaluation for nonlinear structures subjected to strong earthquake motions. *Proc. 9th Symposium on Earthquake Engineering*, Roorkee (India), December 14-16, 1991, Vol. I-5, 1-8.
- 37.** A. CĂRĂUŞU & Dan POPOVICI : Mathematical modelling of nonhomogeneous traffic flow through signalized intersections. *Buletinul Institutului Politehnic din Iași*, Tomul **XXXVII** (XLI), 1991, Fasc. 1-4, Secția VI (Construcții & Arhitectură), 67-75.
- 38.** A.VULPE & A. CĂRĂUŞU : Probabilistic safety assessment of structures sequentially failing. *Transactions 11th SMiRT* (Structural Mechanics in Reactor Technology) *Int. Conf.*, Tokyo - Kyoto, August 18-23, 1991, Vol. M, 175-180.

- 39.** A.VULPE & A. CĂRĂUŞU : Seismic fragility analysis of structural systems with sequential failure. *Proc. SEE-1 (First Symposium on Earthquake Engineering)*, Tehran (Iran), 1991, Vol.A, 129.1-9.
- 40.** A. CĂRĂUŞU & A.VULPE : Structural reliability analysis by stochastic dependence models and matriceal techniques. *Reliability & Optimization of Structural Systems - Proc. 4th IFIP WG 7.5 Conf.*, München, Sept.11-13, 1991. *Lecture Notes in Engineering* **76**, Springer-Verlag, 1992, 141-152.
- 41.** A.VULPE & A. CĂRĂUŞU : On some types of dependence in PSA of nuclear power plants. *Transactions 12th SMiRT* (Structural Mechanics in Reactor Technology) *Int. Conf.*, Stuttgart (Germany), August 15-20, 1993, ELSEVIER - NORTH HOLLAND SCI. PUBLISHERS, Vol.M, 23-28. ISBN 0 444 81515 5
- 42.** A. CĂRĂUŞU & A.VULPE : Fragility estimation for seismically isolated nuclear structures by HCLPF values and bi-linear regression. *Transactions 12th SMiRT* (Structural Mechanics in Reactor Technology) *Int. Conf.*, Stuttgart (Germany), August 15-20, 1993, Elsevier - North Holland Sci. Publishers, Vol.A, 237-242. ISBN 0 444 81515 5
- 43.** Dan POPOVICI & A. CĂRĂUŞU : A new method for establishing the limit volume of the traffic flow through a street intersection requiring installation of traffic light control. *Buletinul Institutului Politehnic din Iaşi*, Tomul **XXXIX**(XLIII), 1993, Fasc.1-4, Secţia VI (Construcţii-Arhitectură), 1993, 107-114.
- 44.** Dan POPOVICI & A. CĂRĂUŞU : The study of crossing speeds of cars through signalized intersections. *Buletinul Institutului Politehnic din Iaşi*, Tomul **XL**(XLIV), Fasc.1-4, Secţia VI (Construcţii-Arhitectură), 1994, 89-94.
- 45.** Dan POPOVICI & A. CĂRĂUŞU: Evaluation of equivalence-converting coefficients for physical vehicles in nonhomogeneous queues to enter street intersections. *Buletinul Institutului Politehnic din Iaşi*, Tomul **XLI**(XLV), 1995, Fasc.1-2, Secţia VI (Construcţii-Arhitectură), 1995, 103-108.
- 46.** Dan POPOVICI & A. CĂRĂUŞU : Estimation of frequency distribution for time gaps between cars on an urban road. *Buletinul Institutului Politehnic din Iaşi*, Tomul **XLI**(XLV), 1995, Fasc.1-2, Secţia VI (Construcţii-Arhitectură), 115-120.
- 47.** Dan POPOVICI & A. CĂRĂUŞU : Time distribution laws for vehicle arrivals at a signalized intersection. *Buletinul Institutului Politehnic din Iaşi*, Tomul **XLI**(XLV), 1995, Fasc.3-4, Secţia VI (Construcţii-Arhitectură), 111-116.
- 48.** A. VULPE & A. CĂRĂUŞU : Analysis of base isolation and energy dissipation systems for NPP structures using fragility models. *Transactions SMiRT 13* (Structural Mechanics in Reactor Technology) *International Conf.*, Porto Alegre (Brasil), August 13-18, 1995, Vol.**III**, 535-540. ISBN 85-7025-351-6
- 49.** A. VULPE & A. CĂRĂUŞU : On modeling and quantification of dependent fragilities in NPP structures & equipment. *Transactions SMiRT 13* (Structural Mechanics in Reactor Technology) *International Conf.*, Porto Alegre (Brasil), August 13-18, 1995, Vol.**IV**, 737-742. ISBN 85-7025-352-4
- 50.** A. VULPE & A. CĂRĂUŞU : Seismic risk analysis and assessment using extended  $\beta$ -factor methods. Paper 571 to **11 WCEE** (11th World Conf. on Earthquake Engineering), Acapulco (Mexico), June 23-28, 1996. Volume of Abstracts, p.743. Full text edited in the *Proceedings 11 WCEE* on CD-ROM (8 pages). ISBN 0-08-04282-3

- 51.** A. CĂRĂUŞU & A. VULPE : Fragility estimation for seismically isolated nuclear structures by HCLPF values and bi-linear regression. *Nuclear Engineering and Design* (special issue - selected & extended papers of SMiRT 12 Conf., Section M), Elsevier - North Holland Sci. Publishers, Vol. **160** (1996), 287-297.
- 52.** A. CĂRĂUŞU & A. VULPE : Modelarea cedărilor prin cauză comună a structurilor în studiile analitice de siguranță și risc seismic. *Priorități actuale și de perspectivă în concepția, proiectarea și consolidarea construcțiilor - Sesiunea Științifică "80 de ani de la nașterea Prof. Univ. Anton ȘESEN (1916-1969)"*, Iași, 10-11 octombrie 1996, Vol.II, Editura Vesper - Iași, 337-344. ISBN 973-96589-2-x (vol. II)
- 53.** A. VULPE & A. CĂRĂUŞU : Noi dezvoltări în evaluarea riscului seismic și reliabilității la sisteme cu nivele ridicate de siguranță. *Priorități actuale și de perspectivă în concepția, proiectarea și consolidarea construcțiilor - Sesiunea Științifică "80 de ani de la nașterea Prof. Univ. Anton ȘESEN (1916-1969)"*, Iași, 10-11 octombrie 1996, Vol.II, Editura Vesper - Iași, 329-336. ISBN 973-96589-2-x (vol. II)
- 54.** A. VULPE & A. CĂRĂUŞU : Dependent failure and CCF analysis of NPP systems with diversity defense factors. *Transactions SMiRT 14* (Structural Mechanics in Reactor Technology) International Conf., Lyon (France), August 17-22, 1997, Vol.10, Div.M, M03/4, 103-110.
- 55.** A. VULPE & A. CĂRĂUŞU : Evaluation of seismic damageability of structures using fragility and damage risk matrices. *Transactions SMiRT 14* (Structural Mechanics in Reactor Technology) International Conf., Lyon (France), August 17-22, 1997, Vol.10, Div.M, M04/7, 175-182.
- 56.** A. CĂRĂUŞU & A. VULPE : Time dependent risk assessment of structures by efficient sampling techniques. *Transactions SMiRT 14* (Structural Mechanics in Reactor Technology) International Conf., Lyon (France), August 17-22, 1997, Vol.10, Div.M, M05/7, 239-246.
- 57.** A. VULPE & A. CĂRĂUŞU : Fuzzy-Bayesian inference for updating seismic fragilities of components and structures. *RELIABILITY & OPTIMIZATION OF STRUCTURAL SYSTEMS, Proc. of the 8th IFIP WG 7.5 Working Conference*, Krakow (Poland), May 11-13, 1998, IFIP – The University of Michigan, Ann Arbor, MI, USA, 321-328.
- 58.** A. VULPE & A. CĂRĂUŞU : Directional and importance sampling methods for reliability evaluation of structures with multimode failure, *Transactions SMiRT 15 Int. Conf.*, Seoul, August 15-20, 1999, Paper M5-A4-RO, Vol. X, Div.M, 467-474.
- 59.** A. CĂRĂUŞU & A. VULPE : Markovian and semi-Markovian models for availability evaluation of repairable subsystems & equipment in NPP's. *Transactions SMiRT 15 Int. Conf.*, Seoul, August 15-20, 1999, Paper M6-A2-RO, Vol. X, Div.M, 493-498.
- 60.** A. VULPE & A. CĂRĂUŞU : Maintenance strategies for degrading structures in NPP's based on time-dependent reliability models. *Transactions SMiRT 15 Int. Conf.*, Seoul, August 15-20, 1999, Paper M6-A3-RO, Vol.XII, Div.M, 155-162.
- 61.** A. VULPE, A. CĂRĂUŞU & George E. VULPE : Use of fragility models and damage risk matrices in structural damageability evaluation. *Proc. 12 WCEE 2000* (12th World Conference on Earthquake Engineering), Auckland-New Zealand, January 28 - February 3, 2000 (full text - 10 pages on CD-ROM edition), Paper 2726 / 6 / R.

- 62.** A. CĂRĂUŞU & Adrian VULPE : Fault trees, flow networks and time dependent reliability of structural systems (paper presented at *8th IFIP WG 7.5 Working Conference*, Krakow - Poland, May 11-13, 1998), publicată în *Buletinul Institutului Politehnic din Iași*, Secția Matematică - Mecanică - Fizică, Tom **XLVI(L)**, 2000, Fasc. 1-2, 67-78.
- 63.** A. CĂRĂUŞU & Adrian VULPE : Updating fuzzy models for seismic risk assessment. *Transactions SMiRT 16 International Conf.*, Washington D.C., August 12-17, 2001, Paper 1740, Division M, 8 pages on CD-ROM edition, OmniPress NCSU, 2001. # 27078 02206-003
- 64.** A. VULPE, A. CĂRĂUŞU & G.E. VULPE : Earthquake induced damage quantification and damage state evaluation by fragility and vulnerability models. *Transactions SMiRT 16 International Conf.*, Washington D.C., August 12-17, 2001, Paper 1650, Division M, 8 pages on CD-ROM edition, OmniPress NCSU, 2001. # 27078 02206-003
- 65.** C-tin ROBU, A. VULPE & A. CĂRĂUŞU : Seismic vulnerability and fragility formats in damage risk assessment of RC structures. *Transactions SMiRT 16 International Conf.*, Washington D.C., August 12-17, 2001, Paper 1932, Division M, 8 pages on CD-ROM edition, OmniPress NCSU, 2001. # 27078 02206-003
- 66.** A. VULPE & A. CĂRĂUŞU : Stochastic assessment of seismic damage in ductile structures by ordered peak statistics. *Realizări și perspective în activitatea de construcții și în învățământul de specialitate – Simpozion cu participare internațională*, Iași, 25-26 mai 2001, Editura Societății “Teiu Botez”, Vol. **II**, 249-254. ISBN 973-85050-3-8, -5-4
- 67.** A. VULPE, A. CĂRĂUŞU & G.E. VULPE : Bayesian estimation of seismic vulnerability for damaged structures. *Proceedings of 12 ECEE* (12<sup>th</sup> European Conference on Earthquake Engineering), London, September 9-13, 2002, Paper 711, 10 pages on CD-ROM edition.
- 68.** A. CĂRĂUŞU: Semigroups of linear operators and semi-Markov models for the dynamics of unicellular populations – I. *Proceedings of the Annual Symposium on Mathematics Applied in Biology & Biophysics*, UASVM - Iași, May 30-31, 2002 – *Scientific Annals of University of Agricultural Sciences and Veterinary Medicine “Ion Ionescu de la Brad” Iași*, TOM **XLV** - 2002, Faculty of Horticulture, 55-64. ISSN 1454 – 7376
- 69.** Adrian VULPE, A. CĂRĂUŞU, G.E. VULPE : Assessment of structural safety under seismic hazard by vulnerability functionals. *Transactions of SMiRT 17 International Conf.*, Prague (Czech Republic), August 17-22, 2003, Division M, 8 pages on CD-ROM edition.
- 70.** A. CĂRĂUŞU : Semigroups of linear operators and semi-Markov models for the dynamics of structured populations – II. *Proceedings of the Annual Symposium on Mathematics Applied in Biology & Biophysics*, UASVM - Iași, May 30-31, 2003 – *Scientific Annals of University of Agricultural Sciences and Veterinary Medicine “Ion Ionescu de la Brad” Iași*, TOM **XLVI** - v.2, 2003, Faculty of Horticulture, 103-118. ISSN 1454 – 7376
- 71.** A. CĂRĂUŞU & Adrian VULPE : Stochastic assessment of seismic damages by use of ordered peak statistics. *Proceedings of 13 WCEE* (World Conf. on Earthquake Engineering), Vancouver – British Columbia, August 1-6, 2004 : Paper ID WCEE\_002278, MIRA Digital Publishing (10 pages on CD-ROM Edition).

72. Adrian VULPE, A. CĂRĂUŞU : Stochastic evaluation of availability for subsystems by Markov and semi-Markov models. *Proceedings of 13 WCEE* (World Conf. on Earthquake Engineering), Vancouver – British Columbia, August 1-6, 2004 : Paper ID WCEE\_002483, MIRA Digital Publishing (10 pages on CD-ROM Edition).
73. Alexandru CĂRĂUŞU : Notions of complex analysis in modelling the evolution of biological populations. *Sci. Annals of Univ. Agricultural Sci. & Veterinary Medicine “Ion Ionescu de la Brad” – Iaşi*, tom **XLVII**, v.2 – 2004, *Faculty of Horticulture, Proc. Annual Symposium MATHEMATICS APPLIED IN BIOLOGY & BIOPHYSICS*, UASVM - Iasi, May 28-29 2004, 119-130. ISSN 1454 – 7376
74. A. CĂRĂUŞU & Adrian VULPE : Fuzzy logic methods for seismic damage assessment and control. *Transactions SMiRT 18* (Structural Mechanics in Reactor Technology) *Int. Conf.*, Beijing, August 7-12, 2005, Paper No. SMiRT18-M03-6 (613), 3907-3916, Atomic Energy Press. ISBN 7-89994-709-X
75. Adrian VULPE, A. CĂRĂUŞU : Markovian and semi-Markov models for availability evaluation of NPP subsystems and equipment. *Transactions SMiRT 18* (Structural Mechanics in Reactor Technology) *Int. Conf.*, Beijing, August 7-12, 2005, Paper No. SMiRT18-M02-3 (614), 3824-3832, Atomic Energy Press. ISBN 7-89994-709-X
76. Alexandru CĂRĂUŞU : Age dependence in the dynamical behaviour of cell populations. *Sci. Papers of UASVM Iasi (Sci. Annals of Univ. Agricultural Sci. & Veterinary Medicine “Ion Ionescu de la Brad” – Iaşi)*, tom **XLVIII**, v.2 – 2005, *Proc. of the 4<sup>th</sup> Annual Symposium on MATHEMATICS APPLIED IN BIOLOGY & BIOPHYSICS*, UASVM - Iasi, May 27-28, 2005, 121-146. ISSN 1454 – 7376
77. Adrian VULPE & A. CĂRĂUŞU : Modeling and evaluation of seismically induced damages by functional and stochastic models *Proceedings International Symposium “Computational Civil Engineering”*. Iasi, Romania, May 26, 2006 (Faculty of Civil Engineering . T.U. Iasi), F. Pauleş-Crăiniceanu, C. Ionescu, H. Bărbat – Editors, Editura Soc. Academice “Matei – Teiu Botez”, Iaşi, 2006, 412-426. ISBN (10) 973-7962-89-3, ISBN (13) 978-973-7962-89-8
78. Alexandru CĂRĂUŞU : Applications of nonnegative and primitive matrices to population dynamics. *Sci. Papers of UASVM Iasi (Sci. Annals of Univ. Agricultural Sci. & Veterinary Medicine “Ion Ionescu de la Brad” – Iaşi)*, tom **XLIX**, v.2 – 2006, *Proc. of the 5<sup>th</sup> Annual Symposium on MATHEMATICS APPLIED IN BIOLOGY & BIOPHYSICS*, UASVM - Iasi, June 16-17, 2006, 79-96. ISSN 1454 – 7376
79. Alexandru CĂRĂUŞU : Morphisms and quasinorms over free semigroups. *Advances in Abstract Algebra*, I. Tofan, M. Gontineac, M. Tărnăuceanu (editors), Ed. Alexandru Myller, Iaşi 2006, 55-65. ISBN 973-8697-8-2 (9789738698789)
80. A. CĂRĂUŞU & Adrian VULPE : Matrix decomposition techniques and Bayesian inference for seismic damage detection in structures. *Transactions SMiRT 19*, (Structural Mechanics in Reactor Technology), August 12-17, 2007, Toronto (Canada), Div. M, Paper 1818 – M06/2 (8 pages on CD-ROM).

81. Adrian VULPE & A. CĂRĂUŞU : Assessment of seismic damageability by probabilistic demand models and confidence ratios applied to NPP structures. *Transactions SMiRT 19*, (Structural Mechanics in Reactor Technology), August 12-17, 2007, Toronto (Canada), Div. M, Paper 1819 – M05/8 (8 pages on CD-ROM).
  82. Alexandru CĂRĂUŞU : Approximation and evaluation for some classes of functional equations met in population dynamics, *Buletinul Inst. Politehnic Iaşi*, Tomul **LIII (LVII)**, Fasc.1-2, 2007, Secţia Matematică, Mecanică teoretică, Fizică, 55-75
  83. Adrian VULPE & A. CĂRĂUŞU : Fuzzy logic models for seismic damage analysis and prediction. *14 WCEE (14<sup>th</sup> WORLD CONFERENCE ON EARTHQUAKE ENGINEERING)*, Beijing, October 12-17, 2008, Paper ID 09-02-0012, 8 pages.
- 

#### **CURSURI - MONOGRAFII**

1. **Alexandru CĂRĂUŞU : *LINEAR ALGEBRA - Theory & Applications*.**  
Editura MATRIX ROM, Bucureşti, 1999 (380 pag.) ISBN 973-685-049-8
  - 2.....**Alexandru CĂRĂUŞU : *VECTOR ALGEBRA, ANALYTIC AND DIFFERENTIAL GEOMETRY - Vol. I.***  
Editura PIM, Iaşi, 2003 (530 pag.) ISBN 973-8490-92-8, 973-8490-93-6
  - 3.....**Alexandru CĂRĂUŞU : *VECTOR ALGEBRA, ANALYTIC AND DIFFERENTIAL GEOMETRY - Vol. II : A PROBLEM BOOK***  
Editura PIM, Iaşi, 2005 (334 pag.) ISBN GEN: 973-8490-92-8  
... ISBN 10: 973-716-291-9, ISBN 13: 978-973-716-291-5
-