

# Gheorghe Stefanescu

## CURRICULUM VITAE

### 1 Affiliation, contact information

Professor Gheorghe Stefanescu  
Department of Computer Science  
Faculty of Mathematics and Computer Science  
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### 2 University Education

- 1989-1991:  
Ph.D. Studies in Computer Science and Mathematics  
University of Bucharest, Romania  
Degree: *Ph.D. in Mathematics, Computer Science Speciality* (1991)  
Ph.D. Thesis: *Determinism and Nondeterminism in Program Scheme Theory; Algebraic Aspects*  
Supervisor: Professor Dr. Sergiu Rudeanu
- 1979-1980:  
Graduate Studies in Computer Science  
University of Bucharest, Romania  
Degree: *M.Sc. in Computer Science* (1980)  
M.Sc. Thesis: *Algebraic Trees*  
Supervisor: Lect.Dr. Virgil-Emil Cazanescu
- 1975-1979:  
Undergraduate Studies in Computer Science and Mathematics  
University of Bucharest, Romania  
Degree: *B.Sc. in Computer Science* with **DIPLOMA OF MERIT** (1979)

## 3 Positions Held

### 3.1 Permanent Positions

- Professor, Faculty of Mathematics, University of Bucharest, Bucharest, Romania (2000-present)
- Associate Professor, Faculty of Mathematics, University of Bucharest, Bucharest, Romania (1995-2000)
- Principal Research Scientist, Institute of Mathematics of the Romanian Academy, Bucharest, Romania (1990-1995)
- Junior Research Scientist, Department of Mathematics, The National Institute for Scientific and Technical Creation (INCREST), Bucharest, Romania (1982-1990)
- Programmer, Department of Mathematics, INCREST, Bucharest, Romania (1980-1982)

### 3.2 Visiting Positions

- Visiting Researcher, University of Illinois at Urbana-Champaign (June-August 2015)
- Visiting Researcher, University of Illinois at Urbana-Champaign (June-August 2013)
- Research Associate, University of Illinois at Urbana-Champaign (February 2008 to February 2009)
- Senior Fellow, National University of Singapore (August 2001 to August 2004)
- Visiting Researcher, Technical University Munich, Germany (July 2001)
- Visiting Researcher, Technical University Munich, Germany (July-August 1999)
- Visiting Researcher, Technical University Munich, Germany (February-March 1999)
- Visiting Professor, Graduate School for Logic in Computer Science, Technical University and Ludwig Maximilian University Munich, Germany (December 1997 to February 1998)
- Visiting Professor, Department of Informatics, Kyushu University, Fukuoka, Japan (October-December 1997)
- Visiting Researcher, Faculty of Mathematics and Informatics, University of Augsburg, Germany (August 1997)
- Visiting Researcher, Institute of Informatics, Technical University, Munich, Germany (July 1997)
- Visiting Researcher, Programming Research Group, Faculty of Mathematics and Computer Science, University of Amsterdam, The Netherlands (September-October 1995)
- Visiting Researcher, Department of Philosophy, Utrecht University, The Netherlands (September-October 1994)
- Visiting Researcher, Institute of Informatics, Technical University Munich, Germany (June-August 1994)
- Visiting Researcher, Programming Research Group, Faculty of Mathematics and Computer Science, University of Amsterdam, The Netherlands (January-February 1994)

### 3.3 Other Positions

- PhD Supervisor, from 2001
- Director, Department of Computer Science, University of Bucharest, from 2009 to present
- Director, Doctoral School on Computer Science, University of Bucharest, from 2007 to 2012
- Director, Master program on “Software Engineering” University of Bucharest, from 2008 to present
- Co-Director, Master program on “Distributed Systems and Security” University of Bucharest, from 2006 to present
- Deputy Dean, Faculty of Mathematics and Computer Science, University of Bucharest, 2008
- Director, CLIB - Center for Logics and Informatics, Bucharest, form 2001 to 2006 (Centru de Excelenta CNCSIS 2001-2006 , Matematica si Stiintele Naturii <http://www.cnscis.ro/centre/cenexc.html>)
- Member of the Professorial Council, Faculty of Mathematics, University of Bucharest, Romania, from January 1996 on.
- Chief of the Computer Science Section, Institute of Mathematics of the Romanian Academy, Bucharest, Romania, from March 1990 to February 1992

## 4 Domain of Interests

algebraic theory of networks — interactive systems — models of concurrency: process algebra, Petri nets, dataflow networks — distributed, parallel and hybrid systems — programming languages; theory of programming, semantics — object oriented programming, UML-modelling, software engineering — algebraic and categorical logic — applications of category theory and logic to computing

### 4.1 Research Grants

- EU FP7 Deploy, 2010-2012, Coordinator, University of Bucharest Team
- NASA contract NNL08AA23C on Monitoring IVLH Systems - 2008-2011, University of Illinois at Urbana-Champaign: Research Associate, from February 2008 to February 2009
- COST Action IC0701, 2008-2012 Formal Verification of Object-Oriented Software - MC, Coordinator Romanian team
- BioMat - 2007-2009 (ANCS, Nr. 2-CEX06-11-97): Noi abordari matematice in biologie. Membru in colectivul IMAR.
- GlobalComp - 2007-2010 (CNMP, PN-II, Progam 4 Parteneriate, 11052/18.09.2007): Director, colectiv Univ.Buc.
- PALIROM - 2007-2009 (CNMP, PN-II, Progam 5 Inovatii, 11054/25.09.2007): Membru in colectivul IMAR.

- LINCOR - 2007-2010 (CNMP, PN-II, Program 4 Parteneriate): Membru in colectivul IMAR.
- CEEEX-M1-C2-2380, 2007-2009: Noi abordari matematice in biologie, cu aplicatii (membru in echipa IMAR)
- NATO Collaborative Research Grant on *Dynamic Dataflow Networks*, 1998-1999. Collaboration between University of Bucharest and Technical University Munich. (Co-chief of the Project)
- Grant from GKLI (Graduate School for Logic in Computer Science), Technical University and Ludwig Maximilian University Munich, Germany, 1997.
- Grant from the Japanese Government, 1997. (For a special Visiting Professor position at Kyushu University)
- European Community ESPRIT Basic Research Action 8533, project NADA, 1997. (Invited Advisory Expert)
- Romanian Ministry of Research and Technology Grant, for the project 2096-B9/1996 *Formal Methods in the Study of Distributed Computing. FEST Language*, from 1996 on. (Chief of the Project)
- German Academy DAAD Grant, 1994, for the project *Stream Semantics for Distributed Computing*. (Personal Grant)
- University of Amsterdam Grant, 1994, for the project *Formal Methods*. (Partner)
- European Community Human Capital and Mobility Cooperation Network ERBCHRXCT930406 Grant, project EXPRESS, *Expressivity in Concurrent Languages*, 1994. (External Collaborator)
- European Community ESPRIT Basic Research Action 8533, project NADA (1994, 1997). (External Collaborator)
- European Community ESPRIT Basic Research Action 6454, project CONFER (1994). (External Collaborator)

## 5 Teaching

- University of Bucharest, Bucharest, Romania.
  - *Undergraduate Courses*: Algebraic Fundamentals of Computer Science — Calculability — Computer Architecture — Formal Languages and Automata Theory — Interactive Systems — Introduction to Programming — Logic and Computability — Methods for Software Development — Models of Parallel Computation — Object-oriented programming; Java language — Parallel Computation and Concurrency — Program Verification
  - *Graduate Courses*: — Algebraic Theory of Flowcharts — Formal Methods in Software Development — Interactive Programming — Parallel and Concurrent Programming — Petri Nets and Dataflow Networks — Process Algebra — Verification of Programs and Computing Systems
- 2001-2004: Department of Computer Science, National University of Singapore

– *Undergraduate Courses:*

CS3234: Logic and Formal Systems

CS3211: Parallel and Concurrent Programming

- A tutorial introduction to *Network Algebra*, presented as a satellite event to the 6th RelMiCS Conference, The Netherlands, October 2001.
- A short course on *Algebra of Networks*, Marktoberdorf Summer School on “Proof and System Reliability”, July 25 - August 5, 2001 Marktoberdorf, Germany.
- Graduate Course on *Special Topics in Network Algebra*, Dec.1997–Feb.1998, GKLI, (Graduate School for Logic in Computer Science), Technical University and Ludwig Maximilian University Munich, Germany.
- Graduate Course on *Network Algebra*, Fall, 1997. Department of Informatics, Kyushu University, Fukuoka, Japan

## 5.1 Proceedings Editor

Journal Editor:

- Journal Universal Computer Science
- Carpathian Journal Mathematics (20xx-20yy)
- Annals of University of Bucharest, Mathematics-Informatics Series

Proceedings Editor:

- *Journal Logic and Algebraic Programming*: Special Issue on *Streams and Algebra* (Volume 78, 2009) (co-chief)
- *Romanian Journal of Information Science and Technology*: Special Issue on *Language-Theoretic Models of Distributed Computing - A Collection of Papers in Honour of the 50th Birthday of Victor Mitran* (Volume 12, no. 2, 2009) (co-chief)
- *Journal Universal Computer Science*: Special Issue on *Combinatorics and Related Areas - An Workshop in Honour of the 65th Birthday of Ioan Tomescu* (Volume 13, Issue 11, 2007) (co-chief)
- *Journal Universal Computer Science*: *Special issue dedicated to Professor Sergiu Rudeanu Festschrift* (Volume 6, January, 2000) (co-chief)
- *Electronic Notes in Theoretical Computer Science*: Special Issue dedicated to the *Proceedings of FCT'99 Workshop on Distributed Systems* (Volume 28, 2000)

## 6 Professional Societies

- *European Association for Theoretical Computer Science*, from 1990 to 2005.
- *European Association for Computer Science Logic*, from 1994 to 2000.
- *American Mathematical Society*, from 1994 to present.

## 7 Publications

### 7.1 Monographs

1. G. Stefanescu. *Network Algebra*, Springer-Verlag, London Berlin Heidelberg New York Paris Tokyo Hong Kong Barcelona Budapest, 2000, XVI+400pp. ISBN: 1-85233-195-X
2. G. Stefanescu. *Algebra of flownomials*, Institute for Informatics, Technical University Munich, 1994, 158pp.

### 7.2 Full Papers in Refereed Journals

1. I.T. Banu-Demergian and G. Stefanescu. On contour representation of two dimensional patterns. *Carpathian Journal Mathematics* To appear (2016)
2. I.T. Banu-Demergian and G. Stefanescu: Towards a Formal Representation of Interactive Systems. *Fundamenta Informaticae* 131(3-4):313–336 (2014)
3. C. Chira, T.F. Serbanuta, and G. Stefanescu. P systems with control nuclei: The concept. *Journal Logic and Algebraic Programming* 79(6):326–333 (2010)
4. A. Sofronia, A. Popa, and G. Stefanescu: Undecidability Results for Finite Interactive Systems. *Romanian Journal of Information Science and Technology*, 12;265-279 (2009)
5. C. Dragoi, G. Stefanescu: AGAPIA v0.1: A Programming Language for Interactive Systems and Its Typing System. *Electronic Notes in Theoretical Computer Science* 203(3):69–94 (2008)
6. A. Popa, A. Sofronia, and G. Stefanescu: High-level Structured Interactive Programs with Registers and Voices. *Journal Universal Computer Science* 13(11):1722–1754 (2007)
7. G. Stefanescu. Interactive Systems with Registers and Voices. *Fundamenta Informaticae* 73(1-2):285–305 (2006)
8. G. Ciobanu, G. Paun, and G. Stefanescu: P Transducers. *New Generation Computing* 24(1):1–28 (2006)
9. C. Dragoi and G. Stefanescu. Implementation and verication of ring termination detection protocols using structured rv-programs. *Annals of University of Bucharest, Mathematics-Informatics Series*, 55:129-138 (2006)
10. M. Broy and G. Stefanescu. The algebra of stream processing functions. *Theoretical Computer Science*, 258:99–129 (2001)
11. R. Grosu, D. Lucanu, and G. Stefanescu. Mixed relations as enriched semiringal categories, *Journal of Universal Computer Science*, 6:112–129 (2000)
12. J.A. Bergstra and G. Stefanescu. Network algebra with demonic relation operators. *Revue Roumaine de Mathematiques Pures et Applique*, 43:503–520 (1998)
13. G. Stefanescu. Reaction and control I. Mixing additive and multiplicative network algebras. *Logic Journal of the IGPL*, 6:349–368 (1998)

14. G. Stefanescu. Some examples of semiringal categories. *Annals of the Bucharest University, Mathematics-Informatics Series*, **47**(1998), 103–108.
15. J.A. Bergstra, C.A. Middelburg, and G. Stefanescu. Network algebra for synchronous and asynchronous dataflow. *International Journal of Computer Mathematics*, **65**(1-2)(1997), 57–88.
16. J.A. Bergstra and G. Stefanescu. Processes with multiple entries and exits modulo isomorphism and modulo bisimulation. *Fundamenta Informaticae*, **27**(1996), 37-56.
17. S.L. Bloom, Z. Esik, and G. Stefanescu. Notes on equational theories of relations. *Algebra Universalis*, **33**(1995), 98–126.
18. J.A. Bergstra and G. Stefanescu. Bisimulation is two-way simulation. *Information Processing Letters*, **52**(1994), 285–287.
19. V.E. Cazanescu and G. Stefanescu. Classes of finite relations as initial abstract data types - II. *Discrete Mathematics*, **126**(1994), 47–65.
20. V.E. Cazanescu and G. Stefanescu. A general result on abstract flowchart schemes with applications to the study of accessibility, reduction and minimization. *Theoretical Computer Science*, **99**(1992), 1–63. (Fundamental Study)
21. A. Baranga, V.E. Cazanescu and G. Stefanescu. Flow algebras. *Analele Universitatii Bucuresti, Matematica-Informatica*, **41**(2)(1992), 21–34.
22. V.E. Cazanescu and G. Stefanescu. Classes of finite relations as initial abstract data types - I. *Discrete Mathematics*, **90**(1991), 233–265.
23. G. Stefanescu. Feedback theories (a calculus for isomorphism classes of flowchart schemes). *Revue Roumaine de Mathematiques Pures et Applique*, **35**(1990), 73-79.
24. V.E. Cazanescu and G. Stefanescu. Towards a new algebraic foundation of flowchart scheme theory. *Fundamenta Informaticae*, **13**(1990), 171–210.
25. V.E. Cazanescu and G. Stefanescu. A note on axiomatizing flowchart schemes. *Acta Cybernetica*, **9**(1990), 349–359.
26. V.E. Cazanescu and G. Stefanescu. A formal representation of flowchart schemes - II. *Studii si Cercetari Matematice (Mathematical Reports)*, **41**(1989), 151–167.
27. V.E. Cazanescu and G. Stefanescu. A formal representation of flowchart schemes. *Analele Universitatii Bucuresti, Matematica-Informatica*, **37**(2)(1988), 33–51.
28. G. Stefanescu. On flowchart theories. Part I. The deterministic case. *Journal of Computer and Systems Sciences*, **35**(1987), 163–191.
29. G. Stefanescu. On flowchart theories. Part II. The nondeterministic case. *Theoretical Computer Science*, **52**(1987), 307–340.
30. V.E. Cazanescu and G. Stefanescu. Some properties of pointed algebraic theories. *Studii si Cercetari Matematice (Mathematical Reports)*, **39**(1987), 107–115. (in Romanian)
31. V.E. Cazanescu and G. Stefanescu. On the category of ordered algebras. *Studii si Cercetari Matematice (Mathematical Reports)*, **34**(1982), 235–252. (in Romanian).

32. G. Stefanescu. Characterisation of effective universal monomorphisms in the categories of universal algebras and algebraic systems. *Studii si Cercetari Matematice (Mathematical Reports)*, **34**(1982), 490–497. (in Romanian)

### 7.3 Full Papers in Refereed Proceedings or Collections

1. G. Stefanescu: Self-assembling interactive modules: A research programme. To appear in: Luigia Petre and Emil Sekerinski (editors), *From Action Systems to Distributed Systems: The Refinement Approach*, CRC Press, Taylor & Francis Group, 2016. Also available as ArXiv eprint arXiv:1506.05499 (<http://arxiv.org/abs/1506.05499>)
2. A. Popa, I.T. Banu-Demergian, C. Chira, F.M. Boian, and G. Stefanescu: A Unifying Framework for Interactive Programming and Applications to Communicating Peer-to-peer Systems. *EGC 2015*. Communications in Computer and Information Science 514, Springer 2015.
3. D. Diaconescu, L. Petre, K. Sere, and G. Stefanescu: Refinement of Structured Interactive Systems. *ICTAC 2014*: 133-150
4. I.T. Banu-Demergian, C. Paduraru, G. Stefanescu: A New Representation of Two-Dimensional Patterns and Applications to Interactive Programming. *FSEN 2013*: 183-198
5. D. Diaconescu, I. Leustean, L. Petre, K. Sere, and G. Stefanescu: Refinement-Preserving Translation from Event-B to Register-Voice Interactive Systems. *IFM 2012*: 221-236
6. G. Stefanescu, T. Serbanuta, C. Chira, and G. Rosu: P-system with control nuclei. In *Proceedings of 10-th WMC*, 2009, pg. 561-565.
7. T. Serbanuta, G. Stefanescu, and G. Rosu: Defining and Executing P Systems with Structured Data in K. *Workshop on Membrane Computing 2008*, LNCS 5391 Springer 2009: 374-393.
8. G. Stefanescu and C. Chira, "New parallel programming language design: a bridge between brain models and multi-core/many-core computers?". In *From Natural Language to Soft Computing: New Paradigms in Artificial Intelligence*, L.A. Zadeh et.al (Eds.), Editing House of the Romanian Academy, 2008, pg. 196-210.
9. S. Ghoshal, S. Manimaran, G. Rosu, T.F. Serbanuta, and G. Stefanescu: Monitoring IVHM Systems using a Monitor-Oriented Programming Framework. *The Sixth NASA Langley Formal Methods Workshop*, NASA/CP-2008-215309, 2008: 17-19
10. A. Sofronia, A. Popa, and G. Stefanescu: Undecidability Results for Finite Interactive Systems. In: *Proc. 10th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing - SYNASC 2008*, IEEE, 2008, pp. 366-369
11. C. Dragoi and G. Stefanescu: A sound spatio-temporal Hoare logic for the verification of structured interactive programs with registers and voices. In: *WADT'08*. Also in: CoRR abs/0810.3332: (2008).
12. C. Dragoi and G. Stefanescu: On Compiling Structured Interactive Programs with Registers and Voices. *SOFSEM 2008*, LNCS 4910, Springer, 2008: 259-270.
13. G. Stefanescu: Towards a Floyd logic for interactive rv-systems. In *Proc. 2nd IEEE Conference on Intelligent Computer Communication and Processing (Ed. A.I. Letia)*. Technical University of Cluj-Napoca, September 1-2, 2006, 169-178.



14. G. Stefanescu. Algebra of networks: modeling simple networks as well as complex interactive systems. In: H. Schwichtenberg, R. Steinbrügen (eds.) : *Proof and System-Reliability. NATO Science Series III, Proc. International Summer School Marktoberdorf, July 24 to August 5, 2001*. Amsterdam : Kluwer Academic Publishers 2002, 49-78.
15. G. Stefanescu: Interactive Systems: From Folklore to Mathematics. *RelMiCS 2001*: 197-211
16. R. Grosu, M. Broy, B. Selic, and G. Stefanescu. Towards a calculus for UML-RT specifications. In: *Proc. OOSLA '98*, Kluwer Academic Publishers, 1999.
17. G. Stefanescu. Remarks on mixalgebras. In: *Proc. 4th International Symposium on Economic Informatics*, Bucharest, May 1999, 1045–1053. INFOREC Printing House, Bucharest, 1999.
18. R. Grosu, G. Stefanescu, and M. Broy. Visual formalism revised. In: Proceedings, *International Conference on Application of Concurrency to System Design (CSD' 98)*, March 23-26, 1998, Aizu-Wakamatsu, Japan. IEEE Computer Society Press, 1998, pp. 41-51.
19. G. Stefanescu. On space-time duality in computing; imperative programming versus wave computation, In: *Abstracts, 4th Relational Methods in Computer Science Seminar*, Stefan Banach Mathematical Centre, Warsaw, 1998, pp. 197-202.
20. G. Stefanescu and Y. Kawahara. Distributive categories and mixed network algebras. In: *Proc. Joint Conference on Discrete Mathematics and Applied Mathematics*, Seta, Japan, 18-20 December, 1997, pp. 29-34.
21. G. Stefanescu. Axiomatizing mixed relations. In: *Proc. 3rd Relational Methods in Computer Science Seminar*, Hamammet, 1997. University of Science, Technology, and Medicine of Tunis, 1997, pp. 177-187.
22. G. Stefanescu. A short tour on FEST. In: *Proc. Current Trends in Cybernetics and Philosophy of Science, Oradea, 1996*. Europa Nova, Bucharest, 1997, pp. 327-332.
23. J.A. Bergstra and G. Stefanescu. Processes with multiple entries and exits. In: *Proceedings of the 10th International Conference on Fundamentals of Computation Theory FCT'95* held at Dresden, Germany, 1995. Ed. Reichel, H., Lecture Notes in Computer Science, **965**. Springer-Verlag, Berlin, 1995, 136–145.
24. V.E. Cazanescu and G. Stefanescu. Feedback, iteration and repetition. In: *Mathematical aspects of natural and formal languages*, Ed. G. Paun. World Scientific, 1995, 43–62.
25. L. Barnatsky, S.L. Bloom, Z. Esik, and G. Stefanescu. Equational theories of relations and regular sets. In: *Proceedings of the 2nd Conference on "Words, Languages and Combinatorics" held at Kyoto, Japan, 1992*, Eds. M. Ito and H. Jürgensen. World Scientific, 1994, 40–48.
26. J.C.M. Baeten, J.A. Bergstra and G. Stefanescu. Process algebra with feedback. In: *Modal Logic and Process Algebra*, Proceedings of the Workshop "Three Days of Bisimulation" held at Amsterdam, The Netherlands, 1994. Eds., A. Ponse, M. de Rijke, and Y. Venema. CSLI Lecture Notes No. 53, Stanford, 1995, 13-37.
27. J.A. Bergstra and G. Stefanescu. Translations between flowchart schemes and process graphs. In: *Proceedings of the 9th International Conference on Fundamentals of Computation Theory* held at Szeged, Hungary, 1993, Ed. Z. Esik. Lecture Notes in Computer Science, **710**. Springer-Verlag, Berlin, 1993, pp. 152–161.

28. V.E. Cazanescu and G. Stefanescu (1993). Coping with the complexity of program schemes by algebraic tools. In: *How to cope with complexity*, Ed. C. Calude. Publishing House of the Romanian Academy, Bucharest, 1993, 52–132. (in Romanian).
29. G. Stefanescu. Flowgraphs, flownomials, behaviours. In: *Proceedings of the 9th Romanian Symposium on Computer Science* held at Iasi, Romania, November 12-13, 1993, Eds. V. Felea and G. Ciobanu. Al.I. Cuza University Press, Iasi, Romania, 1993, pp. 477-489.
30. V.E. Cazanescu and G. Stefanescu. Towards a new algebraic foundation of program scheme theory. In: *Actual problems of mathematical research I*. Bucharest Univ. Press, Bucharest, 1990, pp. 203–224. (in Romanian)
31. V.E. Cazanescu and G. Stefanescu. Feedback, iteration and repetition. In: *Proceedings of the 7th Colloquium on Computer Science held at Iassy, Romania, 1989*. Al.I. Cuza University Press, Iassy, 1989, pp. 60–69.
32. V.E. Cazanescu and G. Stefanescu. An axiom system for biflow using summation, (extended) feedbackation and identities. In: *Proceedings of the 7th Colloquium on Computer Science held at Iasi, Romania, 1989*. Al.I. Cuza University Press, Iasi, Romania, 1989, pp. 70–79.
33. V.E. Cazanescu and G. Stefanescu (1988). On some symmetric strict monoidal categories. In: *Summaries of the 3th East European Category Seminar held at Predela, Bulgaria, 1988*. Heigher Institute for Electrical Engineering Press, Sofia, 1988, pp. 11–12.
34. V.E. Cazanescu and G. Stefanescu. A calculus for flowchart schemes. In: *Abstracts of the 8th International Cogress of Logic, Methodology and Philosophy of Science* held at Moskow, USSR, 1987, Volume 1. Nauka, Moskow, 1987, 124–127.
35. V.E. Cazanescu and G. Stefanescu. Finite relations as initial abstract data types. In: *Proceedings of the 6th Colloquium on Computer Science* held at Iassy, Romania, 1987. Al.I. Cuza University Press, Iassy, 1987, 153–163. (in Romanian)
36. V.E. Cazanescu and G. Stefanescu. Towards a new algebraic foundation of flowchart scheme theory. In: *Proceedings of the 6th Colloquium on Computer Science* held at Iassy, Romania, 1987. Al.I. Cuza University Press, Iassy, 1987, 164–174. (in Romanian)
37. V.E. Cazanescu and G. Stefanescu. A calculus for program schemes. In: *Proceedings of the Scientific Symposium on the Celebration of 25 Anniversary of Computer Center* held at Bucharest, Romania, 1987. Bucharest Univ. Press, Bucharest, 1987, 36–41. (in Romanian)
38. G. Stefanescu. An algebraic theory of flowchart schemes. In: *Proceedings 11th Colloquium on Trees in Algebra and Programming* held at Nice, France, 1986. Ed. P. Franchi-Zannettacci, Lecture Notes in Computer Science **214**. Springer-Verlag, Berlin, 1986, 60–73.
39. G. Stefanescu. The theory of rational  $\Sigma$ -trees. In: *Proceedings of the 5th Colloquium on Computer Science* held at Iasi, Romania, 1985. Al.I. Cuza University Press, Iasi, Romania, 1985. (in Romanian)
40. G. Stefanescu. Hierarchical recognition. In: *Proceedings of the 3th Colloquium on Computer Science held at Iassy, Romania, 1981*. Al.I. Cuza University Press, Iassy, 1981, 240–250. (in Romanian)