Curriculum Vitae

Rodica CETERCHI

Associate Professor
Department of Computer Science
Faculty of Mathematics and Computer Science
 University of Bucharest, Romania
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Personal data:

Born December 2nd, 1953, in Cluj-Napoca, Romania
Children: Alexandra and Radu, Grandchildren: Anne-Sophie and Amelie

Education:

Ph.D. in Mathematics, 1989-1991, University of Bucharest, Faculty of Mathematics
        Thesis title: "Topology, Categories, Learning"
        Advisor: Acad. Prof. Dr. Doc. Solomon Marcus
M.S. in Mathematics, 1976-1977, University of Bucharest, Faculty of Mathematics
        Thesis title: "The Prediction of Second-Order Stochastic Processes"
        Advisor: Prof. Dr. Doc. Silviu Guiaşu
B.S. in Mathematics, 1972-1976, University of Bucharest, Faculty of Mathematics
        Thesis title: "The Samuel Stratification of the Discriminant is Whitney Regular"
        Advisor: Prof. Dr. Dan Burghelea
Baccalaureate Diploma, 1972, "I.L. Caragiale" Highschool, Bucharest

Positions:

2002-present, Associate Professor, Faculty of Mathematics and Computer Science, University of Bucharest, CS Dept.
1994-2002, Senior Lecturer, Faculty of Mathematics and Computer Science, University of Bucharest, Fundamentals of CS Dept.
1992-1994, Teaching Assistant, Faculty of Mathematics and Computer Science, University of Bucharest, CS Dept., next Fundamentals of CS Dept.
1987-1992 programmer, Computing Center, University of Bucharest
1981-1987 researcher, System Studies Division, University of Bucharest
1977-1981 analyst-programmer, Computing Center, IPGGH (Institute for Geological and Geophysical Prospecting) Bucharest
1977 (September 1 - October 10) analyst-programmer, CINOR, Bucharest
1991-1995 Associate Professor of CS, Faculty of Law, Atheneum University, Bucharest

Visiting positions:

2002 May – 2003 October: visiting researcher at GRLMC, University Rovira i Virgili, Tarragona, Spain, Sabbatical grant SAB-2000-0145, Spanish Ministry for Education, Culture and Sport
1997 April-May: University of Bordeaux I, I.U.T. A, France, TEMPUS individual mobility grant.
1993 September: invited Associate Professor, University of Nice, Sophia-Antipolis, ISSS, France.
1992 July-August: Visiting Professor, Sheffield City Polytechnik, UK

Academic Teaching:

Undergraduate:

Data Structures and Algorithms; Programming Graphical Interfaces (Windows Applications); Programming; Algebra.

Graduate:

Category Theory, with Applications to Computer Science; Algebraic Models in Sintax, Semantics, and Parallelism; MV Algebras.
Contextual Grammars, course module in The 1st International PhD School "Formal Languages and Applications", University Rovira I Virgili, Tarragona, Spain, 2002.
Data Structures: Advanced Topics. Programming Efficient Algorithms.

Research areas (former and recent):

Topology, Universal Algebra, MV Algebras, Wajsberg algebras, Pseudo-Hoops, Applications to Logic and Many-Valued Logics
Algebra and Category Theory, their Applications to Computer Science, Algebraic Models for the Semantics of Programs.
Formal Languages, Contextual Languages and Grammars, 2D-languages.
Unconventional Models of Computation, Natural Computing, Membrane Computing, Splicing.

Awards:

The "Grigore C. Moisil" award of the Romanian Academy 2003 (awarded in 2006).

Participation to national and international contracts:

As a member of the System Studies Division of the University of Bucharest I was involved in the following research contracts: with the University of United Nations (UNU):
"Goals, Processes and Indicators of Development" (GPID) 1979-1982 (15.000 USD/year)
"People Development Problematique" (PDP) 1984
"Economic Aspects of Human Development" (EAHD) 1986-1987
With the Ministry of Education (MEI), Romania:
 "Abordarea matematica a problemelor dezvoltarii"; 1982 – 1985;
 "Metode matematice in teoria sistemelor cu aplicatii in problemele dezvoltarii": 1986 – 1990.

Publications:

Papers in peer-reviewed journals:

1. R. Ceterchi, M. Maliţa A topological approach to learning processes,
Foundations of Control Engineering vol. 2, no. 3 (1977)

2. A. Dimca, Rodica Rosian (Ceterchi)
The Samuel Stratification of the Discriminant is Whitney Regular,
Geometriae Dedicata 17, p. 181-184 (1984),

3. R. Ceterchi,
Change, Entropy, Information and Communication,
Rev. Roum. De Linguistique, vol. XXXII (1987), CLTA vol. 24 (1987), no.1, p. 17-36

4. R. Ceterchi,
Temporality, Development and Human Communication,
Rev. Roum. De Linguistique, vol. XXIII (1988), CLTA vol. 25 (1988), no. 2, p. 117-136

5. R. Ceterchi,
Cauchy Structures and the Kérékjarto-Stoilow Compactification,
Demonstratio Matematica, Vol. XXI, No. 3 (1988), p. 685-695

6. R. Ceterchi,
A Localization Theorem for Topological Categories,
Stud. Cerc. Mat., vol. 42 (1990)1, p. 3-8

7. V.E.Căzănescu, R.Ceterchi
Initial and final congruences, Acta Cybernet. 10,3(1992), 199-215

8. R.Ceterchi
On Canonical Fixed Points,
Annals of the Bucharest University, Mathematics-Informatics Series, Vol. 41, No. 2, 1992, p. 55-60

9. R.Ceterchi
Characterizing Contextual Languages with Fixed-Point Equations,
Annals of the Bucharest University, Mathematics-Informatics Series, Vol. 47, 1998, p. 41-49

10. R.Ceterchi
Pseudo-Wajsberg Algebras,
Multi. Val. Logic, Numbers 1-2, 2001, Vol. 6, p. 67-88

11. R. Ceterchi
The Lattice Structure of Pseudo-Wajsberg Algebras,
J.UCS vol. 6, nr. 1, January 28, 2000, p. 22-38

12. R.Ceterchi
Weak Pseudo-Wajsberg and Weak Pseudo-MV Algebras,
Soft Computing, Vol. 5 (2001) Issue 5, p. 334-346

13. R. Ceterchi, K. G. Subramanian
Simple Circular H Systems,
Romanian Journal of Information Science and Technology, Vol. 6, Numbers 1-2 (2003), p. 121-134

14. R. Ceterchi, M. Mutyam, G. Păun, K.G. Subramanian
Array-Rewriting P Systems,
Natural Computing 2 (2003), p. 229-249

15. R. Ceterchi, R. Gramatovici, N. Jonoska, K.G. Subramanian
Tissue-like P Systems with Active Membranes for Picture Generation,
Fundamenta Informaticae 56 (2003), 311-328

16. R. Ceterchi, R. Gramatovici
On Total Contextual Grammars with Restricted Choice,
Fundamenta Informaticae, 64, 1-4(2005), 79-91

17. Rodica Ceterchi, M. J. Pérez-Jiménez
On Simulating a Class of Parallel Architectures
International Journal of Foundations of Computer Science,
Volume 17, Number 1, February 2006, p.91-110

18. Rodica Ceterchi
An Algebraic Characterization of Semi-Simple Splicing
Fundamenta Informaticae 73 (1-2) (2006), p. 19-25

19. I. Ardelean, R. Ceterchi, A. I. Tomescu
Sorting with P Systems: A Biological Perspective
Romanian Journal of Information Science and Technology 11(3), 243{252, 2008.

20. R. Ceterchi, A. I. Tomescu
Implementing Sorting Networks with Spiking Neural P Systems,
Fundamenta Informaticae, Vol. 87, Nr.1, 2008, p. 35-48

21. R.Ceterchi, R.Gramatovici, Rosihan M. Ali, K.G.Subramanian
An Extension of External Contextual Array Grammars
Annals of Bucharest University, Informatics Series Volume LVIII, 2009, 65-75.

22. R.Ceterchi
The Decomposition of Linearly Ordered Pseudo-Hoops
Soft Computing 2016 (appeared online http://rdcu.be/jRcs)

23. M. Gheorghe, R. Ceterchi, F. Ipate, S. Konur, R. Lefticaru
Kernel P Systems: From Modelling to Verification and Testing
Theoretical Computer Science (accepted for publication)

24. S. N. Krishna, M. Gheorghe, F. Ipate, E. Csuhaj-Varju, R. Ceterchi,
Further Results on Generalised Communicating P Systems
Theoretical Computer Science (submitted to TCS)

Papers in conferences:

1. R. Ceterchi, M. Maliţa
    A Semiotic Approach to Knowledge Processing Systems,
    Proc. of the Seventh International Congress of Cybernetics and Systems, London, September 1987,
    ed. J. Rose, Thales Publications, Lytham, St. Annes, England, vol. 2, p. 941-944

2. R. Ceterchi
    Categories in the Study of Communication Processes and Meaning Generation,
    in "Signs of Humanity" / "L'Homme et ses Signes" Proceedings of the Fourth International Congress
    / Actes du Quatrieme Congres Mondial, International Association for Semiotic Studies / Association
    Internationale du Semiotique, Barcelone - Perpignan 1989, 03-03/06-04, edited by Michel Balad et
    Janice Delledale-Rhodes, general editor Gérard Delledale,
    Mouton DeGruyter, Berlin, New York, 1993, p.181-186

3. R. Ceterchi
    Marcus Contextual Languages and their Cut-and-Paste Properties,
    in "Rough Sets and Current Trends in Computing" (L. Polkowski, A. Skowron eds.)
    RSCTC '98 Proceedings, Springer Lecture Notes in Computer Science 1424, 1998, p. 99-106

4. R. Ceterchi
    Selection Mechanisms Between Strings and Contexts: an Equational Approach,
    MFCS '98 Workshop "Mathematical Linguistics" Proceedings, Brno, July 1998, p. 23-44.

5. R. Ceterchi
    A Hierarchy of Conceptual Complexity,
    The 7th International Congress of the International Association for Semiotic Studies (IASS),
    Technical University Dresden, 1999, October 6-11

6. R.Ceterchi
    Cut-and-Paste Languages,
    Workshop on Formal languages and Automata (WFLA), 12-th International Symposium on Fundamentals of
    Computation Theory - FCT'99 Iasi, Romania, August 30 - September 3, 1999,
    Grammars, vol.2, nr. 3, 1999, p. 179-188

7. R. Ceterchi
    On Algebras With Implications, Categorically Equivalent to Pseudo-MV Algebras,
    in "Information Technology", Proceedings of the 4th International Symposium on Economic
    Informatics, May 1999, INFOREC Printing House, Bucharest, Romania, 1999, p. 912-917

8. R. Ceterchi
    Weak Pseudo-Wajsberg Algebras,
    The Fifth International Conference FSTA 2000 On Fuzzy Sets Theory And Its Applications,
    editors F. Chovanec and E. Rybarikova, p. 60-62

9. R. Ceterchi, Carlos Martin-Vide
    Dynamic P Systems,
    in "Membrane Computing", International Workshop, WMC-CdeA 2002, Curtea de Arges, Romania,
    August 2002, Revised Papers, (G. Păun, G. Rozenberg, A. Salomaa, C. Zandron eds.),
    LNCS 2597, Springer 2003, p. 146-186

10. G. Bel-Enguix, M. Cavalliere, R. Ceterchi, R. Gramatovici, C. Martin-Vide
    An Application of Dynamic P Systems: Generating Context-Free Languages,
    in "Membrane Computing", International Workshop, WMC-CdeA 2002, Curtea de Arges, Romania,
    August 2002, Revised Papers, (G. Păun, G. Rozenberg, A. Salomaa, C. Zandron eds.),
    LNCS 2597, Springer, 2003, p. 90-106

11. R. Ceterchi, R. Gramatovici, N. Jonoska
    Tiling Rectangular Pictures with P Systems
    in "Membrane Computing: International Workshop WMC 2003, Tarragona, Spain
    (Carlos Martin-Vide, Gh. Păun, Gr. Rozenberg, A. Salomaa Eds.)
    LNCS 2933, Springer Verlag, Berlin, 2004, p. 88-103

12. R. Ceterchi, D. Sburlan
    Simulating Boolean Circuits with P Systems
    in "Membrane Computing: International Workshop" WMC 2003, Tarragona, Spain
    (Carlos Martin-Vide, Gh. Păun, Gr. Rozenberg, A. Salomaa Eds.)
    LNCS 2933, Springer Verlag, Berlin, 2004, p. 104-122

13. R. Ceterchi, M. J. Pérez-Jiménez
    Simulating Shufle-Exchange Networks with P Systems,
    in Proceedings of the Second Brainstorming Week on Membrane Computing, February 2004
    (G. Păun, A. Riscos, F. Sancho and A. Romero Eds.), p. 117-129

14. R. Ceterchi, M. J. Pérez-Jiménez
    A Perfect Shufle Algorithm for Reduction Processes and its Simulation with P Systems,
    in Proceedings of ICCC 2004, Baile Felix Spa-Oradea, Ed. Univ. din Oradea, Romania,
    (I. Dzitac, T. Maghiar, C. Popescu Eds.) p. 92-97

15. R. Ceterchi, M. J. Pérez-Jiménez
    On Two-Dimensional Mesh Networks and Their Simulation with P Systems,
    in Membrane Computing, 5th International Workshop, WMC 2004, Milan, Italy,
    June 14-16, 2004, Revised Selected and Invited Papers,
    (G. Mauri, G. Păun, M. J. Pérez-Jiménez, G. Rozenberg, A. Salomaa Eds.)
    LNCS 3365, Springer 2005, ISBN 3-540-25080, p. 259-277

16. Rodica Ceterchi, M. J. Pérez-Jiménez
    Simulating a Class of Parallel Architectures: A Broader Perspective,
    in "Cellular Computing (Complexity Aspects)" ESF PESC Exploratory Workshop,
    Sevilla, Spain, January 31 - February 2, 2005,
    (M.A. Gutierrez-Naranjo et al, eds), Fenix Editora, Sevilla, 2005, p. 131-148.

17. Rodica Ceterchi
    Rewriting in P Systems: an Algebraic Approach
    in "Fourth Brainstorming Week on Membrane Computing", Sevilla, Spain,
    Jan. 30 - Febr. 3, 2006, Vol. I (M.A. Gutierrez-Naranjo et al, eds),
    Fenix Editora, Sevilla, 2006, p. 165-168.

18. F. J. Romero-Campero, M. Gheorghe, L. Bianco, D. Pescini, Mario J. Pérez-Jiménez, R. Ceterchi
    Towards Probabilistic Model Checking on P Systems Using PRISM
    in "Membrane Computing. 7th International Workshop, WMC2006, Leiden,
    The Netherlands, July 2006. Revised, Selected, and Invited Papers",
    LNCS 4361 (H.J. Hoogeboom, Gh. Păun, G. Rozenberg, A. Salomaa, eds.)
    Springer, 2006, pag. 477-495.

19. R. Ceterchi, M. J. Pérez-Jiménez, A. I. Tomescu,
    Simulating the Bitonic Sort Using P Systems
    in "Membrane Computing. 8th International Workshop, WMC2007, Thessaloniki,
    Greece, June 2007. Revised, Selected, and Invited Papers",
    LNCS 4860 (G. Eleftherakis et. al. eds.) Springer, 2007, pag. 172-192.

20. R. Ceterchi, M. J. Pérez-Jiménez, A. I. Tomescu
    Sorting Omega Networks Simulated with P Systems
    "International Workshop on Computing with Biomolecules", August 27 2008, Wien, Austria
    (E. Csuhaj-Varju et. al. eds), p.29-42

21. R. Ceterchi, A. I. Tomescu
Computing the Maximum Bisimulation with Spiking Neural P Systems
in "Computation, Cooperation and Life", (Josef Kelemen, Alica Kelemenova Eds.), LNCS 6610, Springer 2011, p.151-157

22. R. Ceterchi
The Decomposition of Linear Pseudo-Hoops
Logic, Algebra and Truth Degrees LATD 2012, 10-14 September 2012, Kanazawa, Japan

23. R. Ceterchi, M.A. Martínez-del-Amor, M.J. Pérez-Jiménez.
The reduction problem in CUDA and its simulation with P systems.
In L.F. Macías-Ramos, M.A. Martínez-del-Amor, Gh. Paun, A. Riscos-Núñez, L. Valencia-Cabrera
(eds.) Proceedings of the Twelfth Brainstorming Week on Membrane Computing, Seville, Spain, February 3-7, 2014, Report RGNC 01/2014, Fénix Editora, 2014, pp. 91-102.

24. R. Ceterchi, E. G. Omodeo, A. I. Tomescu
The representation of Boolean algebras in the spotlight of a proof checker
CILC 2014, Italian Conference on Computational Logic
Proceedings of the 29th Italian Conference on Computational Logic, Torino, Italy, June 16-18, 2014.

25. R. Ceterchi,
A categorical equivalence for a class of product pseudo-hoops,
Proceedings of the Workshop "Theory Day in Computer Science" (DACS 2014) (afiliat ICTAC 2014)
Analele Universitatii din Bucuresti, Informatica, Anul LXI-2014, 105-115

26. R. Ceterchi, K.G Subramanian, I. Venkat,
P Systems with Parallel Rewriting for Chain-code Picture Languages,
in Evolving Computability (A. Beckmann, V. Mitrana, M. Soskova Eds.), 11th Conference on Computability in Europe, CiE 2015, Bucharest, Romania, June 29-July 3, 2015, LNCS 9136, Springer, p. 145—155

27. R. Ceterchi, L. Pan, B. Song, K.G. Subramanian,
Matrix Flat Splicing Systems,
Bio-inspired Computing – Theories and Applications, 11th International Conference BIC-TA 2016
Xi'an, China, October 28–30, 2016, Revised Selected Papers, Part I
(Maoguo Gong, Linqiang Pan, Tao Song, Gexiang Zhang eds.) Springer, 2016, 54--63

28. M. Gheorghe, R. Ceterchi, F. Ipate, S. Konur,
Kernel P Systems Modelling, Testing and Verification – Sorting Case Study
CMC17, Milan, Italy, 2016 (to appear in Proceedings LNCS)

29. M. Gheorghe, R. Ceterchi, F. Ipate, S. Konur,
Kernel P Systems Modelling, Testing and Verification
14th BWMC 2016, (eds. Carmen Graciani, David Orellana-Martín, Agustín Riscos-Núñez, Álvaro Romero-Jiménez, Luis Valencia-Cabrera) ISBN: 978-84-946316-1-0, Sevilla. Fénix Editora 2016, 205-230

Books, book chapters, contributions to volumes:

1. R. Ceterchi
Data Structures and Algorithms: Mathematical Aspects and Applications
Part I Elementary Data Structures (in Romanian)
Edit. Univ. Bucuresti, 2001, (177 pag.) (ISBN 973-575-594-7)

2. R. Ceterchi
Marcus Contextual Grammars,
chapter 17 of "Formal Languages and Applications" (C, Martin-Vide, V. Mitrana, Gh. Păun Eds.),
(ISSN 1434-9922, ISBN 3-540-20907-7, 620 p.)
Vol. 148 Studies in Fuzziness and Soft Computing Series, Editor in Chief Janusz Kacprzyk,
Springer Verlag, Berlin, Heilderberg, New York, 2004, p. 335-366

3, R. Ceterchi, D. Sburlan
Membrane Computing and Computer Science
Chapter 22 in "The Oxford Handbook of Membrane Computing"
(G. Păun, G. Rozenberg, A. Salomaa eds.) , Oxford University Press 2010, p. 554-583

4. R. Ceterchi
The Naturality of the Semantics of Recursion,
in "Mathematical Linguistics and Related Topics" (Gh.Păun ed.), Ed. Acad. Rom. 1995, p.44-52

5. R. Ceterchi
Modeling DNA Recombinant Behavior with Fixed-Point Equations,
in "Computing with Bio-Molecules: Theory and Experiments" (Gh. Păun ed.),
Springer-Verlag, Singapore 1998, p. 340-352

6. R. Ceterchi
Some Algebraic Properties of Contexts and Their Applications to Contextual Languages,
in "Where Mathematics, Computer Science, Linguistics and Biology Meet" , C. Martin-Vide and V.
Mitrana editors, Kluwer Academic Publ., Dordrecht, London, Boston, 2001, p. 219-226

7. R. Ceterchi, C. Martin-Vide, K.G. Subramanian
On Some Classes of Splicing Languages,
in "Aspects of Molecular Computing: Essays in Honor of the 70th Birthday of Tom Head"
(N. Jonoska, Gh. Păun, Gr. Rozenberg Eds.),
LNCS 2950, Springer Verlag, Berlin, 2004, p. 84-105

8. R. Ceterchi, K.G. Subramanian,
Grammar Systems with Context-free Rewriting and Flat Splicing,
In: M. Gheorghe, I. Petre, M.J. Pérez-Jiménez, G. Rozenberg, A. Salomaa (eds.) "Multidisciplinary Creativity",
Hommage to Gheorghe Păun on His 65th Birthday, Editura Spandugino, 2015, p. 221—227

Editor:

Papers in Honor of Professor Solomon Marcus on the Occasion of his 90th Birthday – First Volume
Analele Universitatii Bucuresti – Informatica, Anul LXII, no. 2, 2015
(R. Ceterchi, R. Gramatovici, eds.)

Papers in Honor of Professor Solomon Marcus on the Occasion of his 90th Birthday – Second Volume
Analele Universitatii Bucuresti – Informatica, Anul LXII, no. 3, 2015
(R. Ceterchi, R. Gramatovici, eds.)