

Curriculum Vitae

Cornelius Croitoru

Education

PhD Faculty of Mathematics, Alexandru Ioan Cuza University of Iasi, 1976-1981

PhD thesis: Contributii la studiul analitic al teoriei grafurilor

Advisor: Prof. dr. I. Creanga (Prof. dr. I. Dragan)

B.Sc. Faculty of Mathematics, Alexandru Ioan Cuza University of Iasi, 1970-1974

Research Interests

Graph Theory, Combinatorial Optimization, Statistics, Artificial Intelligence The head of the Combinatorial Optimization research group, Faculty of Computer Science

Research Experience

Professor Emeritus, Faculty of Computer Science, Alexandru Ioan Cuza University of Iasi, (**retired**) October 2018-present

Professor, Faculty of Computer Science, Alexandru Ioan Cuza University of Iasi, 2002-2018

Associate Professor, Faculty of Computer Science, Alexandru Ioan Cuza University of Iasi, 1992-2002

Teaching Assistant, Lecturer, Associate Professor, Faculty of Mathematics, Alexandru Ioan Cuza University of Iasi, 1979-1992

Researcher, Computing Center, Alexandru Ioan Cuza University of Iasi, 1975-1979

Teaching Experience

Current courses:

- **Graphs Algorithms**, Faculty of Computer Science, undergraduate studies
- **Combinatorial Optimization**, Faculty of Computer Science, master studies

Other courses: **Operational Research, Distributed and Parallel Algorithms, Computational Optimization** (master studies)

Editorial board

- Scientific Annals of Computer Science, Alexandru Ioan Cuza University of Iasi, 1992-2018
- Scientific Annals of Ovidius University of Constanta, 2008-2010

Program committee

- Graph Structures For Knowledge Representation And Reasoning (KGR), IJCAI Workshop, 2009, 2011, 2013, 2015

Reviewer in the projects evaluation from the National Council for Scientific Research, Romania (2006)

Research Grants

Director for the following projects:

- **GRAI: Academic Grid for Complex Applications**, financed by the Executive Agency for Higher Education, Research, Development and Innovation Funding, Research Excellence Program, CEEX-M1-1801, 2006-2008
- **Conception et analyse d'algorithmes de relaxation pour des problemes d'optimisation**, bilateral cooperation project PAI-Brancusi the Programme of integrated actions Romania – France, cod 08905TK, 2005-2006
- **Approaches that mimic nature for the Graph Coloring Problem**, financed by the National Council of Scientific Research in Higher Education, code 592, contract no. 33373, 2004-2006
- **Combinatorial optimization: Perfect graphs, Parallel Algorithms**, financed by the National Council of Scientific Research in Higher Education, code 142, 1995-1997

Administrative Activity

- The head of the Optimization and Artificial Intelligence department, Faculty of Computer Science, 1996-2008
- Involved in the accreditation process of the Computational Optimization master, Faculty of Computer Science
- Responsible for the quality assurance in the Faculty of Computer Science Responsible with the organization of teaching activities, Faculty of Computer Science, 1996-2008
- Member of the committee that establishes the curricula for undergraduate studies and master studies, Faculty of Computer Science
- Member of different teaching degree committees, of the graduation committee, of the admission committee, Faculty of Computer Science
- Member of the committee assigned with promoting the Faculty of Computer Science

Foreign languages

English, French

Publications

Books

CROITORU C., Basic Techniques in Combinatorial Optimization (in romanian), Editura Universitatii Alexandru Ioan Cuza Iasi, Iasi, 1992, 278p

CROITORU C., M. CROITORU, 97 de exercitii de algebra si analiza matematica pentru pregatirea examenelor de bacalaureat si admitere la facultate, Editura Matrix Rom Bucuresti, 1997, 188 pag.

CROITORU C., Introducere in proiectarea algoritmilor paraleli, Editura Matrix Rom, Bucuresti, 2002, 220 pag.

Articles

CROITORU C., On a Discrete Max-Min Problem, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, XXV, 1979, 159-161

CROITORU C., On Stables in Graphs, Proc. 3rd. Colloq. on Op. Res.(Marusceac, Bruckner eds.) Cluj, 1979, 55-60

CROITORU C., On the Maximum Edges of Hereditary Hypergraphs, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, XXVI, f.1, 1980, 179-184

CROITORU C., On Approximate Algorithms for Combinatorial Linear Maximization Problems, Zeitschrift fur Operations Research, 24, 1980, 171-175

CROITORU C., Contribuții la studiul analitic al teoriei grafurilor, Teza de doctorat, Universitatea Alexandru Ioan Cuza Iasi, 1981

CROITORU C., An Analysis of the Greedy Algorithm for Partially Ordered Sets, Discrete Applied Mathematics, 4, 1982, 113-117

CROITORU C., E. SUDITU, On perfect stables in Graphs, Information Processing Letters, 17, 1983, 53-56

CROITORU C., Asupra NP-completitudinii unor probleme de decizie pe grafuri, Info-Iasi '83, Lucrarile celui de al IV-lea Colocviu de Informatica 27-29 oct. 1983, Iasi, 1983, 37-47

CROITORU C., J. MOSCOVICI, A Greedy $O(n^3)$ -Algorithm for the maximum cardinality Matching Problem, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, XXXII, f. 3, 1986, 93-97

CROITORU C., On Some Properties of Submodular Functions, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, XXXIII, f.4, 1987, 299-304

CROITORU C., Maximum-Degree Matchings, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, XXXIII, f.4, 1987, 277-281

CROITORU C., C. RADU, O caracterizare a clicilor de cardinal maxim intr-un graf, Analele Universitatii din Galati, Lucrarile sesiunii stiintifice din 9-11 octombrie 1986, Sectia matematica, Galati, 1987, pag. 41-46

CROITORU C., J. MOSCOVICI, Asupra unor proprietati ale functiilor submodulare, Analele Universitatii din Galati, Lucrarile sesiunii stiintifice din 9-11 octombrie 1986, Sectia matematica, Galati, 1987, pag. 35-40

CROITORU C., Asupra problemei reconstructiei, Info-Iasi '87, Lucrarile celui de al VI-lea Colocviu de Informatica 9-10 oct. 1987, Iasi, 1987, 111-117

CROITORU C., C. RADU, Programe patratice asociate unui graf, Lucrarile sesiunii Stiintifice a Centrului de Calcul al Universitatii din Bucuresti 20-21 februarie 1987, Universitatea Bucuresti, 1987, 49-55

CROITORU C., C. RADU, Quadratic Programs on Graphs, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, XXXIV, f.4, 1989, 343-346

CROITORU C., C. RADU, Submodularity Relations for the Independence Function of a Graph, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, I, 1992, 3-11

CROITORU C., C. RADU, Orderings and Colorings in a Graph, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, I, 1992, 11-16

CROITORU C., A. ANDREI, V. COCLICI, On a Discrete Optimization Problem, International Journal of Computer Mathematics, vol. 47, 1993, 89-95

CROITORU C., C. RADU, C-Perfect graphs, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, II, 1993, 61-71

CROITORU C., Derandomizare, Restructuring of the (re)training of school teachers in Computer Science, S_JEP 111168-96, Computer Libris Agora, Cluj, 1998, 127-138

CROITORU C., A structural property of monsters, ROSYCS'98 (Iasi), Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, 8 (1999), 64-66

CROITORU C., C. FRASINARU, Exploring Unknown Undirected Graphs, ROSYCS'98 Iasi, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, 8 (1999), 67-76

CROITORU C., C. FRASINARU, Finding a stable partition of a graph, Analele Universitatii "Dunarea de Jos" Galati, Fascicula II, Matematica, Fizica, Mecanica teoretica, Supliment la tomul XVIII(XXIII), 2000, 69-70

CROITORU C., E. OLARU, M. TALMACIU, Confidentially connected graphs, Analele Universitatii "Dunarea de Jos" Galati, Fascicula II, Matematica, Fizica, Mecanica teoretica, Supliment la tomul XVIII(XXIII), 2000, 17-18

CROITORU C., M. TALMACIU, On confidentially connected graphs, Bul. Stiint. al Univ. din Baia Mare, Seria B, Matematica-Informatica, XVI, 1, 2000, 13-17

CROITORU C., C. RADU, M. TALMACIU, On Gem-free partitionable graphs, Pakistan Journal of Applied Sciences, 1(2), 2001, 183-188

CROITORU C., E. OLARU, M. TALMACIU, On Quasi-Triangulated Graphs, Pakistan Journal of Applied Sciences, 1(2), 2001, 177-182

CROITORU C., A. DUMITRASCU, On an abstract distributed load-balancing problem, Informatica in aplicatii, A VII-a conferinta stiintifico-metodica si practica, 22-23mai 2001, Universitatea de stiinte aplicative din Moldova, Chisinau, 2001, 15-20

CROITORU C., E. OLARU, M. TALMACIU, Visibility Properties and Forbidden Holes in Graphs, Analele stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, X (2001), 45-53

CROITORU C., E. OLARU, M. TALMACIU, Some results concerning the P4 and P5 structure of perfect graphs, va apare in "Studii si cercetari stiintifice", Seria Matematica, Universitatea Bacau (comunicata la sesiunea omagiala Universitatea Bacau, noiembrie 2001)

CROITORU C., LUCHIAN H., GHEORGHIES O., APETREI A., A New Genetic Graph

Coloring Heuristic, in Proceedings of Computational Symposium on Graph Coloring and its Generalizations, Ithaca, New York, September 8, 2002, p. 63-74

CROITORU C., LUCHIAN H., GHEORGHIES O., APETREI A., A New Genetic Graph Coloring Formulation, in Symbolic and Numeric Algorithms for Scientific Computing, SYNASC02, Timisoara, Romania, 9-12 October 2002, p. 121-127

APETREI A., CROITORU C., GHEORGHIES O., New Genetic Experiments for the Graph Coloring Problem, in A VIII-a conferinta stiintifico-metodica si practica, Universitatea de stiinte aplicative din Moldova, Decembrie 2002, Chisinau

LUPU M., CROITORU C., PeerVOIRE – Proposal for a Peer-to-Peer Semantic Information Retrieval System, in RosyCS Proceedings, July 2004

CROITORU C., GHEORGHIES O., GHEORGHIES A., An Ordering-Based Genetic Approach to Graph Coloring, Analele Stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, Informatica, Tomul XV, 2005, 93-109

CROITORU C., NEGARA G., Experience-based Ant Coloring (EAC). A new ant-like graph-coloring algorithm, Analele Stiintifice ale Universitatii Alexandru Ioan Cuza Iasi, Informatica, Tomul XV, 2005, 110-123

IFTENE A., CROITORU C., Graph Coloring using Peer-to-Peer Networks, 5-th RoEduNet International Conference, Sibiu, 1-3 June, 2006, Romania

CROITORU C., NEGARA G., EPGC - Experience-based Parallel Graph Coloring, 5-th RoEduNet International Conference Sibiu, 1-3 June, 2006, Romania

CROITORU C., FRASINARU C., A New Approach for Solving Satisfiability Problems, International Conference on Mathematics & Informatics ICMI 45, Bacău, Romania, September 18-20, 2006

CROITORU C., TALMACIU M., Structural graph search, International Conference on Mathematics & Informatics ICMI 45, Bacău, Romania, Sept. 18-20, 2006

IONITA M., BREABAN M., CROITORU C., A New Scheme of Using Inference inside Evolutionary Computation Techniques to Solve CSPs, SYNASC 2006, Timisoara, Romania, September 26-29, 2006

IONITA M., CROITORU C., BREABAN M., Incorporating Inference into Evolutionary Algorithms for Max-CSP, Hybrid Metaheuristics, LNCS 4030, pages 139-149, October 13-15, 2006, Gran Canaria, Spain

IFTENE A., CROITORU C., Graph Coloring using Peer-to-Peer Networks, The Computer Science Journal of Moldova 14(3): 366-380 (2006)

M. CRAUS, H.-N. TEODORESCU, C. CROITORU, O. BRUDARU, D. AROTARITEI, M. CALIN, A. ARCHIP, Academic Grid for Complex Applications – GRAI, CSCS-16, 16th International Conference on Control Systems and Computer Science, May 22-25, 2007, University Politehnica of Bucharest

M. CRAUS, H.-N. TEODORESCU, C. CROITORU, O. BRUDARU, D. AROTARITEI, M. CALIN, A. ARCHIP, The Service Layer of the Academic Grid GRAI, CSCS-16, 16th International Conference on Control Systems and Computer Science, May 22-25, 2007, University Politehnica of Bucharest

IFTENE A., CROITORU C., Graph Coloring using Peer-to-Peer Networks, Acta Universitatis Cibiniensis, Vol LV, Technical Series, 2007, p. 33-37

CROITORU C., NEGARA G., A Shared Experience Algorithm for Graph Coloring, Acta Universitatis Cibiniensis, Vol LV, Technical Series, 2007, p. 103-107

BREABAN M., IONITA M., CROITORU C., A New PSO Approach to Constraint Satisfaction, In Proc. of the IEEE Congress on Evolutionary Computation, Singapore, pages 1948-1954, IEEE press (2007)

CROITORU M., CROITORU C., LEWIS P., BIDFLOW: a New Graph-Based Bidding Language for Combinatorial Auctions, ECAI, volume 178 of Frontiers in Artificial Intelligence and Applications, page 871-872, IOS Press (2008)

CROITORU M., CROITORU C., A generalised network flow approach to combinatorial auctions, IJCAI 2009 W13: Graph Structures For Knowledge Representation And Reasoning (GKR)

HONCIUC I., CROITORU C., On confluent drawings: visualizing graphs using an ortho-confluent system, Acta Univ. Sapientiae, Informatica, 1, 2 (2009) 135–148

IONITA M., BREABAN M., CROITORU C., Evolutionary Computation in Constraint Satisfaction, book chapter in New Achievements in Evolutionary Computation, editor Peter Korosec, INTECH Vienna, ISBN 978-953-307-053-7, 2010

RASCHIP M., CROITORU C., A New Primal-Dual Genetic Algorithm: Case Study for the Winner Determination Problem. Evolutionary Computation in Combinatorial Optimization EvoCOP10, volume 6022 in LNCS, pages 252-263, Springer, 2010

CROITORU M., CROITORU C., Generalised Network Flows for Combinatorial Auctions, IAT, pages 313-316. IEEE Computer Society, 2011

RASCHIP M., CROITORU C., A Genetic Algorithm hybridized with the Discrete Lagrangian Method for trap escaping. Learning and Intelligent Optimization LION5, volume 6683 in LNCS, pages 351-363, 2011

CROITORU M., CROITORU C., Combinatorial Results on Directed Hypergraphs for the SAT Problem. GKR 2015: 72-88, 2015

RASCHIP M., CROITORU C., STOFFEL K., Guiding Evolutionary Search with Association Rules for Solving Weighted CSPs. GECCO 2015: 481-488, 2015

RASCHIP M., CROITORU C., STOFFEL K., Using association rules to guide evolutionary search in solving constraint satisfaction. CEC 2015: 744-750, 2015

CROITORU M., CROITORU C., Representing Multi-scale Datalog +/- Using Hierarchical Graphs. ICCS 2016: 59-71, 2016

RASCHIP M., CROITORU C., FRASINARU C., New Evolutionary Approaches for SAT Solving. ICTAI 2018: 522-526. 2018