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Educație **Doctor în Informatică** **University of Rochester, Rochester, NY**
(Data susținerii: 28 Mai 1999. Echivalat în România prin ordinul Ministrului
Educației și Invățământului 5683/20.10.2008)
Titlul Tezei: “Phase transitions in combinatorial search problems: towards rigorous re-
sults”

Conducător științific: Prof. Mitsunori Ogihara

Master, Informatică **University of Rochester, Rochester, NY**
Mai 1996

Licențiat în Matematică **Universitatea din București, România**
Iunie 1994

Titlul tezei: “Proprietăți de tip Darboux în Analiza Reală”

Conducător Științific: Prof. Solomon Marcus

Experiența
Profesională

- **Cercetător**

Institutul eAustria

Timișoara, Romania

– Martie '07 – în prezent

Am desfășurat de asemenea activitate didactică (în regim de colaborator extern) la
Universitatea de Vest din Timișoara.

- **Cercetător POSDRU**

Centrul de Studierea Complexității

Universitatea Babeș-Bolyai

Cluj Napoca, Romania

– Octombrie '10 – Aprilie '12

- **Cercetător (Technical staff member)**

Discrete Simulation Science (CCS-5), Los Alamos National Laboratory

Los Alamos, New Mexico, S.U.A.

– Septembrie '01 – Februarie '07

– Implicat în mai multe proiecte de cercetare:

ADHOPNET, Generic Methods, New Approaches To Fault Tolerance

- **Cercetător postdoctoral**

Los Alamos National Laboratory

– Septembrie '99 – August '01

– Implicat în mai multe proiecte de cercetare: Extremal
Optimization, Foundations of Simulation, Computational
Learning, Mobile Computing, LANL–Xerox PARC CRADA

- **Doctorand, Computer Science Department**

University of Rochester

Septembrie 1994 – Iulie 1999

Am deșus activitate de cercetare în domeniul tranzitiilor de faza în probleme, informatice, al satisfiabilității Horn, al analizei în medie a rezoluției unitare, cazuri polinomiale ale problemelor cu constrangeri, a teoriei algoritmice a măsurii și teoriei codurilor.

Activități

Didactice

- *Universitatea de Vest*

Timișoara, Romania

– Martie '07 - în prezent

Am predat (în regim de colaborare) cursurile "Data Structures", "Advanced Data Structures", precum și cursul de nivel master "Data Structures and Algorithms for Parallel Computing" (în engleză). De asemenea am predat un curs opțional de nivel avansat "Capitole speciale de informatică teoretică" (în română). Am supervizat (vara 2008) lucrări de licență iar în anul 2009 proiect individuale.

Indrumător extern teza de doctorat a lui Robert Z. Sumi, Universitatea Babeș-Bolyai, Cluj, Decembrie 2009.

- **Instructor, Department of Computer Science**

University of Rochester

Am predat cursurile: Introduction to Computing	– Vara '96
Introduction to Programming using C++	– Vara '97
Introduction to programming using C++	– Vara '98
Introduction to Computing	– Vara '99

- **Asistent predare (teaching assistant), Computer Science Department**

University of Rochester

Ianuarie 1995 – Mai 1996

Am asistat predarea următoarelor cursuri:

Introduction to formal systems (remedial tutor)	– Summer '96
Design and Analysis of Algorithms	– Spring '96
Intro. Theory of Computation	– Fall '95
Design and Analysis of Algorithms	– Spring '95

Granturi

de Cercetare

Notă: *Laboratorul de cercetare de la Los Alamos, ca laborator federal de cercetare subordonat unui minister (Department of Energy) al guvernului american, prin lege nu poate concura pentru (și obține fonduri prin) granturi ale National Science Foundation. Alocarea fondurilor se face printr-un proces competitiv similar celui al NSF, granturile de tip LDRD (Laboratory Directed Research and Development) fiind mecanismul cel mai important. Rata medie de finanțare a proiectelor de tip LDRD este între 10–20%. Există două tipuri de granturi: LDRD-ER ("Exploratory Research"), proiecte mai mici, de 2-3 persoane, și LDRD-DR ("Directed Research"), proiecte cu 20-25 de participanți și bugete de ordinul milioanei de dolari pe an. Aceste bugete includ (parțial sau total) acoperirea salarială a cercetătorilor de la LANL (care nu e garantat de stat în lipsa finanțării prin proiecte).*

- Investigator principal (PI), grantul IDEI PCE, "Structure and intractability in combinatorial optimization: an interdisciplinary approach", finanțat de CNCS-UEFISCDI, Mai 2011 - Aprilie 2014.

- Membru, Comitetul de Management al acțiunii COST IC-0901 "Rich Model Toolkit: An Infrastructure for Reliable Computer Systems", finanțată de Uniunea Europeană în cadrul programului FP-7.
- Responsabil cu activitatea de cercetare din partea IEAT, instituție partener în grantul PN-II Parteneriate, "NATCOMP".
- Fellow, grant de reintegrare internațională Marie Curie, contract IRG-046573, "PHASE-TRANS", finanțat de Uniunea Europeană în cadrul programului FP6.
- Investigator principal (PI), grantul "New Approaches to Fault Tolerance", WSR, Los Alamos National Laboratory, Iulie 2005. Grant în valoare de 232k \$/an.
- Co-investigator, grantul de cercetare LDRD-ER "Advanced Techniques in Discrete Simulation", Los Alamos National Laboratory, Iunie 2001-Iunie 2004.
- *Participant*, proiectul AdHopNet, un proiect de cercetare-dezvoltare finanțat de Department of Homeland Security, al cărui scop este de a dezvolta un simulator pentru infrastructura de telecomunicații într-un mediu urban. În cadrul AdHopNet am fost responsabil pentru dezvoltarea modului RESTORED, o metoda semantică de compresie, regenerare și analiză a traficului TCP. Împreună cu Anders Hansson am dezvoltat baza științifică și tehnologică pentru RESTORED (descrisă în parte în lucrările [19,20,1,27] din lista de mai jos). Am proiectat și implementat prima versiune (~ 20.000 linii de cod C++) a prototipului RESTORED. Am participat la demonstrarea capabilităților tehnologiei AdHopNet prin studii de caz - simulări ale unui atac asupra infrastructurii de comunicații în Chicago, respectiv Houston.
- *Iulie 2005 - Februarie 2007: co-manager* (împreună cu Anders Hansson) al grantului de cercetare-dezvoltare "Generic Cities" (finanțator Department of Homeland Security).
- *Participant*, proiectul LDRD-DR "Statistical physics of infrastructure networks" (2004-2007).
- *Participant*, proiectul LDRD-ER "Foundations of local search" (2001-2005).

Recunoaștere

publică,

premiu

& Alte realizări

- Rezultatul din lucrarea [4] din lista de mai jos este inclus în D. Knuth, "The Art of Computer Programming", vol. 4, Fascicula 0, "Introduction to Combinatorial Algorithms and Boolean Functions", Addison Wesley (2008).
- Singurul cercetător cu afiliere în România inclus în lista confsearch.org a primilor 1000 de cercetători în informatica teoretică (după publicații STOC/FOCS/SODA/PODC din perioada 2002-2007).
- Cartea [C1] din lista de mai jos a fost citată într-un articol de tip News and Views publicat în revista Nature (P-M. Binder, "Computation: The edge of reductionism", Nature 459, 332-334 (21 May 2009)).
- Citat în articolul de popularizare a științei "Sin Cities: The geometry of Crime", autor Mark Buchanan, publicat în revista New Scientist, Numărul 2654 din 3 Mai 2008.
- Menționat în articolul de presă "Complexitatea cercetării științifice actuale. Cazul României", Observator Cultural 445, Octombrie 2008.
- Invitat, Radio Romania Cultural, emisiunea "Știința în cuvinte potrivite", Septembrie 2006.

- Lucrarea [V3] de mai jos a fost folosită ca material didactic în cadrul unui curs “Emergence”, de nivel M.Sc. în Natural Computation, Department of Computer Science, University of York, Marea Britanie, oferit în primăvara anului 2007/2008, Lectori Susan Stepney și Fiona Pollack (Curs 11: Complexity Measures (3)). Pagina Cursului: <http://www-course.cs.york.ac.uk/eme/>
- Lucrarea [C5] de mai jos este inclusă în bibliografia cerută (8 articole) pentru o teză de diplomă cu subiectul ”Optimisation distribuee dans les réseaux radio“, Université Lille1, 2009, conducători El-Ghazali Talbi și Bilel Derbel. Vezi site-ul <http://sujets-these.lille.inria.fr/sujets-proposes/optimisation-distribuee-dans-les-reseaux-radio>
- Lucrarea [] de mai jos a fost inclusă în lista de teme de prezentare pentru un curs de nivel doctoral, numărul 21-801, ”Dynamic Concentration of Discrete Random Processes”, predat de Tom Bohman, Departamentul de Matematică, Carnegie Mellon University, primăvara 2011. Vezi <http://www.math.cmu.edu/tbohman/21-801/dc.html>
- Peste 150 de citări, din care 9 în cărți, toate publicate în edituri internaționale, peste 20 de citări în teze de Master și Doctorat din opt țări (S.U.A., Canada, Marea Britanie, Franța, Olanda, Finlanda, Suedia, Cehia). Majoritatea citărilor în publicații relevante internaționale.
- Bursa ESF-COST pentru participarea la conferința ”Future Internet and Society: A Complex Systems Perspective“, Acquafredda di Maratea, Italia, Octombrie 2010.
- Los Alamos National Laboratory Achievement Award, 31 August 2005. Pentru activitatea de cercetare-dezvoltare, în special pentru activitatea în cadrul proiectului AdHopNet.
- Directors’ Postdoctoral Fellow, Los Alamos National Laboratory, 1999. Directors’ Fellow e un grant acordat pe bază de competiție de directorul LANL pentru aproximativ 5% din noii cercetători postdoctorali ai LANL, carora le oferă posibilitatea efectuării de cercetare independentă, nelegată de direcțiile programatice de cercetare-dezvoltare ale LANL.
- Bursa EPSRC, EPSRC/LMS Workshop on Phase transitions in computer science, Liverpool, England, Jan. 1999.
- Locul întâi, Conferința de cercetare studentăscă *INFO-IAȘI JUNIOR*, Iași, România, Mai 1994.
- Bursă de merit, Universitatea din București, 1991-1994
- Premiul al doilea (premiul întâi nu s-a acordat), Olimpiada Națională de Matematică, 1988.
- Locul al treilea și premiul special SSM, Olimpiada Națională de Matematică, 1982.
- Mențiuni, Olimpiada Națională de Matematică, 1984, 1985, 1986, 1987.
- Membru în Lotul Extins al României pentru alegerea echipei participante la Olimpiada Internațională de Matematică, 1987, 1988.

Prezentări

la Conferințe

& Prezentări

Invitate

- Mini-workshop on discrete models and methods, Szeged, Ungaria, Noiembrie 2011.
- Conferința internațională ”Evolution and Norms: Concepts, Models, Challenges“, București, Romania, Noiembrie 2011.
- ECCS 2011, Viena, Austria, Septembrie 2011.
- (Prezentare informală) Synthesis, Verification, and Analysis of Rich Models (SVARM’2011), Saarbrücken, Germania, Aprilie 2011.
- ”Future Internet and Society: A Complex Systems Perspective“, Acquafredda di Maratea, Italia, Octombrie 2010.

- ESSEC Romanian Seminar in Operations Research, Universitatea Alexandru Ioan Cuza Iași, 1 Iunie 2010.
- Universitatea din Szeged, Martie 2010.
- Prezentare invitată, CRM Workshop on Statistical Physics in Combinatorial Optimization, Barcelona, Spania, 14-16 Octombrie 2009.
- European Conference on Complex Systems (ECCS'08), Ierusalim, Israel, 14-19 Septembrie 2008 (două prezentări).
- Fifth Conference of the European Social Simulation Association (ESSA'08), Brescia, Italia 1-5 Septembrie 2008.
- International Workshop on Challenges and Visions in Social Sciences, Zurich, Elveția, 18-23 August 2008.
- Fourth Computability in Europe Conference (CIE'2008), Atena, Grecia, 15-20 Iunie 2008.
- Prezentator Invitat, International Workshop on Stochastic Phenomena, Cluj, Romania, Mai 2008.
- European Conference on Complex Systems (ECCS'07), Dresda, Germania, Octombrie 2007.
- Prezentator Invitat, International Workshop on Complex Systems, Sovata, România, Iulie 2007.
- Al Șaselea Congres al Matematicienilor Români, București, România, Iulie 2007.
- IPAM Workshop on Crime Hot Spots: Behavioral, Computational and Mathematical Models, Los Angeles CA, Ianuarie 2007.
- Theory, Simulation, Computation and Capability Workshop "Complex Networks", Los Alamos National Laboratory, 14-17 August 2006.
- IBM Almaden Research Center, Iulie 2006.
- Second International Conference on Networking and Services, Santa Clara CA, Iulie 2006.
- AGENT 2005, University of Chicago, Octombrie 2005.
- APPROX-RANDOM'2005, Berkeley CA, August 2005.
- University of California Santa Barbara-LANL Cooperative Research Meeting, Santa Barbara CA, August 2005.
- Institute for Mathematics and Applications (IMA) Hot Topics Workshop on Agent-Based Simulations, Minneapolis, MN, Noiembrie 2003.
- Third International Conference on Discrete Mathematics and Theoretical Computer Science (DMTCS'01), 2-6 Iulie 2001, Constanța, România
- DIMACS/DIMATIA Workshop on Graphs, Morphisms and Statistical Physics, 19-21 Martie 2001, Centrul DIMACS, Rutgers University.
- Xerox PARC, Palo Alto, California, Septembrie 2000.
- The third International Symposium on Mathematical Programming (ISMP'2000), Atlanta GA, August 2000.
- State University of New York at Albany, Department of Computer Science, August 2000.
- Arizona Days, Center for Nonlinear Sciences, Ianuarie 2000.
- The INFORMS Spring Session, Cincinnati, Mai 1999 (prezentare invitată), sesiunea specială în domeniul Inteligenței Artificiale.
- The EPSRC/LMS Workshop on Phase Transitions in Combinatorial Problems, Liverpool, Marea Britanie, Ianuarie 1999.
- The Tenth ACM-SIAM Symposium on Discrete Algorithms (SODA'99), Baltimore, MD, Ianuarie 1999.
- The Fifth International Symposium on Artificial Intelligence and Mathematics (AIM'98), Fort Lauderdale Florida, Ianuarie 1998.

- The Third International Symposium on Principles and Practice of Constraint Programming (CP'97), Linz, Austria, November 1997.
- The First International Conference “Developments in Language Theory”, Turku, Finland, 1993.

Activități

Profesionale

- Membru în comitetul științific al revistei *Computer Science Reviews* (editors in chief Josep Diaz și Jarik Nesetril).
- Membru în comitetul științific, track-ul Informatică Teoretică, Cercetări Operaționale și Programare Matematică, al Șaptelea Congres al Matematicienilor Români, 29 Iunie - 5 Iulie 2011, Brașov, Romania.
- Membru în comitetul de program, 3rd Mini-conference on Applied Theoretical Computer Science (MATCOS-10), Koper, Slovenia, October 13th and 14th, 2010.
- Membru în comitetul de program, Ninth International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), Timișoara, România, Septembrie 2007 și Septembrie 2008. Organizator, Theory Track, editia 2009.
- Organizator, Workshop on Modeling and Simulation for Large Scale Sociotechnical Systems, parte a conferinței LACSI 2005, Santa Fe NM, 11-13 Octombrie 2005.
- co-editor (împreună cu A. Percus and C. Moore) al volumului “Computational Complexity and Statistical Physics” Santa Fe Institute Series of Complexity, Oxford University Press.
- Coorganizator (împreună cu Allon Percus) al sesiunii *Phase Transitions in Computer Science*, American Association for Advancement of Science (AAAS) Meeting, Seattle, WA, 12-16 Feb 2004.
- Membru al comitetului de acordare a granturilor de tip LDRD-ER, secțiunea Computer Science and Engineering, Los Alamos National Laboratory, 2002 - 2003, 2006-2007.
- Membru în comitetul de program, International Colloquium on Automata, Languages and Programming (ICALP'02), Malaga, Spain.
- Coorganizator, *Workshop on Statistical Physics and Algorithmic Complexity*, 4–6 Septembrie 2001, Santa Fe, NM.
- Recenzent pentru reviste și conferințe, între care (în ordine invers cronologică):
International Journal of Computer Mathematics
Journal of Algorithms in Cognition, Informatics and Logic
Chaos
Random Structures and Algorithms
Algorithmica
Wireless and Mobile Computing
Theoretical Computer Science
Information Processing Letters
Journal Of Universal Computer Science
International Journal of Foundations of Computer Science
Discrete Applied Mathematics
Discrete Mathematics
Real Analysis Exchange
MFCS 2010
Fourth International Computer Science Symposium in Russia (CSR 2009)
The 26th I.E.E.E. Conference on Computer Communications (INFOCOM 2007)
Ninth International Conference on Theory and Applications of Satisfiability

Testing (SAT 2006)
 Seventh ACM International Symposium on Mobile Ad Hoc Networking and Computing (MOBIHOC 2006)
 International Conference on Distributed Computing Systems (2005)
 IEEE Conference on Computational Complexity (1999),
 Symposium on Theoretical Aspects of Computer Science (STACS 1998),
 IEEE Conference on Computational Complexity (1996),
 International Symposium on Algorithms and Combinatorics (ISAAC 1996),
 International Conference on Computers and Information (ICCI 1996).

- Membru al mai multor organizații profesionale, între care:

AdAstra (România)
 SigmaXi (membru asociat, filiala din România)
 Association for Computing Machinery (ACM)
 ACM Special Interest Group on Automata and Computability Theory (SIGACT)
 Society for Industrial and Applied Mathematics (SIAM)
 European Association for Theoretical Computer Science (EATCS)
 IEEE Computer Society
 Complex Systems Society (CSS)
 European Social Simulation Association (ESSA)
 am fost membru al Mathematical Programming Society (MPS),
 System Dynamics Society, Game Theory Society.

Publicații

- **Cărți**

1. [C1] A. Percus, G. Istrate și C. Moore (editori) *Computational Complexity and Statistical Physics*, Oxford University Press, seria *Santa Fe Institute Lectures on Sciences of Complexity*, ISBN 0-19-517738-X, Februarie 2006.

Recenzii: "This volume provides a comprehensive overview of an exciting new research area at the interface between statistical physics and computer science. It is an excellent exposition, featuring state-of-the-art contributions by renowned researchers in the field. The book will serve as a useful reference for years to come." **Bart Selman, Cornell University**

"Best book in its class ... This book is one of the few that tries to bring computer science and physics together and manages to tell us computer scientists about the physicists' ideas in an understandable way ... The editors wrote a very nice introduction and really made every effort to present an interdisciplinary book, highly understandable for both communities ..." **recenzie pe Amazon.com**

2. [C2] G. Istrate "Phase transitions in combinatorial search problems: towards rigorous results", UMI Proquest Information and Learning, 1999, ISBN:0-599-49869-2.

- **Publicații în reviste**

1. [R22] G. Istrate, M. V. Marathe and S. S. Ravi, *Adversarial Scheduling in Discrete Models of Social Dynamics*. Mathematical Structures in Computer Science (acceptată, 2011). Varianta finală a lucrării [F] din lista de mai jos.
2. [R 21] G. Istrate *Geometric properties of satisfying assignments of random ϵ -1-in- k SAT*, *International Journal of Computer Mathematics* 86(12), 2009, pp.2029-2039. De asemenea Raport Tehnic 08-2, IEAT.
3. [R 20] G. Istrate *On the dynamics of social balance on general networks (with an application to XOR-SAT)*, *Fundamenta Informaticae* 91(2), 2009, pp. 341-356. De asemenea Raport Tehnic 08-3, IEAT.
4. [R 19] A. Percus, G. Istrate, B. Tavares Gonçalves, R. Sumi, S. Boettcher *The Peculiar Phase Structure of Random Graph Bisection*, *Journal of Mathematical Physics* vol. 49, no. 12 (2008). De asemenea Raport Tehnic 08-9, IEAT.

5. [R 18] A. Hansson, G. Istrate *Counting preimages of TCP reordering patterns*, *Discrete Applied Mathematics*, vol. 156, no. 17, (2008) pp. 3187-3193.
 6. [R 17] G. Istrate, *Satisfying Assignments of Boolean Random CSP: Clusters and Overlaps*, *Journal of Universal Computer Science*, vol 13, no.11, pp. 1655–1670 (2007). Varianta finală a lucrării [F] din lista de mai jos.
 7. [R 16] C. Moore, G. Istrate, D. Demopoulos and M. Vardi *A continuous-discontinuous second order transition in the satisfiability of a class of random Horn formulas*. *Random Structures and Algorithms* 31(2), pp. 173-185, 2007. Variantă finală a lucrării [E] din lista de mai jos.
 8. [R 15] A. Hansson, G. Istrate, S. Kasiviswanathan, *Combinatorics of TCP packet reordering*, în *Journal of Combinatorial Optimization*, vol. 12, no. 1-2, pp. 57-70, 2006.
 9. [R 14] G. Istrate, A. Percus and S. Boettcher “Spines of random constraint satisfaction Problems: Definition and Connection with Computational Complexity”, *Annals of Mathematics and Artificial Intelligence*, Volume 44, (2005), pp. 353 - 372. Varianta finală a lucrării [A] din lista de mai jos.
 10. [R 13] G. Istrate, *Threshold properties of of boolean random constraint satisfaction problems*. *Discrete Applied Mathematics* 2005, vol. 153 (2005), nr. 1-3, pp. 1-182.
 11. [R 12] G. Istrate, The phase transition in random Horn satisfiability and its algorithmic implications, *Random Structures and Algorithms* 4 (2002), pp. 483–506. (varianta finală, combinând versiunile publicate în conferințe, lucrările [B,C] în lista de mai jos).
 12. [R 11] M. Dyer, L. Goldberg, C. Greenhill, G. Istrate and Mark Jerrum, The convergence of the Prisoner’s Dilemma Game. *Combinatorics, Probability and Computing* 11(2002), no. 2, pp. 135-147.
 13. [R 10] R. Bent, M. Schear, L. Hemaspaandra and G. Istrate, A note on bounded-width error-correcting codes, *Journal of Universal Computer Science* vol. 5, no.12(1999), 817-827.
 14. [R 9] G. Istrate, The strong equivalence of ETOL grammars, *Information Processing Letters*, 62(1997), 171–177 (varianta finală a lucrării [D] din lista de mai jos).
 15. [R 8] G. Istrate, Sums of Continuous and Darboux Functions, *Real Analysis Exchange*, 20(2), 1994/95, 842–847.
 16. [R 7] G. Istrate, G. Păun Some combinatorial properties of self-reading sequences, *Discrete Applied Mathematics*, vol. 55, 1994, 83–87.
 17. [R 6] G. Istrate, Self-reading sequences, *Discrete Applied Mathematics*, vol. 50, 1994, 201–204.
 18. [R 5] C. Calude, G. Istrate and M. Zimand, Recursive Baire classification and speedable functions, *Zeitschrift fur Mathematische Logik und Grundlag. der Mathematik*, 38, 1992, 169-178.
 19. [R 4] G. Istrate, On two generalizations of the Darboux property, *Real Analysis Exchange*, 17, 1991/92, 535–544.
 20. [R 3] C. Calude and G. Istrate, Determining and stationary sets for some classes of partial recursive functions, *Theoretical Computer Science*, vol 82 (1991), 151–156.
 21. [R 2] G. Istrate, On the topological size of the class of boolean-valued partial recursive functions, *Annals of the University of Bucharest, Ser. mat-info.*, vol. 2(1989).
 22. [R 1] G. Istrate, On a problem about contextual languages, *Bulletin mathématique de la Société des sciences mathématiques de Roumanie*, 33(81), 1989.
- **Articole în Volume cu proces de evaluare (refereeing)**
23. [V 3] A. Percus, G. Istrate, C. Moore “When Statistical Mechanics Meets Computation”, in *Computational Complexity and Statistical Physics*, pp. 3–30, Oxford University Press, Februarie 2006.
 24. [V 2] G. Istrate, Critical behavior in the satisfiability of random k -Horn formulae, in “Graphs, Morphisms and Statistical Physics”, P. Winkler and J. Nešetřil (editori), pp. 113-136, AMS-DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 2004.

25. [V 1] G. Istrate, Some remarks on almost periodic strings and sequences, in G. Păun (editor), *Mathematical Linguistics and Related topics*, Ed. Academiei, Bucharest 1994.
- **Articole în Proceeding-urile unor Conferințe cu volum publicat și proces de evaluare (refereeing)**
 26. [C10] G. Istrate *Dissecting the Artificial: The adversarial scheduling approach to validating game-theoretic models and Social Simulations*. in Proceedings of the Fifth Conference of the European Social Simulation Association, Brescia, Italia 1-5 Septembrie 2008.
 27. [C9] G. Istrate, M.V. Marathe, S. S. Ravi. Adversarial Scheduling Analysis of Game-Theoretic Models of Norm Diffusion. In A. Beckmann, C. Dimitracopoulos and B. Löwe (editors), Proceedings of the Fourth Computability in Europe Conference (CIE'2008), Lecture Notes in Computer Science vol 5028, 273–282, Springer Verlag, 2008.
 28. [C8] G. Istrate, A. Hansson, C.D. Tallman, L. Cuellar-Hengartner, N. Hengartner “Towards Generative Activity-Based Models for Large-Scale Socio-technical Simulations (extended abstract)”, în Proceedings of the Agent 2006 Conference on: Social Agents: Results and Prospects, organized by Argonne National Laboratory and The University of Chicago, Chicago IL, September 21-23, 2006.
 29. [C7] G. Istrate, A. Hansson and G. Yan *Packet Reordering Metrics: Some Methodological Considerations*, în Proceedings of the Second International Conference on Networking and Services (ICNS'06), San Jose CA, ISBN 0-7695-2622-5. IEEE Computer Society Press, 2006.
 30. [C6] G. Istrate, A. Hansson, M. Nassr, C. Barrett, M.V. Marathe, *Semantic compression of TCP traces*, în Proceedings on the Fifth IFIP Conference on Networking (NETWORKING 2006), F. Boavida et al. (editors), Lecture Notes in Computer Science vol 3976, pp. 123-135, Springer Verlag.
 31. [C5] C. Barrett, G. Istrate, M. Marathe, S. Thite, V.S. Anil Kumar, Strong Edge Coloring for Channel Assignment in Wireless Radio Networks, in Proceedings of the First IEEE Workshop on Foundations and Algorithms for Radio Networks (FAWN 2006). I.E.E.E. Computer Press.
 32. [C4] D. Achlioptas, A. Chtcherba, G. Istrate and C. Moore, The phase transition in NAE 3-SAT and 1-in-k SAT. În *Proceedings of the 13'th ACM-SIAM Symposium on Discrete Algorithms* (SODA'01).
 33. [C2] G. Istrate, Computational Complexity and Phase Transitions, *the 15th I.E.E.E. Conference on Computational Complexity*, (CCC'00) Florence, Italy, Iulie 2000. Versiunea publicată este finală.
 34. [C1] G. Istrate, Counting, structure identification and maximum consistency in binary constraint satisfaction problems, *The Third International Symposium on Constraint Programming* (CP'97), Linz, Austria, 1997, Lecture Notes in Computer Science #1330, pp. 136–149, Springer Verlag. Versiunea publicată este finală.
- **Articole trimise spre publicare în reviste**
 35. G. Istrate. Identifying almost sorted permutations from TCP buffer dynamics, trimisă spre publicare la *Fundamenta Informaticae*. De asemenea Raport Tehnic 08-5, IEAT.
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Serviciu în sprijinul
propriei instituții

Los Alamos National Laboratory

- Membru al comitetului de alocare a granturilor LDRD ER, sectiunea Computer Science and Engineering, 2002 - 2003, 2006-2007.
- Membru al comitetului L.A.N.L.- University of California privind politica de cercetare , 2001- 2003.
- Prezentator, Forumul Centrului pentru Științe Neliniare, Septembrie 2000.

- Autor, CNLS Research Highlights, Iunie/Iulie 2000.
- Lector, minicursul “Rapidly mixing Markov Chains”, CIC-3 Division, Septembrie/Octombrie 1999.

University of Rochester

- membru-student al Comitetului de Admitere la Doctorat , 1995-1999.
- asistent al Prof. Lane Hemaspaandra pentru sectiunea “Computational Complexity”, ACM Computer Research Repository (CORR).

Experiență
Programare

- **Limbaje:** C/C++, Java, R, Lisp (Lispworks si CMUCL), Prolog (SWI), MPI (MPich), SQL (MySQL si PostgreSQL), Scilab/Matlab, programare web (HTML/Javascript/PHP).
- **Metodologii:** UML (utilizat cu Enterprise Architect si Metamill), modele de proiectare (design patterns), extreme programming, unit-testing (cu CppUnnit/JUnit), test-driven design.
- **Medii de simulare multiagent:** Swarm, Repast, NetLogo.

Limbi vorbite

Română (limba maternă), Engleză (excelent), Franceză(bine), Spaniolă (satisfăcător).

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