

# Milan Bradonjić

Mathematical Modeling and Analysis Group  
Los Alamos National Laboratory  
MS B284 LANL, Los Alamos, NM, 87545

email: milan@lanl.gov  
phone: 505-667-3844  
<http://math.lanl.gov/~milan/>

---

## Postdoctoral Position

10/2008-Present **Los Alamos National Laboratory**  
Mathematical Modeling and Analysis Group

## Education

09/2004-09/2008 **University of California, Los Angeles**  
Ph.D. Electrical Engineering, 4.00/4.00.  
Minor Theoretical Computer Science 4.00/4.00.  
Advisors: Allon Percus MATH, Vwani Roychowdhury EE.  
Ph.D. Thesis: “Models and Tools for Large Graphs with Imposed Structural Properties”.

2003-2004 **Mathematical Institute of Serbian Academy of Sciences and Arts**

2002-2003 **Swiss Federal Institute of Technology, EPFL**  
Predoctoral School in Communications Systems and Computer Sciences.

1997-2002 **University of Belgrade**  
Dipl. Eng. Electrical Engineering, GPA 9.90/10.00.  
Best Graduate Award Recipient.

## Research Interest

- Random Graph Theory. Discrete Probability. Percolation on Random Structures. Algorithms on networks.
- Socio-economic sciences: Mechanism Design, Online Auctions, Game Theory.
- Applications: wireless communication, web analysis, social networks, epidemics networks and economic markets.

## Research and Teaching Experience

10/2008-Present Postdoctoral research fellow, Los Alamos National Laboratory.

07/2007-10/2007 Summer internship, Los Alamos National Laboratory.

2004-2008 Research Assistant, UCLA.

2005,2006,2007 Teaching Assistant UCLA: Introduction to Stochastic processes, Principles of Feedback Control, Introduction to Communication Systems

08/2002-11/2002 Visiting research, EECS, UC Berkeley.

2000-2002 Teaching Assistant, University of Belgrade, and Petnica Research Science Center.

10/2001-12/2001 Undergraduate internship, Zentrum für Neue Studienformen, Germany.

## Honors and Awards

2006 Excellence in studies, Departmental Fellowship, UCLA.

2002 Best graduate award, “Fond Sreten Nedeljković”.

2002 The Royal Dome Karadjordjević Fellowship.

2002 “ETF BAFA Award”, exceptional success during studies.

2000 The Norway Royal Academy Fellowship.

1996-2002 The Serbian Ministry of Science and Technology Fellowship.

1995-1997 Highest results in Mathematics, Fellowship.

## Publications

### CONFERENCES

- 1 Milan Bradonjić, Robert Elsässer, Tobias Friedrich, Thomas Sauerwald, Alexandre Stauffer, “Random Broadcast on Random Geometric Graphs”, *Symposium on Discrete Algorithms, SODA2010*.
- 2 Milan Bradonjić, Gunes Ercal-Ozkaya, Adam Meyerson, Alan Roytman, “On the Price of Mediation”, *10th ACM Conference on Electronic Commerce, EC09*, 2009.
- 3 Milan Bradonjić, Eddie Kohler, Rafail Ostrovsky, “Near-Optimal Energy Consumption for Radio Synchronization”, *5th International Workshop on Algorithmic Aspects of Wireless Sensor Networks Algosensors*, Rhodes, Greece, 2009.
- 4 Milan Bradonjić, Tobias Müller, Allon Percus, “Coloring Geographical Threshold Graphs”, *Proceedings of the Fifth Workshop on Analytic Algorithmics and Combinatorics (ANALCO 09)*, pp. 11-16, 2009.
- 5 Milan Bradonjić, Aric Hagberg, Allon G. Percus, “Giant Component and Conenctivity in Geographical Threshold Graphs”, *Proceedings of the 5th Workshop on Algorithms and Models for the Web-Graph (WAW2007). Lecture Notes in Computer Science (Springer-Verlag, Berlin, 2007)*, Vol. 4863, pp. 209-216.
- 6 Milan Bradonjić, Joseph S. Kong, “Wireless Ad Hoc Networks with Tunable Topology”, *45th Annual Conference on Communication, Control and Computing, Allerton 2007*.
- 7 Andrew Beveridge and Milan Bradonjić. On the mixing time of geographical threshold graphs. *9th Latin American Theoretical Informatics Symposium*, 2010. Submitted.

### JOURNALS

- 1 Milan Bradonjić, Aric Hagberg, Allon G. Percus, “The Structure of Geographical Threshold Graphs”, *Special Issue of Internet Mathematics*, volume 5, 2009.
- 2 Milan Bradonjić, Eddie Kohler, Rafail Ostrovsky, ”Near-Optimal Radio Use For Wireless Network Synchronization”. *Special Issue on Algorithmic Aspects of Wireless Sensor Networks of Theoretical Computer Science*.
- 3 Milan Bradonjić, Tobias Müller, Allon Percus, “Coloring Geographical Threshold Graphs”, *Discrete Mathematics & Theoretical Computer Science*. Submitted.
- 4 Milan Bradonjić and Allon G. Percus and Vwani P. Roychowdhury, “Controlling Network Topology with Geographical Threshold Graphs”, To be submitted.
- 5 Andrew Beveridge and Milan Bradonjić, “On the Mixing Time of Geographical Threshold Graphs”, *Discrete Applied Mathematics: The Journal of Combinatorial Algorithms, Informatics and Computational Sciences*. To be submitted.

### WORK IN PROGRESS

- 1 James Abello, Milan Bradonjić, “Generation of Planar Macroviews of Large Multi-Dimensional Relations”.
- 2 Milan Bradonjić, Aric Hagberg, Allon G. Percus, ”Emergence of the Giant Component in General Random Intersection Graphs”.
- 3 Milan Bradonjić, “Reputation Mechanism: From Resolution for Truthful Online Auctions to the Model of Optimal One-Gambler Problem”.
- 4 Milan Bradonjić, Aric Hagberg, Feng Pan, “Interdicting Shortest Paths on Random Geometric Graphs”.
- 5 Milan Bradonjić, Loukas Lazos, “Clustering Methods for Cognitive Radio Networks based on Biclique Graphs”.

## Competitions

- 2002 First place in Electrical Circuit Theory at the Electrical Engineering National Competition.
- 2000 Third place in Mathematics at the Electrical Engineering National Competition.

- 1998 First place in Mathematics at the Electrical Engineering National Competition.
- 1997 First place in both Physics and Mathematics Entrance Exams at the University of Belgrade.
- 1996 First place in National Mathematics Competition.
- 1995 Second place in both National and Federal Mathematics Competitions.
- 1994 First place in National Mathematics Competition.
- 1993, 96, 97 Third place in Federal Mathematics Competition.
- 1993 First place in National Mathematics Competition.

## Talks

- 10/2009 INFORMS 2009. San Diego, CA.
- 02/2009 Los Alamos Days Conference, Arizona State University, Tempe, AZ.
- 01/2009 Center for Discrete Mathematics and Theoretical Computer Science, DIMACS, Rutgers University, NJ.
- 01/2009 Stern School of Business, New York University, New York City, NY.
- 01/2009 Yahoo Inc. New York City, NY.
- 01/2009 SIAM Workshop on Analytic Algorithmics and Combinatorics (ANALCO 09) New York City, NY, January 2009.
- 06/2008 The Institute Eurandom at the Department of Mathematics and Computer Science, Eindhoven University of Technology, The Netherlands.
- 10/2007 “Discrete Applied Math Seminar – Department Colloquium”, Illinois Institute of Technology, Chicago.
- 09/2007 Forty-Fifth Annual Allerton Conference, University of Illinois at Urbana-Champaign, IL.
- 08/2007 “Physics of Algorithms Series”, Los Alamos National Laboratory, NM.
- 04/2006 “Workshop on Probabilistic Combinatorics and Algorithms”, A Conference in Honor of of Joel Spencers 60th Birthday, DIMACS NJ.

## Poster presentation

- 05/2008 “New Directions in Algorithms, Combinatorics and Optimization”, Georgia Institute of Technology, Atlanta, GA.

## Skills

Matlab, Mathematica, Maple. C++, C, Pascal, 80x86 Assembly.  
 Python, NetworkX, LEDA. LaTeX, HTML, PHP.

## References

Prof. Allon Percus, allon.percus@cgu.edu, 909-607-0744.  
 School of Mathematical Sciences, Claremont Graduate University, 710 N. College Ave. Claremont, CA 91711.

Prof. Vwani Roychowdhury, vwani@ee.ucla.edu, 310-206-4975.  
 Electrical Engineering, University of California, Los Angeles, Box 53-109 EIV, 6731C BH, Los Angeles, CA, 90095-1596.

Dr. Aric Hagberg, hagberg@lanl.gov, 505-665-4958.  
 Mathematical Modeling and Analysis Group, Los Alamos National Laboratory, MS B284, Los Alamos, NM 87545.