

Antonio Blanca

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EDUCATION

Ph.D., Computer Science, 2016
University of California, Berkeley
Thesis: Dynamics for the random-cluster model
Advisor: Alistair Sinclair

B.S., Computer Science, 2011
B.S., Discrete Mathematics, 2011
Georgia Institute of Technology

EMPLOYMENT

Postdoctoral Fellow, 2016
Georgia Institute of Technology
College of Computing, Algorithms & Randomness Center

PUBLICATIONS

2017 - Structure Learning of H -colorings
with Z. Chen, D. Štefankovič and E. Vigoda
Submitted.

2017 - Spatial Mixing and Non-local Markov chains
with P. Caputo, A. Sinclair and E. Vigoda
Submitted.

2016 - Phase Coexistence for the Hard-Core Model on \mathbb{Z}^2
with Y. Chen, D. Galvin, D. Randall and P. Tetali
Submitted.

2016 - Random-cluster Dynamics in \mathbb{Z}^2
with A. Sinclair
Probability Theory and Related Fields, 2017, 168 (3), pp. 821-847.
Preliminary version in *Proceedings of SODA*, 2016, pp. 498-513.

2015 - Dynamics for the mean-field random-cluster model
with A. Sinclair
In *Proceedings of the 19th International Workshop on Randomization and Computation (RANDOM)*, pp. 528–543. Schloss Dagstuhl, 2015.

2013 - Phase Coexistence and Slow Mixing for the Hard-Core Model on \mathbb{Z}^2
with D. Galvin, D. Randall and P. Tetali
In *Proceedings of the 17th International Workshop on Randomization
and Computation (RANDOM)*, pp. 379–394. Springer, 2013.

2011 - On Universal Cycles for new Classes of Combinatorial Objects
with A. P. Godbole
SIAM Journal on Discrete Mathematics, 2011, 25 (4), pp. 1832–1842.

AWARDS AND
FELLOWSHIPS

2013 - First place, ACM Graduate Student Research Competition
Microsoft Research, SVC

2012 - NSF Graduate Research Fellowship

2011 - UC Berkeley Chancellor’s Fellowship for Graduate Study

2009 - Google Hispanic Scholarship

INVITED TALKS

2017 - Spatial Mixing and non-local Markov chains
Schloss Dagstuhl. Computational Counting Seminar, 08/24

2016 - Rapid mixing of Markov chains on spin systems
University of Rochester. Probability Seminar, 11/11

2016 - Dynamics for the random-cluster model
Simons Institute for the Theory of Computing. Approximate Counting,
Markov Chains and Phase Transitions Workshop, 02/22
Georgia Institute of Technology. ARC Colloquium, 02/5

2015 - Dynamics for the mean-field random-cluster model
Microsoft Research, Redmond. Theory Lunch, 05/13
University of Washington. Probability Seminar, 05/11
Stanford University. Theory Lunch, 04/23

TEACHING

Co-instructor:
CS 7535 Markov Chain Monte Carlo Methods
Georgia Institute of Technology, Fall 2017

CS 4903 Programming Competition Preparation

Georgia Institute of Technology, Springs 2010 & 2011

CS 4803 Competitive Algorithmic Programming
Georgia Institute of Technology, Fall 2010

Graduate Student Instructor:

CS 170 Efficient Algorithms and Intractable Problems
UC Berkeley, Spring 2015

CS 270 Combinatorial Algorithms
UC Berkeley, Spring 2012

Guest Lecturer:

CS 7540 Spectral Algorithms
Georgia Institute of Technology, Spring 2017

Grader:

CS 174 Combinatorics and Discrete Probability
UC Berkeley, Fall 2011

SERVICE

Conference reviews:

SODA 2017-2016, RANDOM 2017-2015, FOCS 2016-2015, ESA 2013

Journal reviews:

Probability Theory and Related Fields, Random Structures & Algorithms,
Journal of Discrete Algorithms, Algorithmica

Georgia Tech Programming Team coach, 2010 - 2011

REFERENCES

Prof. Pietro Caputo
Department of Math and Physics
Roma Tre University
Rome, Italy 00146
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Prof. Alistair Sinclair
Computer Science Division
UC Berkeley
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Prof. Allan Sly
Department of Mathematics
Princeton University
Princeton, NJ 08540
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Prof. Eric Vigoda
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