Curriculum Vitae **Hüseyin Acan** September 2018

CONTACT INFORMATION

Drexel University
Department of Mathematics
Korman Center
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PERSONAL DATA

Citizenship: Turkey, USA

EDUCATION

The Ohio State University Columbus, Ohio
Ph.D., Mathematics August 2013
Thesis Advisor: Boris Pittel

EMPLOYEMENT

Postdoctoral Fellow **September 2015-2018**
National Science Foundation Research Fellowship in Mathematical Sciences (Award #1502650)
Sponsoring Scientist: Jeff Kahn

Research Fellow, Monash University **September 2013-August 2015**
Mentor: Nick Wormald

RESEARCH INTERESTS

Enumerative combinatorics, probabilistic combinatorics, random graphs, asymptotic enumeration, stochastic processes, extremal combinatorics

HONORS AND AWARDS

Mathematical Sciences Postdoctoral Research Fellowship (MSPRF)
- Award given by National Science Foundation for three years starting September 2015

Special Graduate Assignment (SGA) Fellowship Spring 2012
- Departmental support awarded annually to ∼15 students for research-related pursuits

Summer Support from Advisor's NSF Grant DMS-1101237 Summer 2012

Graduate Research Associateship Summers of 2007, 2008, and 2011
- Departmental award selectively granted to students with strong academic records

TRAVEL AWARDS

- Travel Grant for Memphis-Budapest Summer School in Combinatorics August 2011
  Event sponsored by the National Science Foundation and the Chair of Excellence in Combinatorics at the University of Memphis
- William Henson Travel Award, The Ohio State University Spring 2011

PUBLICATIONS

In preparation

- H. Acan, C. Sato, and N. Wormald, *Counting connected uniform hypergraphs with given number of edges.*
- H. Acan, *Perfect matchings and hamiltonicity in uniform attachment graphs.*

- H. Acan, *On the number of indecomposable permutations with a given number of inversions.*

Submitted

- H. Acan and J. Kahn, *Disproof of a packing conjecture of Alon and Spencer.* arxiv:1706.01866
- H. Acan and B. Pittel, *On connectivity, conductance and bootstrap percolation for a random k-out, age-biased graph.*
- H. Acan, *Counting Unlabeled Interval graphs*

Published

- H. Acan, P. Devlin, and J. Kahn, *Proof of an entropy conjecture of Leighton and Moitra*, J. Combin. Theory Ser. A 161 (2019), 299–308.
- H. Acan and B. Pittel, *Formation of a giant component in the intersection graph of a random chord diagram*, J. Combin. Theory Ser. B 125 (2017), 3379.
- H. Acan, *On a uniformly random chord diagram and its intersection graph*, Discrete Math. 340 (2017), no. 8, 1967–1985.
- H. Acan, A. Collevecchio, A. Mehrabian, and N. Wormald, *On the push & pull protocol for rumour spreading*, SIAM J. Discrete Math. 31 (2017), no. 2, 647–668.
  (A shorter version of this article appeared in the Proceedings of the 2015 ACM Symposium on Principles of Distributed Computing (PODC 2015), 405–412.)
- H. Acan and P. Hitczenko, *On random trees obtained from permutation graphs*, Discrete Math. 339 (2016), 2871–2883.
- H. Acan and P. Hitczenko, *On a memory game and preferential attachment graphs*, Adv. Appl. Prob. 48 (2016), 585–609.
- H. Acan and P. Hitczenko, *On the covariances of outdegrees in random plane recursive trees*, J. Appl. Probab. 52 (2015), no.3.
- H. Acan and B. Pittel, *On the connected components of a random permutation graph with a given number of edges*, J. Combin. Theory Ser. A 120 (2013), no.8, 1947–1975.
- H. Acan, K. Kaya, and A. A. Selçuk, *Capture Resilient ElGamal Signature Protocols*, The 21st International Symposium on Computer and Information Sciences (ISCIS 2006), Lecture Notes in Computer Science, Springer-Verlag, November 2006.

Thesis

- H. Acan, *An enumerative-probabilistic study of chord diagrams*, Ph.D. Thesis, The Ohio State University, August 2013. Available at:
  https://etd.ohiolink.edu/!etd.send_file?accession=osu1373310487& disposition=inline

Talks

Invited Talks

- *On the largest component of the intersection graph of a random chord diagram* — April 2018
  AMS Sectional Meeting, Vanderbilt University, Nashville, TN
- *On the giant component of the intersection graph of a random chord diagram* — March 2018
  AMS Sectional Meeting, The Ohio State University, Columbus, OH

- *A packing conjecture of Alon and Spencer and some related problems* February 2018
  Drexel University, Philadelphia, PA
- *Disproof of a packing conjecture of Alon and Spencer* January 2018
  Illinois State University, Normal, IL
- *Disproof of a conjecture of Alon and Spencer* August 2017
  Georgia Institute of Technology, Atlanta, GA
- *Phase transitions in random chord diagrams and permutations* May 2016
  Drexel University Colloquium, Philadelphia, PA
- *Evolution of a random permutation* February 2013
  Georgia Institute of Technology, Atlanta, GA

Other Talks

- *The Life of a Postdoc* February 2018
  Rutgers University, Graduate Students Pizza Seminar
- *Disproof of a conjecture of Alon and Spencer* August 2017
  The 18th International Conference on Random Structures and Algorithms, Gniezno, Poland
- *Formation of a giant component in a random chord diagram* June 2017
  The Second Malta Conference in Graph Theory and Combinatorics, Malta
- *On a Random Tree Chosen From Permutation Graphs* December 2014
  38th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing, Wellington, New Zealand
- *A Sharp Threshold for the Connectedness of Random Permutation Graphs* December 2013
  37th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing, Perth, Australia
- *Evolution of a Random Permutation Graph* April 2013
  MIGHTY LIV (54th Midwest Graph Theory Conference) Oxford, OH
- *On a giant component in the intersection graph of a random chord diagram* May 2011
  15th International Conference on Random Structures and Algorithms, Atlanta, GA
- *Maximum number of edge-disjoint and almost-largest cliques in a random graph* October 2016
  Rutgers University, Discrete mathematics Seminar
- *Indecomposability threshold for random permutations* November 2015
  Rutgers University, Discrete mathematics Seminar
- *An evolution of a permutation* April 2014
  Monash University
- *Connectedness threshold in random permutations* October 2012
  The Ohio State University
- *Chord diagrams and their intersection graphs* November 2011
  Turkish American Academics of Midwest Workshop, Chicago, IL
- *The lattice of periods of a group action and its topology* July 2006
  Bilkent University, Ankara, Turkey
- *Graph coloring and public key cryptography* May 2005
  Bilkent University Cryptography Seminar, Ankara, Turkey

Workshops and summer school

- Pobabilistic and Extremal Combinatorics Workshop, Institute for Mathematics and its Applications (IMA), Minneapolis, Minnesota September 8-12, 2014
- Additive and Analytic Combinatorics Workshop, Institute for Mathematics and its Applications (IMA), Minneapolis, Minnesota September 29–October 3, 2014
- Memphis-Budapest Summer School in Combinatorics, Budapest, Hungary August 7-20, 2011

Teaching Experience

Lecturer **2016-2017**

Rutgers University, Piscataway, New Jersey

Created the course syllabus, exams, homework assignments, workshop problems. Offered office hours, communicated with the TA for running the course smoothly.

- Math 151: Calculus I for the Mathematical and Physical Sciences (Honors) AU 2017
- Math 311: Introduction to Real Analysis I SP 2016
- Math 151: Calculus I for the Mathematical and Physical Sciences AU 2016

Graduate Teaching Associate **2007-2013**

The Ohio State University, Columbus, Ohio

Created recitation syllabus, conducted recitations for 4 hours per week, graded 3 exams and weekly quizzes and homework assignments, and offered 3 office hours per week for ∼60 students for each of the following courses:

- Math 1148: College Algebra AU 2012
- Math 117: Survey of Calculus AU 2010
- Math 131: Mathematical Analysis for Business II WI 2009
- Math 132: Mathematical Analysis for Business III SP 2009
- Math 151: Calculus and Analytic Geometry I SP 2008, SP 2010
- Math 152: Calculus and Analytic Geometry II AU 2007, WI 2008
- Math 153: Calculus and Analytic Geometry III AU 2008, AU 2009
- Math 161.01: Accelerated Calculus I (for honors engineering students) AU 2011
- Math 162.01: Accelerated Calculus II (for honors engineering students) WI 2012
- Math 254: Calculus and Analytic Geometry IV WI 2011, WI 2010
- Math 415: Ordinary and Partial Differential Equations SP 2011

Math and Statistics Learning Center Tutor **2007-2013**

The Ohio State University, Columbus, Ohio

Tutored students one-on-one for 2 hours per week in conjunction with all teaching associateships

Lecturer **2010-2011**

The Ohio State University, Columbus, Ohio

Created course syllabus and lecture notes, lectured 5 hours per week, wrote and graded 3 exams and weekly quizzes and homework assignments, and offered daily office hours for ∼30 students for each of the following courses:

- Math 152: Calculus and Analytic Geometry II SU 2011
- Math 153: Calculus and Analytic Geometry III SU 2010

Professional Service

- Refereed for IEEE Transactions on Information Theory, Physica, ISCIS (International Symposium on Computer and Information Sciences), ANALCO. Reviewer for Mathematical Reviews (MathSciNet Reviewer Number: 125569)

Service

- Taught USAMO and AIME level math organized by the AlphaStar Academy for middle and high school students Northridge, CA, 2012
- Taught AMC10 level math at a summer camp organized by Absolute Academy, Oaktan, VA, 2017

Collaborators

Andrea Collevecchio (Monash University); Pat Devlin (Rutgers University); Paweł Hitczenko (Drexel University); Jeff Kahn (Rutgers University); Kamer Kaya (The Ohio State University); Abbas Mehrabian (McGill University); Boris Pittel (The Ohio State University); Ali Aydin Selcuk (TOBB University of Economics and Technology); Nicholas Wormald (Monash University).

Professional Affiliations

- American Mathematical Society