GIORGIS PETRIDIS

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EMPLOYMENT

Assistant Professor, The University of Georgia in Athens, 2016 - present.

Visiting Assistant Professor, University of Rochester, 2012 - 2016.

EDUCATION

Doctor of Philosophy under the supervision of W.T. Gowers, University of Cambridge, 2002 - 2011.

Certificate of Advanced Studies in Mathematics, St John's College, University of Cambridge, 2001 - 2002.

BA (Hons) in Mathematics, St John's College, University of Cambridge, 1998 - 2001.

GRANTS AND SCHOLARSHIPS

NSF DMS Award 1723016 & Award 1500984, 2015 - 2018.

AMS-Simons Travel Grant, 2013 - 2015.

SELECTED PUBLICATIONS

[1] B. Murphy and G. Petridis *Products of differences over arbitrary finite fields*, arXiv:1705.06581, 2017.

[2] B. Murphy, G. Petridis, O. Roche-Newton, M. Rudnev and I. D. Shkredov, *New results on sum-product type growth over fields*, arXiv:1702.01003, 2017.

[3] G. Petridis and I. E. Shparlinski, *Bounds on trilinear and quadrilinear exponential sums*, To appear in J. Anal. Math., arXiv:1604.08469, 2016.

[4] C. Aten et all, *Tiling sets and spectral sets over finite fields*, To appear in J. Funct. Anal., arXiv:1509.01090, 2015.

[5] G. Petridis, *Pinned algebraic distances determined by Cartesian products in* $\mathbb{F}_p^2$, Proc. Amer. Math. Soc. 145 (11), 4639–4645, 2017.

[6] G. Petridis, *Upper bounds on the cardinality of higher sumsets*, Acta Arith. 158 (4), 299–319, 2013.

[7] G. Petridis, *The* L^1*-norm of exponential sums in* $\mathbb{Z}^d$, Math. Proc. Cambridge Philos. Soc. 154 (3), 381–391, 2013.

[8] G. Perarnau and G. Petridis, *Matchings in random biregular bipartite graphs*, Electron. J. Combin. 20 (1), P60, 2013.

[9] G. Petridis, *New proofs of Plünnecke-type estimates for product sets in groups*, Combinatorica 32 (6), 721–733, 2012.

[10] G. Petridis, *Plünnecke's inequality*, Combin. Probab. Comput. 20 (6), 921–938, 2011.

INVITED SPEAKER FOR WORKSHOPS

Week-long Block Course in Additive Combinatorics, Freie Universität Berlin, Germany, October 2014.

Series of four talks at the New York Number Theory Seminar, CUNY Graduate Center, NY, USA, May 2011.

WORKSHOP PARTICIPATION

Additive Combinatorics, Entropy, and Fractal Geometry Arbeitsgemeinschaften, Mathematisches Forschungsinstitut, Oberwolfach, Germany, 8 Oct - 13 Oct 2017.

Structure vs. Randomness Workshop, Simons Institute for the Theory of Computing, Berkeley, CA, USA, 10 Apr - 14 Apr 2017.

Additive and Analytic Combinatorics Workshop, IMA, Minneapolis, MN, USA, 29 Sep - 3 Oct 2014.

The Kakeya Problem, Restriction Problem, and Sum-product Theory Workshop, IPAM, Los Angeles, CA, USA, 5 - 9 May 2014.

SELECTED INVITED TALKS AND VISITS

19th Atlanta Lecture Series in Graph Theory and Combinatorics, Georgia State University, Atlanta, GA, USA, April 2017.

Universidad Autónoma de Madrid, Seminar, Madrid, Spain, December 2016.

Georgia Institute of Technology, Seminar, Atlanta, GA, USA, November 2016.

MIT, Seminar and visit to Larry Guth's group, Cambridge, MA, USA, October 2015.

Oakridge National Laboratory, Division of Mathematics Seminar, TN, USA, September 2015.

McGill University, Combinatorics Seminar, Montreál, Canada, March 2014.

Fields Institute, Number Theory Seminar, Toronto, Canada, September 2013.

University of Athens, Mathematical Analysis Seminar, Athens, Greece, January 2012.

Universitat Politècnica de Catalunya, Combinatorics Graph Theory and Applications Seminar, Barcelona, Spain December 2011. Invited researcher at UPC: December 2011, May 2012.

Newton Institute, Discrete Analysis Seminar, Cambridge, UK, February 2011.

SELECTED CONTRIBUTED TALKS

New York Number Theory Seminar - CANT, CUNY Graduate Center, NY, USA, May 2017, 2016, 2014, 2013.

Combinatorial and Additive Number Theory Conference, Karl-Franzens Universität Graz, Austria, January 2016.

Combinatorics Conference in Lisboa, Universidade Nova, Lisboa, Portugal, July 2011.

Young Workshop in Arithmetics and Combinatorics, ICMAT, Madrid, Spain, June 2011.

TEACHING EXPERIENCE

Lectured the following courses at the University of Georgia in Athens (2016 - present):

- *2000-Level*: Elementary Differential Equations.

Lectured the following courses at the University of Rochester (2012 - 2016):

- *100-Level*: Calculus I, Calculus IA, Discrete Mathematics, Multidimensional Calculus, Linear Algebra with Differential Equations.
- *200-Level*: Introduction to Probability, Linear Algebra, Introduction to Algebra I, Combinatorics, Logic & Set Theory.

Supervised most first and second year courses at at the University of Cambridge (2002 - 2009) and gave Examples Classes for St John's College, University of Cambridge (2004 - 2007).

STUDENT MENTORING

REU	Monte Fischer: lead REU in collaboration with Neil Lyall on 'Additive energy on the discrete cube', 2017.
	'Tiling sets and spectral sets over finite fields' REU with the participation of 14 students in collaboration with A. Iosevich and J. Pakianathan. Resulted in [4], 2015.
	Mentor for summer McNair program (which aims to increase graduate degree awards for students from underrepresented segments of society), 2015.
	Lead REU on random regular graphs, 2014.
	Contributed to A. Iosevich's REU on the Erdős distinct distance problem, 2014.
Advising	Four independent study projects on cryptography, combinatorial game theory, educational aspects of mathematics, and Rubik's cube.

SERVICE

Referee: Bulletin of the Hellenic Mathematical Society, Bulletin of the London Mathematical Society, Combinatorica, International Journal of Number Theory, International Mathematics Research Notes, Proceedings of the American Mathematical Society, The Electronic Journal of Combinatorics, Transactions of the American Mathematical Society.

Outreach: Multiple talks to the Rochester Area Math Circle, to high school students visiting the University of Rochester, and to the University of Rochester S.U.M.S. undergraduate mathematics society.

Public understanding of science: Helped edit science communication guides for the general public, one on medical screening and one on statistics.