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(where all publications can be found online)

April 2024

PERSONAL

Born on 30 May 1966 in Iraklio (Heraklion), Greece.

CURRENT POSITION

- Professor, [Dept. of Mathematics and Applied Mathematics, Univ. of Crete](#), Greece.

EDUCATION-EMPLOYMENT

8/2006 - present	Univ. of Crete	Professor
2013 - 2015	Univ. of Crete	Professor and Chair of the Department
1/2007 - 5/2007	Georgia Inst. of Technology	Visiting Professor
6/2000 - 7/2006	Univ. of Crete	Associate Professor
8/2004 - 5/2005	Georgia Inst. of Technology	Visiting Associate Professor
10/1999 - 5/2000	Univ. of Crete	Visiting Associate Professor
12/1998 - 10/1999	Hellenic Air Force	Military service
Fall 1998-99	Univ. of Illinois U-C	Visiting Assistant Professor
1997-1998	Univ. of Crete	Visiting Assistant Professor
1996-1997	Univ. of Illinois U-C	Visiting Assistant Professor
1994-1996	School of Math., Inst. for Advanced Study, Princeton NJ	Member
1989-1994	Stanford Univ.	Ph.D. in Math. (advisor P.J. Cohen)
1989-1991	Stanford Univ.	MSc in Mathematics
1988-1989	Univ. of Crete	Graduate student in the Math. Dept.
1984-1988	Univ. of Crete	B.Sc. in Computer Science

MATHEMATICAL INTERESTS

(1) Harmonic Analysis and its Applications

Applications of harmonic analysis to geometric and number-theoretic problems • Extremal problems concerning trigonometric polynomials and positive definite functions • Bases consisting of complex exponentials $e^{2\pi i \lambda \cdot x}$ (orthogonal bases, Gabor bases, Riesz bases, frames)

(2) Additive Number Theory

Density of $B_h[g]$ sets and of additive bases • Sum-free sets • Additive complements • Effective algorithms in Number Theory.

(3) Applications of Probability Theory

Mostly to Harmonic Analysis and Number Theory • Turning probabilistic (existential) arguments into efficient algorithms.

(4) Theoretical Computer Science

PhD Thesis (June 1994; advisor [P.J. Cohen](#))

[PROBABILISTIC AND CONSTRUCTIVE METHODS IN HARMONIC ANALYSIS AND ADDITIVE NUMBER THEORY.](#)

TEACHING EXPERIENCE (U): undergraduate, (G): graduate**University of Crete:**

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|---------------------------------------------|-------------------------------------------------------------------|
| (1) Calculus (U) | (14) Probability Theory (U) |
| (2) Linear Algebra (U) | (15) Parametric Statistics (U) |
| (3) Analysis (U) | (16) Formal Languages and Introduction to Computability (U) |
| (4) Programming (in C, Fortran, Python) (U) | (17) Stochastic Processes (U) |
| (5) Harmonic Analysis (U) | (18) Multivariable Calculus for the Dept of Materials Science (U) |
| (6) Functional Analysis (U) | (19) Number Theory (U) |
| (7) Approximation Theory (U) | (20) Applications of Probability (U) |
| (8) Real Analysis (U) | (21) Real Analysis (G) |
| (9) Complex Analysis (U) | (22) Stochastic Processes (G) |
| (10) Discrete Mathematics (U) | (23) Randomized Algorithms (G) |
| (11) The Problem Seminar (U) | (24) Probability Theory (G) |
| (12) Group Theory (U) | |
| (13) Introduction to Computing (U) | |

Stanford University:

Calculus (U, as graduate student)

Univ. of Illinois:

- | | |
|-----------------------------------|---------------------------------------|
| (1) Linear Algebra (U) | (3) Multivariable Calculus (U) |
| (2) Combinatorial Mathematics (G) | (4) Introduction to Real Analysis (G) |

Georgia Inst. of Technology:

Multivariable Calculus (U)

POSTDOCS, STUDENTS**Postdocs (at the University of Crete)**

Elona Agora, 2015
Christos Papachristodoulos, 2015
Effie Papageorgiou, 2020-23
Nikos Karamanlis, 2021-22
Stefanos Aivazidis, 2022-23
Giorgos Chasapis, 2022-23

MSc, then PhD

Panagiotis Mavroudis, PhD thesis (March 2014) on **Approximation and extremal problems about positive definite functions**.

Emmanuel Spyridakis, Master's thesis on **Tilings of the real line of bounded density**, (Spring 2023). PhD thesis (started Fall 2023).

MSc and Undergraduate Thesis

Nikos Andrianos, Master's Thesis (Fall 2010-11), on **The hydrogen atom**.

Despina Bourou, Master's Thesis (Spring 2021-22), on **The complexity of stable marriage**.

Nikos Chatzikostantinou, diploma thesis (Spring 2013-14) on **Entropy methods in Combinatorics**.

Anastasios Hondros, Master's Thesis (Spring 2008-09), on **Probabilistic methods in combinatorics and number theory**.

Dimitris Kalopsikakis, diploma thesis on **The Probabilistic Method**, (Spring 2015-16).

Dimitris Kalopsikakis, Master's thesis on **Circuit complexity**, (Fall 2020).

Nikos Konstantinidis, diploma thesis on **The use of generating functions and asymptotic enumeration in the study of evolution of RNA structures**. (Fall 2012-13)

Ioannis Konstantoulas, diploma thesis on **Random matrices: determinant and invertibility**. (Spring 2007-08), and Master's Thesis (Spring 2008-09) on **Tilings**.

Dimitra Maniou, Master's thesis (January 2018) on **Primality testing**.

Georgios Mavrogiannis, Master's Thesis on the **Kadison-Singer problem**, (Spring 2017-18).

Nikos Poursalidis, Master's thesis on **The Structure of translational tilings via Fourier Analysis**.

Costas Rabalakos, Master's thesis on **Quantum Computation**. (Spring 2003-04)

Maria Reppa, diploma thesis on **Network flow**. (Spring 2003-04)

Konstantinos Seretis, diploma thesis on **Linear Programming and Duality**, (Fall 2016-17).

Vangelis Xyloyannis, Master's Thesis (Summer 2008-09), on **Linear algebra methods in combinatorics**.

TALKS/CONFERENCES:

I have spoken (or presently will speak) at the following conferences/workshops:

- (1) Workshop on Emerging Applications of Probability, IMA, Minneapolis, MN, September 1993 (contributed talk).
- (2) Special Session on Harmonic Analysis, 886th AMS meeting, College Station, TX, October 1993 (invited).
- (3) Symposium On Discrete Algorithms (SODA), Washington DC, January 1994 (refereed conference).
- (4) Workshop in Additive and Combinatorial Number Theory, CUNY, March 1995 (invited).
- (5) Int. Conf. Analytic Number Theory, Univ. Illinois Urbana-Champaign, May 1995 (invited).
- (6) Harmonic Analysis from the Pichorides Viewpoint, Univ. of Crete, Greece, July 1995 (invited).
- (7) DIMACS workshop on Combinatorial Number Theory, February 1996 (invited).
- (8) Illinois Number Theory Conference, April 1997 (one of four invited lectures).
- (9) Workshop on the interface of Probability and Number Theory, May 2000, Univ. of Illinois (invited).
- (10) Workshop on Applied Mathematics, July 2000, Univ. of Crete, Greece.
- (11) Euroconference on Discrete and Algorithmic Geometry, August 2000, Anogia, Crete, Greece.
- (12) Hellenic conference on Mathematical Analysis, October 2000, Xanthi, Greece.
- (13) Rajchman-Zygmund-Marcinkiewicz Symposium, October 2000, Bedlewo, Poland.
- (14) Second Göteborg Conference in Harmonic Analysis and Partial Differential Equations, Göteborg, Sweden, June 2001.
- (15) Workshop on Fourier Analysis and Convexity (invited mini-course), June 2001, University of Milano-Bicocca.
- (16) Workshop on Periodicity and Quasi-periodicity, June 2002, Renyi Institute, Budapest (invited).
- (17) Combinatorial and Number-Theoretic Methods in Harmonic Analysis, Spring 2003, Erwin Schrödinger Institute, Vienna (invited).
- (18) Théorie des Nombres et Probabilités, November 2003, CIRM, Marseille (invited).
- (19) Special program in Harmonic Analysis, April-July 2004, Centro de Giorgi, Pisa (invited).
- (20) 7th International Conference on Harmonic Analysis and Partial Differential Equations, El Escorial, Madrid (Spain), June 21-25, 2004 (invited).
- (21) Workshop in Real Analysis, Harmonic Analysis and Applications to PDE, Oberwolfach, Germany, July 3-9, 2005 (invited).
- (22) 3rd Meeting for Young Researchers in Analysis, Karlovasi, Samos, Greece, September 16-18, 2005 (invited).
- (23) Interface entre l'analyse harmonique et la theorie des nombres, 17-21 October, 2005, CIRM, Marseille (invited).
- (24) Complex and Harmonic Analysis: an international conference, Thessaloniki, Greece, May 25 - 27, 2006 (invited).
- (25) Analysis, Number Theory and Logic: Honoring Paul Cohen on his 72nd birthday, Stanford University, September 14-17, 2006 (invited).
- (26) Illinois Number Theory Fest, Univ. of Illinois at Urbana-Champaign, May 16-20, 2007.
- (27) Second Workshop on Extremal Problems in Fourier Analysis, Renyi Institute, Budapest, 18-23 September 2007 (invited).
- (28) Problems in Analysis 2007, Iraklio, Crete, Greece, October 5-7, 2007 (organizer).
- (29) Analytical and Combinatorial Methods in Number Theory and Geometry 2007, Iraklio, Crete, Greece, October 22-26, 2007 (organizer).
- (30) Clay-Fields Conference on Additive Combinatorics, Number Theory, and Harmonic Analysis, Fields Institute, Toronto, April 5-13, 2008 (invited).

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- (31) 12th Panhellenic Conference in Mathematical Analysis, Univ. of Athens, May 15-17, 2008 (plenary talk).
 - (32) Problems in Analysis 2008, Samos, Greece, September 26-29, 2008 (invited).
 - (33) Harmonic Analysis in Samos, 22-25 September 2009, Univ. of the Aegean, Karlovassi, Samos, Greece (plenary talk).
 - (34) Complex and Harmonic Analysis, Archanes, Univ. of Crete, Sep 2-5 2009.
 - (35) 3rd Workshop in Fourier Analysis, Budapest, Sep 17-23 2009 (invited).
 - (36) Harmonic Analysis in Samos, Karlovassi, Sep 21-25 2009 (invited).
 - (37) Euclidean Harmonic Analysis, Nilpotent Lie Groups and PDEs, Scuola Normale, Pisa, Mar 1 - Apr 30, 2010 (intensive period).
 - (38) 13th Panhellenic Conference in Mathematical Analysis, Univ. of Ioannina, May 28-29, 2010.
 - (39) Three days in Analysis for young researchers, Univ. of Athens, Nov 26-28, 2010.
 - (40) 14th Panhellenic Conference in Mathematical Analysis, Univ. of Patras, May 18-19, 2012.
 - (41) 4th Workshop on Fourier Analysis and Related Fields, Budapest, Aug 26-30, 2013 (invited).
 - (42) Polyhedra, Lattices, Algebra, and Moments, NUS Singapore, Jan 7-16, 2014 (invited).
 - (43) Double journée sur les pavages en mathématiques, informatique et musique, Montpellier, Sep 26-27, 2014 (invited).
 - (44) Canadian Math. Soc. meeting, Hamilton, ON, Dec 5-8, 2014 (invited).
 - (45) Complex and Harmonic Analysis, Differential Equations, Numerical Methods, NTNU Trondheim, Jun 1-5, 2015 (invited).
 - (46) Aperiodic order and signal analysis, NTNU Trondheim, Jun 8-12, 2015 (invited).
 - (47) 5th Workshop on Fourier Analysis and Related Fields, Budapest, Aug 24-28, 2015 (invited).
 - (48) Additive Combinatorics in Marseille, CIRM, Marseille, Sep 7-11, 2015 (invited).
 - (49) 15th Panhellenic Conference on Mathematical Analysis, Heraklion, May 27-29, 2016.
 - (50) Workshop on Discrepancy Theory, Varenna, Jun 12-18, 2016 (invited).
 - (51) CIMPA 2017 - IX Escuela Santaló Buenos Aires, Jul 31 - Aug 11, 2017 (invited).
 - (52) 6th Workshop on Fourier Analysis and Related Fields, Pécs, Hungary, Aug 24-31, 2017 (invited).
 - (53) Mathematical Analysis in Athens - Katavolos and Nestoridis, Univ. of Athens, Dec 15-19, 2017 (invited).
 - (54) Meeting on Sampling, uncertainty principles, and combinatorial methods in harmonic analysis, Bilbao, Jan 15-18, 2018 (invited).
 - (55) Optimal and random point configurations, ICERM, Brown Univ., Feb 26 - Mar 2, 2018.
 - (56) Mathematical Challenges of Structured Function Systems, ESI, Vienna, Mar 19-23, 2018 (invited).
 - (57) Frame Theory and Exponential Bases, ICERM, Brown Univ., Jun 4-8, 2018 (organizer).
 - (58) North Eastern Analysis Meeting, Oct. 19-21, 2018, State University of New York at New Paltz.
 - (59) Explorations in Harmonic Analysis and other realms, Feb. 10-14, 2019, Weizmann Institute of Science, Israeli (invited).
 - (60) Harmonic and Spectral Analysis 2021, May 31-Jun. 2, 2021, Univ. Debrecen, Hungary (online, invited).
 - (61) Two-day memorial meeting for Dimitris Gatzouras, March 12-13, 2022, University of Athens (invited).
 - (62) 9th Greek Algebra and Number Theory Conference, 12th - 13th May 2023, Thessaloniki (invited).
 - (63) 3rd Analysis Symposium, June 2 - 3, 2023, University of the Aegean, Samos (invited).
 - (64) Advanced Courses in Operator Theory and Complex Analysis (ACOTCA) conference, June 26 - June 30, 2023, Thessaloniki.
 - (65) Harmonic and Spectral Analysis 2023, Oct. 4-6, 2023, Univ. Debrecen, Hungary (online, invited).
 - (66) 1st Greek Number Theory Meeting, 21-22 December 2023, Univ. of Athens (invited).
 - (67) Fourier Analysis and its applications Workshop, 29 Jan. - 2 Feb. 2024, Renyi Institute, Budapest (invited).
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- (68) Additive Combinatorics and Fourier Analysis Workshop, 17 Jun. - 21 Jun. 2024, Renyi Institute, Budapest (invited).
 - (69) On the Interface of Geometric Measure Theory and Harmonic Analysis, Banff, June 2024 (invited).

I have given research talks at the following departments/institutes:

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|----------------------------------------------------------------------|------------------------------------------------------------|
| (1) Aristotle University of Thessaloniki, Greece | (19) Texas A&M Univ., USA |
| (2) Caltech, USA | (20) Univ. Autonoma de Madrid, Spain |
| (3) Cornell Univ., USA | (21) Univ. of Athens, Greece |
| (4) CUNY, New York Number Theory Seminar, USA | (22) Univ. of the Aegean, Greece |
| (5) Erwin Schrödinger Institute, Austria | (23) Univ. of California Los Angeles, USA (online seminar) |
| (6) Georgetown Univ., USA | (24) Univ. of Crete, Greece |
| (7) Georgia Institute of Technology, USA | (25) Univ. of Georgia, Athens, GA, USA |
| (8) IBM Almaden Research Center, Computer Science, Theory Group, USA | (26) Univ. of Illinois U-C, USA |
| (9) Lehigh Univ., USA | (27) Univ. Illinois at Chicago, USA |
| (10) National Technical Univ. of Athens, Greece | (28) Univ. di Milano-Bicocca, Italy |
| (11) Oklahoma State Univ., USA | (29) Univ. Missouri, Columbia, USA |
| (12) Renyi Institute, Hungary | (30) Univ. of Rochester, USA |
| (13) Princeton University, USA | (31) Univ. of Texas at Austin, USA |
| (14) San Francisco State University, USA | (32) Univ. of Toronto, Canada |
| (15) Scuola Normale Superiore, Pisa, Italy | (33) Univ. California Riverside, USA |
| (16) Stanford Univ., USA | (34) Univ. Maryland College Park, USA |
| (17) Technical Univ. of Crete, Greece | (35) Univ. of Warwick, UK |
| (18) Technische Univ. Berlin, Germany | (36) Univ. of Wisconsin-Madison, USA |
| | (37) University College London, UK |
| | (38) Vanderbilt University, USA |

ORGANIZED MEETINGS:

I have co-organized the following meetings:

- (1) *Fourier bases*, Univ. of Crete, September 19-21, 2018.
- (2) *Frame theory and exponential bases*, ICERM, June 4-8, 2018.
- (3) *Analysis Days*, Heraklion, Crete, May 24-25, 2017.
- (4) *15th Panhellenic Conference on Mathematical Analysis*, Heraklion, Crete, May 27-29, 2016.
- (5) *Complex and Harmonic Analysis 2009*, Archanes, Crete, 3-5 September 2009.
- (6) *Analytical and Combinatorial Methods in Number Theory and Geometry 2007*, Crete, October 2007.
- (7) *Problems in Analysis 2007*, Crete, October 2007.
- (8) *Harmonic Analysis and Related Problems 2006 – HARP 2006*, Crete, June 2006.
- (9) *Two day meeting “Complex and Harmonic Analysis”*, Crete, May 2002.
- (10) *Two days of talks in Analysis for young researchers*, Crete, September 2001.
- (11) *Two days of talks in analysis*, Crete, June 2000.

ORGANIZED SEMESTER-LONG SEMINARS:

I have organized (alone or with others) the following semester-long seminars:

- (1) *Percolation and Disordered Systems*, Crete, Spring 99-00.
- (2) *Fourier Analysis Seminar*, Crete, Spring 00-01.
- (3) *Results in Theoretical Computer Science*, Crete, Spring 01-02.

LONG-TERM VISITS:

- (1) Caltech (May-June 1997, November 1998)
- (2) Renyi Institute (June 2002, July 2003)
- (3) Univ. di Milano-Bicocca (June 2001, October 2002)
- (4) Georgia Inst. of Technology (August 2004-May 2005)
- (5) Georgia Inst. of Technology (January 2007-May 2007)

- (6) Univ. of Rochester (June 2011–August 2011)
- (7) Hong Kong Univ. of Science and Technology (July-August 2016)

RESEARCH GRANTS:

- (1) [HFRI\(ELIDEK\) \(2019\): Fourier bases and Discrete Geometry.](#)
- (2) Univ. of Crete (2017): Exponential bases and related problems.
- (3) “Aristeia II”: Greek Government Research Grant, 2014-2015.
- (4) Univ. of Crete (2007), Applications of Fourier Analysis to problems of discrete geometry.
- (5) INTAS 03-51-5070 (2004), Analytical and Combinatorial Methods in Number Theory and Geometry.
- (6) European Union Research Training Network HARP (Harmonic Analysis and Related Problems). July 2002 - July 2006.
- (7) INTAS Call 99 OPEN-1080 (Function spaces and harmonic analysis). June 2000-June 2002
- (8) National Science Foundation (USA) DMS 97-05775 (A Harmonic Analysis approach to problems of tiling). May 1997-December 1998

REVIEWER for the Mathematical Reviews and the Zentralblatt für die Mathematik.

REFEREE for the following journals:

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|---------------------------------------------------------|----------------------------------------------------------------------------|
| (1) Acta Arith. | (36) Integers |
| (2) Adv. Math. | (37) Inventiones Math. |
| (3) Advances in Computational Math. | (38) Israel J. Math. |
| (4) Acta Math. Sinica | (39) J. AMS |
| (5) Amer. J. Math. | (40) J. EMS |
| (6) Analysis Math. | (41) J. Comb. Th. A |
| (7) Analysis & PDE | (42) J. d'Analyse |
| (8) Annales scientifiques de l'École normale supérieure | (43) J. Fourier Anal. Appl. |
| (9) Annals of Mathematics | (44) J. Func. Analysis |
| (10) Applied and Computational Harmonic Analysis | (45) Bulletin/Proceedings/Journal/Transactions of the London Math. Society |
| (11) Bulletin de la Société Mathématique de France | (46) J. Math. Anal. Appl. |
| (12) Bulletin Hellenic Math. Soc. | (47) J. Math. Physics |
| (13) Bulletin London Math. Soc. | (48) J. Math. Soc. Japan |
| (14) Combinatorica | (49) J. Number Th. |
| (15) Compositio Math. | (50) La Matematica |
| (16) Computer J. | (51) Lithuanian Mathematical Journal |
| (17) Constructive Approx. | (52) Mechanism and Machine Th. |
| (18) Discrete Analysis | (53) Math. Annalen |
| (19) Discrete Applied Math. | (54) Math. Modelling Nat. Phenom. |
| (20) Discrete Comp. Geom. | (55) Math. Proc. Cam. Phil. Soc. |
| (21) Discrete Math. | (56) Math. Res. Letters |
| (22) Electr. J. Comb. | (57) Math. Zeitschrift |
| (23) Eur. J. Comb. | (58) Mechanism and Machine Theory |
| (24) Experim. Math. | (59) Nonlinear Analysis |
| (25) Forum Math. | (60) Online J. Analytic Combinatorics |
| (26) Forum of Mathematics, Pi | (61) Proc. AMS |
| (27) Fund. Math. | (62) Proc. Nat. Acad. Sci. |
| (28) Geometric and Functional Analysis | (63) Quarterly J. Math. |
| (29) Graphs and Combinatorics | (64) Real Analysis Exchange |
| (30) IEEE Trans. Inf. Th. | (65) Results in Mathematics |
| (31) IEEE Trans. Pattern Anal. Mach. Intel. | (66) Reviews Math. Phys. |
| (32) IEEE Trans. Signal Proc. | (67) Revista Matematica Iberoamericana |
| (33) IMRN | (68) Sampling Theory, Signal Processing and Data Analysis |
| (34) Intern. J. Number Theory | (69) SIAM J. Discr. Math. |
| (35) Inf. Proc. Letters | (70) Studia Math. |
| | (71) Theoretical Computer Science |
| | (72) Trans. AMS |

OTHER WORKING EXPERIENCE

- (1) **(1997-2002)** System administration for many Unix systems of the Department of Mathematics, U. of Crete.
- (2) **(December 1991)** Worked for Failure Analysis Associates of Menlo Park, CA. Developed user interface for a program that computes the motion of a fluid under the surface of the earth.
- (3) **(Summer 1991)** Research Assistant, Center for Integrated Systems, Stanford University (Prof. M. Lam).
Worked on parallel programming language JADE. Developed a parallel Finite Element code.
- (4) **(1990-92)** Center for Integrated Facility Engineering (CIFE), Stanford University (Prof. R. Levitt).
Developed CIFECAD, a system for the design of structures in 3D using predefined elements.
Developed educational software for Civil Eng. class on estimation.
- (5) **(1986-89) and (1997-present)** Horodomi, Iraklion, Greece.
Development of of Finite Element code for static analysis of 3D structures.
- (6) **(1986-88)** Image Analysis Laboratory, Department of Comp. Sci., University of Crete.
Mostly parallelization of algorithms for Image Processing. (See two earliest publications.)

EDITORIAL

Editor-in-chief for the Bulletin of the Hellenic Mathematical Society.
Editor for the Online Journal of Analytic Combinatorics.
Editor for Analysis Mathematica.

OTHER SKILLS

- A very competent computer programmer and an amateur system administrator (Unix).
- Fair knowledge of French and German (besides Greek and English).

PUBLICATIONS [\(Google Scholar\)](#)

Submitted for publication

- (1) Rachel Greenfeld and M.N.K., *Tiling, spectrality and aperiodicity of connected sets*, submitted.

Accepted for publication

- (1) M.N.K. and Emmanuil Spyridakis, *Curves in the Fourier zeros of polytopal regions and the Pompeiu problem*, Analysis Mathematica, to appear.
- (2) M.N.K. and Effie Papageorgiou, *Large sets containing no copies of a given infinite sequence*, Analysis and PDE, to appear.

Published

- (1) M.N.K., Nir Lev and Máté Matolcsi, *Spectral sets and weak tiling*, Sampling Theory, Signal Processing, and Data Analysis, Volume 21, article number 31, (2023).
- (2) M.N.K., *Simultaneous tiling*, D. Gatzouras memorial volume, Univ. of Athens, 2022.
- (3) Benedikt Diederichs, M.N.K. and Effie Papageorgiou, *How many Fourier coefficients are needed?*, Monatshefte für Mathematik, **200i** (2023), 23-42.
- (4) M.N.K., *Sets of full measure avoiding Cantor sets*, Bull. Hellenic Math. Soc. **67** (2023), 1-11.
- (5) M.N.K. and Effie Papageorgiou, *Functions tiling with several lattices*, J. Fourier Anal. Appl. **28**, 68 (2022).
- (6) M.N.K. and Nir Lev, *Tiling by translates of a function: results and open problems*, Discrete Analysis, 2021:12, 24 pp.
- (7) M.N.K., *Deciding multiple tiling by polygons in polynomial time*, Periodica Math. Hungarica, **83**, 32-38 (2021).
- (8) Alex Iosevich, M.N.K., Yurii Lyubarskii, Azita Mayeli and Jonathan Pakianathan, *On Gabor orthonormal bases over finite prime fields*, Bulletin of the London Math. Soc. **53**: 380-391 (2021).

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- (9) Elona Agora, Jorge Antezana and M.N.K., *Tiling functions and Gabor orthonormal bases*, *Appl. Comp. Harm. Anal.*, **48** (2020), 1, 96–122.
- (10) M.N.K. and Yang Wang, *The structure of multiplicative tilings of the real line*, *J. Fourier Anal. Appl.*, **25** (2019), 3, 1248–1265.
- (11) Elona Agora, Sigrid Grepstad and M.N.K., *Spectra for cubes in products of finite cyclic groups*, *Proc. AMS*, **146** (2018), 6, 2417–2423.
- (12) M.N.K., Máté Matolcsi and Mihály Weiner, *An application of positive definite functions to the problem of MUBs*, *Proc. A.M.S.*, **146** (2018) 3, 1143–1150.
- (13) M.N.K. and Michael Papadimitrakis, *Measurable Steinhaus sets do not exist for finite sets or the integers in the plane*, *Bulletin LMS*, **49**, 5 (2017), 798–805.
- (14) Romanos Malikiosis and M.N.K., *Fuglede’s conjecture on cyclic groups of order $p^n q$* , *Discrete Analysis*, 2017:12, 16 pp.
- (15) Agelos Georgakopoulos and M.N.K., *On particles in equilibrium on the real line*, *Proc. Amer. Math. Soc.* **145** (2017), 3501-3511.
- (16) M.N.K., *Packing near the tiling density and exponential bases for product domains*, *Bull. Hellenic Math. Soc.* **60** (2016), 97-109.
- (17) M.N.K., *Discrepancy of line segments for general lattice checkerboards*, *Anal. Math.* **42** (2016), 1, 31–41.
- (18) M.N.K. and Nir Lev, *On non-periodic tilings of the real line by a function*, *Int. Math. Res. Not.* **15** (2016), 4588–4601.
- (19) M.N.K., *Fourier pairs of discrete support with little structure*, *J. Fourier Anal. Appl.* **22** (2016), 1, 1-5.
- (20) M.N.K., *Multiple lattice tiles and Riesz bases of exponentials*, *Proc. Amer. Math. Soc.* **143** (2015), 741-747.
- (21) Nick Gravin, M.N.K., Sinai Robins and Dmitry Shiryayev, *Structure results for multiple tilings in 3D*, *Discrete & Computational Geometry*, December 2013, Volume 50, Issue 4, pp 1033-1050.
- (22) M.N.K. and Yannis Parissis, *Circle discrepancy for checkerboard measures*, *Illinois J. Math.*, Volume 56, Number 4 (2012), 1297-1312.
- (23) Alex Iosevich and M.N.K., *Periodicity of the spectrum in dimension one*, *Analysis & PDE* **6-4** (2013), 819–827.
- (24) Alex Iosevich and M.N.K., *Size of orthogonal sets of exponentials for the disk*, *Rev. Mat. Iberoamericana*, **29** (2013), 739–747.
- (25) M.N.K., *Periodicity of the spectrum of a finite union of intervals*, *J. Fourier Anal. Appl.*, **18** (2012), 1, 21–26.
- (26) Charalambos Tsourakakis, M.N.K. and Gary L. Miller, *Triangle Sparsifiers*, *J. of Graph Algorithms and Appl.*, **15** (2011), no 6, pp. 702726.
- (27) M.N.K., G. Miller, R. Peng and C. Tsourakakis, *Efficient Triangle Counting in Large Graphs via Degree-Based Vertex Partitioning*, in *Algorithms and Models for the Web-Graph*, Lecture Notes in Comp. Sci. **6516** (2010), 15–24, Springer, Berlin, and in *Internet Mathematics*, **8.1-2** (2012), 161-185.
- (28) M.N.K. and Mate Matolcsi, *Tilings by translation*, *La Gaceta de la Real Sociedad Espanola*, **13** (2010), 4.
- (29) Alex Iosevich and M.N.K., *The discrepancy of a needle on a checkerboard, II*, *Uniform Distribution Theory*, **5** (2010), 2, 1–13.
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¹This won a \$100 prize which was offered for the solution of this problem by Paul Erdős several years ago.