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Professor

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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.

(U): undergraduate, (G): graduate
University of Crete:

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

Stanford University:
Calculus (U, as graduate student)

Univ. of Illinois:

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

Georgia Inst. of Technology:
Multivariable Calculus (U)

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**.

Emmanuil 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 th 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).

(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, Thesssaloniki (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).

(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:

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

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

Accepted for publication

(1) M.N.K. and Effie Papageorgiou, *Large sets containing no copies of a given infinite sequence*,
    Analysis and Pde, `to appear`.
(2) M.N.K., Nir Lev and Máté Matolcsi, *Spectral sets and weak tiling*,
    Sampling Theory, Signal Processing, and Data Analysis, `to appear`.

Published

(1) M.N.K., *Simultaneous tiling*,
    D. Gatzouras memorial volume, Univ. of Athens, 2022.
(2) Benedikt Diederichs, M.N.K. and Effie Papageorgiou, *How many Fourier coefficients are needed?*,
    Monatshefte für Mathematik, **200**i (2023), 23-42.
(3) M.N.K., *Sets of full measure avoiding Cantor sets*,
    Bull. Hellenic Math. Soc. **67** (2023), 1-11.
(4) M.N.K. and Effie Papageorgiou, *Functions tiling with several lattices*,
    J. Fourier Anal. Appl. **28**, 68 (2022).
(5) M.N.K. and Nir Lev, *Tiling by translates of a function: results and open problems*,
    Discrete Analysis, 2021:12, 24 pp.
(6) M.N.K., *Deciding multiple tiling by polygons in polynomial time*,
    Periodica Math. Hungarica, 83, 32–38 (2021).
(7) 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).

(8) Elona Agora, Jorge Antezana and M.N.K., *Tiling functions and Gabor orthonormal bases*,
Appl. Comp. Harm. Anal., **48** (2020), 1, 96–122.

(9) M.N.K. and Yang Wang, *The structure of multiplicative tilings of the real line*,
J. Fourier Anal. Appl., **25** (2019), 3, 1248–1265.

(10) Elona Agora, Sigrid Grepstad and M.N.K., Spectra for cubes in products of finite cyclic groups,
Proc. AMS, **146** (2018), 6, 2417-2423.

(11) 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.

(12) 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.

(13) Romanos Malikiosis and M.N.K., *Fuglede's conjecture on cyclic groups of order $p^n q$*,
Discrete Analysis, 2017:12, 16 pp.

(14) Agelos Georgakopoulos and M.N.K., On particles in equilibrium on the real line,
Proc. Amer. Math. Soc. **145** (2017), 3501-3511.

(15) M.N.K., *Packing near the tiling density and exponential bases for product domains*,
Bull. Hellenic Math. Soc. **60** (2016), 97-109.

(16) M.N.K., Discrepancy of line segments for general lattice checkerboards,
Anal. Math. **42** (2016), 1, 31–41.

(17) 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.

(18) M.N.K., Fourier pairs of discrete support with little structure,
J. Fourier Anal. Appl. 22 (2016), 1, 1-5.

(19) M.N.K., Multiple lattice tiles and Riesz bases of exponentials,
Proc. Amer. Math. Soc. **143** (2015), 741-747.

(20) Nick Gravin, M.N.K., Sinai Robins and Dmitry Shiryaev, Structure results for multiple tilings in 3D,
Discrete & Computational Geometry, December 2013, Volume 50, Issue 4, pp 1033-1050.

(21) M.N.K. and Yannis Parissis, Circle discrepancy for checkerboard measures,
Illinois J. Math., Volume 56, Number 4 (2012), 1297-1312.

(22) Alex Iosevich and M.N.K., Periodicity of the spectrum in dimension one,
Analysis & PDE **6-4** (2013), 819–827.

(23) Alex Iosevich and M.N.K., Size of orthogonal sets of exponentials for the disk,
Rev. Mat. Iberoamericana, **29** (2013), 739–747.

(24) M.N.K., Periodicity of the spectrum of a finite union of intervals,
J. Fourier Anal. Appl., **18** (2012), 1, 21–26.

(25) Charalambos Tsourakakis, M.N.K. and Gary L. Miller, Triangle Sparsifiers,
J. of Graph Algorithms and Appl., **15** (2011), no 6, pp. 702726.

(26) 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.

(27) M.N.K. and Mate Matolcsi, Tilings by translation,
La Gaceta de la Real Sociedad Espanola, **13** (2010), 4.

(28) Alex Iosevich and M.N.K., The discrepancy of a needle on a checkerboard, II,
Uniform Distribution Theory, **5** (2010), 2, 1–13.

(29) M.N.K. and Maté Matolcsi, Algorithms for translational tiling,
J. of Math. and Music, **3** (2009), 2, 85-97.

(30) M.N.K., Richard Lipton, Vangelis Markakis, Aranyak Mehta and Nisheeth Vishnoi, On the Fourier spectrum of symmetric boolean functions,
Combinatorica, **29** (2009), 3, 363-387.

(31) M.N.K., The discrepancy of a needle on a checkerboard,
Online J. Analytic Combinatorics, **3** (2008), #7.

(32) Alex Iosevich, M.N.K. and Maté Matolcsi, *Covering the plane by rotations of a lattice arrangement of disks*,
"Complex and Harmonic Analysis", Proceedings of the International Conference May 25-27, 2006, Aristotle University of Thessaloniki. Destech Publications, Inc.

(33) A. Iosevich and M.N.K., A Weyl type formula for Fourier spectra and frames,
Proc. AMS **134** (2006), 11, 3267–3274.

(34) M.N.K. and M. Matolcsi, Tiles with no spectra,
Forum Math. **18** (2006), 3, 519–528.

(35) M.N.K. and Sz.Gy. Revész, Turán's extremal problem for positive definite functions on groups,
J. London Math. Soc. (2) **74** (2006), 2, 475–496.

(36) M.N.K. and Sz.Gy. Revész, On pointwise estimates of positive definite functions with given support,
Canadian J. Math. **58** (2006), 2, 401–418.

(37) Tamás Keleti and M.N.K, On the determination of sets by their triple correlation in finite cyclic groups,
Online J. Anal. Combinatorics, **1** (2006), #4.

(38) M.N.K. and M. Matolcsi, Complex Hadamard matrices and the Spectral Set Conjecture,
Collectanea Mathematica, Vol Extra (2006), 281-291.

(39) M.N.K., Filling a box with translates of two bricks,
Electr. J. Combin., **11** (2004), N16.

(40) M.N.K., The study of translational tiling with Fourier Analysis.
Fourier Analysis and Convexity, 131–187, Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA, 2004.

(41) M.N.K., Distance sets corresponding to convex bodies.
Geom. and Funct. Anal., **14** (2004), 4, 734-744.

(42) M.N.K. and I. Łaba, Tiling and spectral properties of near-cubic domains.
Studia Math., **160**(2004), 287-299.

(43) P. Jaming and M.N.K., Reconstruction of functions from their triple-correlations.
New York J. Math. **9** (2003), 149-164.

(44) M.N.K. and Sz.Gy. Revész, On a problem of Turán about positive definite functions,
Proc. AMS **131** (2003), 3423-3430.

(45) M.N.K. and M. Papadimitrakis, A class of non-convex polytopes that admit no orthonormal basis of exponentials,
Illinois J. Math. **46** (2002), 4, 1227-1232.

(46) M.N.K., Translational tilings of the integers with long periods
Electr. J. Combinatorics **10** (2003), 1, R22.

(47) M.N.K. and M. Papadimitrakis, The Steinhaus tiling problem and the range of certain quadratic forms,
Illinois J. Math. **46** (2002), 3, 947-951.

(48) M.N.K., Packing, tiling, orthogonality and completeness,
Bull. London Math. Soc. **32** (2000), 5, 589-599.

(49) M.N.K., Non-symmetric convex domains have no basis of exponentials,
Illinois J. Math. **44** (2000), 3, 542-550.

(50) M.N.K., On the structure of multiple translational tilings by polygonal regions,
Discr. Comp. Geom. **23** (2000), 4, 537-553.

(51) M.N.K., On the uniform distribution in residue classes of dense sets of integers with distinct sums,
J. Number Th. **76** (1999), 147-153.

(52) M.N.K. and Th. Wolff, On the Steinhaus tiling problem,
Mathematika, **46** (1999), 2, 253-280.

(53) M.N.K, Lattice tilings by cubes: whole, notched and extended,
Electr. J. Combinatorics **5** (1998), 1, R14.

(54) L.E. Kavraki, M.N.K and J.-C. Latombe, Analysis of Probabilistic Roadmaps for Path Planning,
IEEE Transactions on Robotics and Automation **14** (1998), 1, 166-171.   Also in Proc. IEEE Conf. Robotics and Automation, Minneapolis, 1996, 3020-3025.

(55) M.N.K., Multi-lattice tiles,
Intern. Math. Research Notices, 1997, 19, 937-952.

(56) M.N.K., Lattice-tiling properties of integral self-affine functions,
Appl. Math. Letters, **10** (1997), 5, 1-4.

(57) M.N.K., Infinite Patterns That Can Be Avoided by Measure,
Bull. London Math. Soc. **29** (1997), 4, 415-424.

(58) (*Survey*) M.N.K., Some Applications of Probability to Additive Number Theory and Harmonic Analysis,
in Number Theory: New York Seminar 1991-1995, Springer Verlag (1996).

(59) M.N.K., On the Additive Complements of the Primes and Sets of Similar Growth,
Acta Arith, **77** (1996), 1, 1-8.

(60) M.N.K., A New Estimate for a Problem of Steinhaus,
Intern. Math. Res. Notices, 1996, 11, 547-555.

(61) M.N.K., A Problem of Steinhaus: Can All Placements of a Planar Set Contain Exactly One Lattice Point?
Analytic Number Theory: Proceedings of a conference in honor of H. Halberstam, Birkhäuser, 1996.

(62) M.N.K. and J.C. Lagarias, Tilings of the Line by Translates of a Function,
Duke Math. J. **82** (1996), 3, 653-678.

(63) M.N.K., The Density of $B_h[g]$ Sets and the Minimum of Dense Cosine Sums,
J. Number Theory **56** (1996), 1, 4-11.

(64) N. Alon and M.N.K., On a Problem of Erdős and Turán and Some Related Results,
J. Number Theory **55** (1995), 1, 82-93.

(65) L.E. Kavraki and M.N.K., Partitioning a Planar Assembly Into Two Connected Parts is NP-Complete,
Inf. Proc. Letters **55** (1995), 159-165.

(66) M.N.K., Selection of a Large Sum-Free Subset in Polynomial Time,
Inf. Proc. Letters **49** (1994), 255-256.

(67) M.N.K., An Effective Additive Basis for the Integers [1],
Discr. Math. **145** (1995), 307-313. Also in Proc. Symposium On Discrete Algorithms (SODA) 1994.

(68) M.N.K., A Construction Related to the Cosine Problem,
Proc. Amer. Math. Soc. **122** (1994), vol. 4, 1115-1119.

(69) M.N.K., On Nonnegative Cosine Polynomials with Nonnegative, Integral Coefficients,
Proc. Amer. Math. Soc. **120** (1994), vol. 1, 157-163.

(70) M.N.K. and K.N. Kutulakos, Fast Computation of the Euclidean Distance Map for Binary Images,
Inf. Proc. Letters **43** (1992), 181-184.

Technical Report

(1) M.N.K. and S.C. Orphanoudakis, Computing Line Sums on a Mesh Connected Computer,
Technical Report, Institute of Computer Science, Foundation of Research and Technology, Hellas, Greece, 1988.

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[1]**This won a \$100 prize which was offered for the solution of this problem by Paul Erdős several years ago.**