Andrei Shubin Curriculum vitae

CONTACT

Graz University of Technology
Institute of Analysis and Number Theory
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EMPLOYMENT

Graz University of Technology 2025 – present
ESPRIT Scholarship

Georgia Institute of Technology Fall 2024
Visiting Assistant Professor

Vienna University of Technology 2021 – 2024
ArithRand project

EDUCATION

California Institute of Technology 2018 – 2021
Ph.D. Mathematics
Advisor: Maksym Radziwiłł

McGill University 2016 – 2018
Ph.D. Mathematics
Advisor: Maksym Radziwiłł

Moscow Institute of Physics and Technology 2014 – 2016
M.Sc. with honors, Applied Mathematics and Physics
Advisor: Maxim Korolev

Moscow Institute of Physics and Technology 2010 – 2014
B.Sc., Applied Mathematics and Physics
Advisor: Maxim Korolev

GRANTS, AWARDS

FWF ESPRIT Career Advancement (316000 EUR) 2024

Institut Mittag-Leffler Junior Fellowship (70000 SEK) 2024

FRQNT Bourse de doctorat en recherche (42000 CAD) 2018

ISM Graduate Scholarship (4000 CAD) 2016

MIPT Student Math Olympiad (bronze) 2014

A. Abramov Foundation Scholarship (25000 RUB) 2012

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PUBLICATIONS **Published**

A. Shubin, «Fractional parts of the function x/n», *Math. Notes* **100**, no. 5-6 (2016), 731–742

A. Shubin, «On the asymptotic behavior of a functions $\Omega(k;n)$ and $\omega(k;n)$ related to the number of prime divisors» *Discrete Math. Appl.* **29**, no. 2 (2019), 121–129

M. Korolev, A. Shubin, «The second moment of the first derivative of Hardy's Z-function», *Trigonometric Sums and Their Applications, Springer Nature Switzerland AG*, 2020, 169–182

A. Shubin, «Bounded gaps between primes of special form», *Dokl. Mathematics* **101**, no. 3 (2020), 235–238

A. Shubin, «Fractional parts of non-integer powers of primes», *Math. Notes* **108**, no. 3-4 (2020), 394–408, https://arxiv.org/abs/2010.15216

A. Shubin, «Fractional parts of non-integer powers of primes. II», *Q.J.Math.* **73**, no. 1 (2022), 277–310, https://arxiv.org/abs/2011.11790

A. Shubin, «Variance estimates in Linnik's problem», *IMRN* 2023, no. 18, 15425–15474, https://arxiv.org/abs/2108.00726

A. Shubin, «Topics in Equidistribution and Exponential Sums», PhD thesis, *California Institute of Technology*, 2022, ISBN: 979-8379-85760-8

A. Shubin (with J.-M. Deshouillers, M. Drmota, C. Müllner, L. Spiegelhofer), «Synchronizing automatic sequences along Piatetski-Shapiro sequences», to appear in *Israel J. Math.*, https://arxiv.org/abs/2211.01422

A. Shubin, «Möbius disjointness for Thue-Morse sequence along Piatetski-Shapiro numbers», *Studia Math.* **273**, no. 3 (2023), 201–238, https://arxiv.org/abs/2207.11840

A. Shubin (with M. Radziwiłł), «Poissonian pair correlation for αn^{θ}», *IMRN* no. 9 (2024), 7654–7679, https://arxiv.org/abs/2304.04621

CONFERENCES, TALKS,

On the fractional parts connected with the function $\frac{N}{x}$, Conference to the Memory of Anatoly Alekseevitch Karatsuba on Number theory and Applications, January 30, 2016

Moments of Riemann zeta-function, Analytic Number Theory Seminar, Concordia University, October 5, 2017

Heilbronn: Perspectives on the Riemann Hypothesis, University of Bristol, June 2018 (attended)

Introduction to bilinear restriction theory, Decoupling learning seminar, California Institute of Technology, October 25, 2018

Workshop and winter school on local statistics of point sequences, Johannes Kepler University Linz, February 2019 (attended)

NSF-CBMS Conference: L-functions and multiplicative number theory, University of Mississippi, May 2019 (attended)

Bounded gaps between primes in subsets, Quebec-Maine Number Theory Conference, The University of Maine, October 5, 2019

On the variance of number of lattice points on the sphere, Number Theory Series in Los Angeles I, October 27, 2019

Distribution of primes in thin subsets, Number Theory Series in Los Angeles II, February 9, 2020

Short intervals between primes of special form, Contemporary Problems in Number Theory, Steklov Mathematical Institute, October 8, 2020

AIM Workshop *Arithmetic statistics, discrete restriction, and Fourier analysis*, San Jose, California, February 2021 (participant)

Primes in subsets and exponential sums, SSANT2021 Summer School in analytic number theory, July 2, 2021

Primes in subsets and exponential sums, AG Diskrete Mathematik, TU Wien, November 9, 2021

Automatic sequences along Piatetski-Shapiro sequences, ArithRand 22, TU Graz, 1-2 July, 2022

Automatic sequences along Piatetski-Shapiro numbers, ELAZ, A conference on elementary and analytic number theory, August 2022

On pair correlations of monomial sequences, IST Browning group working seminar, January 25, 2023

Prime number theorem for sums of digits in several bases, Analytic number theory seminar, Institut Mittag-Leffler, April 19, 2024

On random properties of sequences mod 1, Contemporary Problems of Number Theory, Sirius, July 2024

Prime number theorem for sums of digits in several bases, Northwestern University, December 6, 2024

Prime number theorem for sums of digits in several bases, Graz-ISTA Number Theory Days, January 31, 2025

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TEACHING

Georgia Tech
MATH 1553 Intro to Linear Algebra (x2)

TU Wien
Analysis 1
Discrete Mathematics

CalTech
MATH 1a Calculus
MATH 1b Linear Algebra
MATH 110c Fourier Analysis
MATH 2 Differential Equations

McGill University
MATH 140 Calculus 1
MATH 141 Calculus 2
MATH 133 Linear Algebra and Geometry

Private tutoring
Calculus 1,2, Analysis 1, high school mathematics
Physics (high school level)
Computer Science (high school level)

SERVICE

The administrator of American Mathematics Competitions
AMC 8 and AMC 10/12 at CalTech (2019–2020)

Referee / Quick opinions for: Duke Math. J., Ramanujan, J. Théor. Nombres Bordeaux, Acta Arithmetica, Monatshefte für Mathematik, Annales mathématiques du Québec, Uspehi Mat. Nauk, International Journal of Number Theory, Notes on Number Theory and Discrete Mathematics

SKILLS, INTERESTS

C & C++, Python, Latex, Java, Octave, PostgreSQL,
AI & Machine Learning & NLP & Kaggle competitions,
sports biomechanics & motion capture technologies

LANGUAGES

Russian
English
German (B2)
French (A1)