Curriculum Vitae SVETLANA JITOMIRSKAYA

PERSONAL: born in June 1966, Kharkov, Ukraine.

EDUCATION AND DEGREES:

1991   Ph.D. in Mathematics. Moscow State University
       Thesis: Spectral and Statistical Properties of Lattice Hamiltonian. Advisor: Ya. G. Sinai

1987   Honors M.S. and B.S. (Summa Cum Laude) in Mathematics. Moscow State University
       Thesis: Localization Problems in the Kicked Rotor Model. Advisor: Ya. G. Sinai.

PROFESSIONAL EXPERIENCE:

July 2022-	Inaugural E. M. Hubbard Chair, Georgia Institute of Technology
July 2018-	Distinguished Professor, UC Irvine
July 2000-2018	Professor, UC Irvine.
January-March 2003	Research Professor, MSRI
1997-2000	Associate Professor, UC Irvine.
1996 (Fall)	Visiting Assistant Professor, Caltech.
1994-97	Assistant Professor, UC Irvine.
1992-94	Visiting Assistant Professor, UC Irvine.
1991-92	Lecturer (part-time), UC Irvine.

RESEARCH DIRECTIONS AND FIELDS OF PUBLICATIONS:

Spectral theory of quasiperiodic Schrödinger operators
Spectral theory of periodic and magnetic operators
Quantum dynamics
Fractal properties of singular continuous spectra
Spectral theory of random operators
Diophantine approximation
Spectral theory of Laplacians on noncompact Riemannian manifolds

HONORS:

The inaugural Ladyzhenskaya Prize for Mathematical Physics	2022
Member, National Academy of Sciences	2022
ICM 2022 Plenary talk	2022
UCI Distinguished Senior Faculty Award for Research	2021
APS & AIP Dannie Heineman Prize for Mathematical Physics	2020
Member, American Academy of Arts and Sciences	2018
Aisenstadt Chair, CRM, Montreal	2018
Chancellor's Award for Excellence in Fostering Undergraduate Research	2018
Simons Fellow	2014-2015, 2020-2021
UCI Chancellor's Fellow	2012-2015
Named the Most Influential UCI Faculty by an Honors graduate,	2005, 2012, and 2018
EPSRC Fellowship, Cambridge University	Fall 2008
AMS Satter prize	2005
UCI Distinguished Faculty Midcareer Award	2004
UCI School of Physical Sciences Outstanding	
Contributions to Undergraduate Education	2003
A.P.Sloan Research Fellowship	1996-2000

SELECTED RECENT PUBLICATIONS:

[80] On point spectrum of critical almost Mathieu operators, Advances in Mathematics, 392C (2021) 107997

[76] Critical almost Mathieu operator: hidden singularity, gap continuity, and the Hausdorff dimension of the spectrum (with I. Krasovsky), Annals of Math, to appear, arxiv:1909.044290

[69] Cantor spectrum of graphene in magnetic fields. (with S. Becker and R. Han). Inventiones Math, 2019, **218,** 3, 979 –1041 (2019)

[61] Universal hierarchical structure of quasiperiodic eigenfunctions. (with W. Liu), Annals of Math. **187** no. 3, 721–776 (2018)

[58] Spectral theory of extended Harper's model and a question by Erdös and Szekeres, (with A. Avila and C. Marx) Inventiones Math. **210**, no. 1, 283 – 339. (2017)

FURTHER SELECTED RECENT PUBLICATIONS:

[97] Anti-resonances and sharp analysis of Maryland localization for all parameters. Preprint (with R. Han and F. Yang) arxiv:2205.04021

[96] Stability of the non-critical spectral properties I: arithmetic absolute continuity of the integrated density of states. Preprint (with L. Ge and X. Zhao) arXiv:2204.11000

[91] Upper bounds on transport exponents for long-range operators, J. Math. Phys., special issue celebrating Jean Bourgains contributions to Mathematical Physics, 62, 073506 (2021); (with W. Liu) https://doi.org/10.1063/5.0054834

[79] Noncompact complete Riemannian manifolds with singular continuous spectrum embedded in the essential spectrum of the Laplacian, I. The hyperbolic case. Trans. AMS,373 no. 8, 58855902 (2020) (with W. Liu)

[78] Anderson localization for multi-frequency quasiperiodic operators on Z^d. (with W.Liu,Y.Shi) GAFA, (2020), **2**, 457–481.

[77] Spectral theory of Schr odinger operators over circle diffeomorphisms. (with S. Kocic). IMRN, (13), 9810-9829 (2022)

[74] Exact dynamical decay rate for the almost Mathieu operator. Math. Res. Lett., 27 no. 3, 789808 (2020) (with H. Krüeger and W. Liu)

[73] Noncompact complete Riemannian manifolds with dense eigenvalues embedded in the essential spectrum of the Laplacian. GAFA, **29** 238-257 (2019) (with W. Liu)

[72] Large deviations of the Lyapunov exponent and localization for the 1D Anderson model. (with X. Zhu) Comm. Math. Phys., 370 1, 311324 (2019)

[71] Universal reflective-hierarchical structure of quasiperiodic eigenfunctions and sharp spectral transitions in phase (with W. Liu). J.Eur. Math.Soc., to appear

[70] Inhomogeneous Diophantine approximation in the coprime setting (with W. Liu). Adv. Math. **355** (2019), 106773

[68] Discrete Bethe-Sommerfeld Conjecture. Comm. Math. Phys.,361, 205-216 (2018) (with R. Han)

[66] Singular continuous spectrum for singular potentials. (with F. Yang), Comm. Math. Phys. 351 (2017), no. 3, 11271135.

[65] Quantum dynamical bounds for ergodic potentials with underlying dynamics of zero topological entropy. (with R. Han), Analysis and PDE, 12 867-902 (2019).

[64] Full measure reducibility and localization for quasiperiodic Jacobi operators: a topological criterion. (with R. Han), Adv. Math. 319 (2017), 224250.

[63] Second phase transition line. (with A. Avila and Q. Zhou), Math. Ann., 370 271-285 (2018)

[60] Quantitative continuity of singular continuous spectral measures and arithmetic criteria for quasiperiodic Schrödinger operators (with S. Zhang), J.Eur. Math.Soc.,**24**, 17231767 (2022)

[57] L^2-reducibility and localization for quasiperiodic operators. (with I Kachkovskii), Mathematical Research Letters, Vol. 23, No. 2 (2016), pp. 431-444.

[56] All couplings localization for quasiperiodic operators with monotone potentials. J.Eur. Math.Soc., **21** 777-795 (2019) (with I Kachkovskii)

[54] Arithmetic spectral transitions for the Maryland model. (with W. Liu), Comm. Pure Appl. Math. 70 (2017), no. 6, 1025-1051.

[53] Dynamical localization bounds for quasiperiodic Schröodinger operators with rough potentials, (with R. Mavi) Int. Math. Res. Not. 2017 96120 (2017)

SELECTED PAST PUBLICATIONS:

[39] The Ten Martini problem. Annals of Math **170** no. 1, 303-342. (2009) (with A. Avila)

[27] Absolutely continuous spectrum for 1D quasiperiodic operators Inventiones Math. 148 (2002), no. 3, 453–463, (with J. Bourgain).

[22] Power-Law Subordinacy and Singular Spectra, I. Half-line Operators. Acta Math., 183 (1999), no. 2, 171–189. (with Y. Last).

[21] Metal-Insulator Transition for the Almost Mathieu Operator. Annals of Math., 150, 1159–1175 (1999)

[17] Duality and Singular Continuous Spectrum in the Almost Mathieu Equation. Acta Math. 178, 169–183 (1997) (with A. Gordon, Y. Last and B. Simon).

FURTHER SELECTED PAST PUBLICATIONS:

[52] Complex one-frequency cocycles, J. Eur. Math. Soc. (JEMS), **16**, 1915-1935 (2014) (with A. Avila and C. Sadel).

[46] Analytic quasi-periodic Schrodinger operators and rational frequency approximants, GAFA 22 (2012), 1407-1443. (with C. Marx)

[40] Almost Reducibility and Almost Localization. JEMS 12 (2010), 93-131. (with A. Avila)

[30] Delocalization in random polymer chains, Comm. Math. Phys. 233 (2003), 27- -48 (with H. Schulz-Baldes and G.Stolz).

[29] Continuity of the Lyapunov exponent for quasiperiodic operators with analytic potential. JSP 108(5): 1203-1218; Sep 2002, special issue dedicated to D. Ruelle and Ya. Sinai in honor of their 65th birthday anniversaries (with J. Bourgain).

[16] Dimensional Hausdorff Properties of Singular Continuous Spectra. Phys. Rev. Lett. 76, 1765-1769 (1996) (with Y. Last).

[15] What is Localization? PRL 75, 117-119 (1995) (with R. del Rio, Y. Last and B. Simon).

[13] Operators with singular cont. spectrum, IV. Hausdorff dimensions, rank one perturbations and localization. J.D'Analyse Math. 69, 153-200 (1996) (with R. del Rio, Y. Last and B.Simon).

[11] Operators with Singular Continuous Spectrum, III. Almost Periodic Schrodinger Operators. Comm. Math. Phys. 165, 201-206 (1994) (with B. Simon).

[10] Singular Continuous Spectrum is Generic. Bull. AMS 31, 208-212 (1994) (with R. del Rio, N. Makarov and B. Simon)

[9] Anderson Localization for the Almost Mathieu Equation: A Nonperturbative Proof. Comm. Math. Phys. 165, 49-58 (1994)

SELECTED LECTURES

Bellow Distinguished Lecture Series, Northwestern University, to be held Oct. 2022

ICM 2022, Plenary, July 2022

Dannie Heineman Prize for Math. Physics Talk, APS meeting, 03/2021

2019 Current Developments in Mathematics, Harvard/MIT, Nov. 2019

Aisenstadt lectures, CRM, Montreal, November 2018

Distinguished lecture, Tel Aviv University, January 2017

QMath 13, Plenary, Atlanta, Oct. 2016

Frontiers in Mathematical Physics, Montreal, Aug. 2016

Bullitt Lecture, April 2016

XV International Congress of Mathematical Physics, Plenary, Rio de Janeiro, Aug. 06

Joint AMS-MAA address, San Antonio, January 2006

ICM 2002, Mathematical Physics, Beijing, August 2002

AMS Meeting, Santa-Barbara, one hour address, March 2000

SELECTED MINI-COURSES:

2022 Advanced Studies Institute in Mathematical Physics, Urgench, Uzbekistan, July 2022

2018 PCMI program on Harmonic Analysis, Park City, July 2018

Summer school in mathematical physics, UNAM, June 2017

Nanjing University, 6 lectures, June 2015

Informal Analysis Seminar, Kent State University (4 lectures), March 2014

Recent Advances in Harmonic Analysis and Spectral Theory 08/12, Texas A&M

Workshop on Spectral Theory of Schrödinger Operators, Montreal, July 2004

GRADUATE STUDENTS:

Michael Landrigan (Ph.D. 2001, UBS, Associate Director)

Melinda Schulteis (Ph.D. 2004, Concordia University, Irvine, Professor)

Deborah Koslover (Ph.D. 2005, UT Tyler, Associate Professor)

Martin Gartner (MS 2007, US Navy)

Yi Sun (MS 2011, Facebook)

Chris Marx (Ph.D. 2012, Bateman at Caltech, now Oberlin, Associate Professor)

Rajinder Mavi (Ph.D. 2012, Whyburn at U of Virginia; now University of Cincinnatti)

Mustafa Said (Ph.D. 2014, College of the Canyons)

Wencai Liu (Ph. D. 2015 (Fudan University), visiting long-term in 2014, 2015; Tenure track assistant professor, Texas A&M)

Shiwen Zhang (Ph.D. 2016, MSU; now U Mass. Lowell, Tenure track Assistant Professor)

Rui Han (PhD 2017, IAS, member; NSF as a sole PI in 2018, now Tenure track assistant professor, LSU, NSF CAREER recipient)

Fan Yang (visiting 2014-16, PhD 2016 (Ocean Univ.), IAS; now Tenure track assistant professor, LSU)

Yunfeng Shi (PhD 2018 Fudan; visiting long-term in 17-18; Assoc. Prof. Sichuan Univ.)

Xin Zhao (PhD 21, Nanjing, visiting long-term 2019-2021, VAP UCI 2021-22, Tenure track Assistant professor, Bejing Normal, 2022-)

Nishant Rangamani (PhD 2021, Visiting Assistant Professor, UCI) Xiaowen Zhu (PhD 2022, Visiting Assistant Professor, U Washington)

Matthew Powell (2018-current, authored 5 papers)

Omar Hurtado (2021-current)

Jiranan Kerndboon (visiting long-term 2022)

POSTDOCTORAL SCHOLARS:

J. Sahbani (WS 1999; Paris VII, Maitre-de-Conference)

F.Germinet (Fall 1999; now U Cergy-Pontoise, President),

I. Krasovsky (2000; now Imperial College, London; ICM 2022 invitee),

H. Schulz-Baldes (1999-01, now Erlangen, Professor)

D. Damanik (2000-01, Caltech; now Rice, Wiess Career Development Chair Professor)

S. Klein (2006-2009, Tenure Track Assist. Prof., PUC Rio de Janeiro).

C. Sadel (2009-2012, joint w. A. Klein; now Tenure Track Assistant Prof., PUC de Chile)

Q. Zhou (2015, now Full Professor, Chern Institute of Mathematics, Nankai University)

I. Kachkovkiy (2013-2016, IAS, now Tenure Track Assistant professor, Michigan State,awarded NSF as a sole PI in 2016; NSF CAREER recipient)

F. Yang (2017, IAS; now: now Tenure track assistant professor, LSU, AMS-Simons Fellow)

W. Liu (2015-2019, NSF as a sole PI in 2017, Tenure Track Assistant professor, Texas A&M)

L. Ge (2019-2022, From 07/22, Tenure Track Assistant Professor, Beijing International Center for Mathematical Research, Peking University)

X. Zhao (2021-2022,Tenure Track Assistant professor, Bejing Normal, 2022-)

X. Zhu (2022, U Washington, Visiting Assistant Professor)

UNDERGRADUATE RESEARCH:

Matthew Powell (2017-18; now grad. stud. UCI), Honors Thesis won UCI Chancellors award
.

INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS (IAMP)

ICMP 21, Organizer, Session "Quantum Mechanics and Spectral Theory" ;

IAMP, Vice-President (2012-2014);

IAMP, Executive committee (2009-2014);

ICMP 09 International Advisory Committee;

IAMP Early Career Award Committee, 2009;

EDITOR:

Peking Math Journal, Associate Editor (2021-)

Book Reviews of the BAMS, Associate Editor (2021-24)

GAFA (2018-)

JMP special issue celebrating Jean Bourgain's contributions to Mathematical Physics, EIC (2019-)

PAFA special issue on Dynamical Systems, Ergodic Theory and Mathematical Physics dedicated to Yakov Sinai on the occasion of his 85th birthday (2019-)

Pure and Applied Functional Analysis (2018-)

CRM Short Course Series (2016-)

IMRN (2014 -)

Journal of Fractal Geometry (2013 -)

Journal of Spectral Theory (2009-);

JMP (2006-2009);

CONFERENCE ORGANIZATION:

Key organizer:

Summer School on Periodic and Ergodic Spectral Problems, Montreal, to be held 06/23

QMath 15, Session "Spectral Theory", UCD, 09/2022

Computational math in computer assisted proofs, AIM, 09/22

Analysis and Mathematical Physics: conference devoted to the 90th birthday of V. Borok, postponed indefinitely, Kharkiv, Ukraine

A. Klein's 75th birthday conference, U Cergy-Pontoise, Paris, 06/2022

Almost-Periodic Spectral Problems, BIRS workshop, Banff, April 2022

Barry Simon's 75th birthday meeting, zoom, April 2021

37th Western States Mathematical Physics Meeting, UCI, March 2020,

36th Western States Mathematical Physics Meeting, UCI, February 2018,

Fields Institute Young Researchers Symposium, Toronto, August 2016. Organizer and moderator of "Spectral theory of quasi-periodic operators".

Analysis and beyond: celebrating Jean Bourgain's work and its impact, Princeton, May 2016

Ya. Sinai's 80s Birthday Conference, Princeton, December 2015

Spectral Theory of Ergodic Schrödinger Operators and related models, AMS Fall Western Sec. meeting, Fullerton, October 2015,

Almost-periodic and Other Ergodic Problems, INI, Cambridge, April 2015

USA-Uzbekistan Conference on Analysis and Mathematical Physics, session on Schrödinger operators and related problems, CSUF, May 2014

Arbeitsgemeinschaft on Quasiperiodic Schrödinger operators, Oberwolfach, 04/12

SCAPDE meeting, UCI, Dec. 2011

SCAPDE meeting, UCI, Nov. 2009

QMath 9, Marseille, France, Sept. 2004, Session "Spectral theory"

AMS Session "Random and Deterministic Schrödinger Operators", Irvine, November 2001

AMS Session "Schrödinger-type Operators", Santa-Barbara, 03/00

Committee member:

IPAM workshop on moire materials, May 2022

New trends in Lyapunov Exponent, Lisbon, 02/22

New trends in Lyapunov Exponent, 1-day zoom event, 07/20

Fields Symposium, Toronto, Nov. 2019

Non-self adjoint and magnetic operators in mathematical physics. Nantes, April 2019

ICMP 2018, July 2018, Montreal, local organizing committee member

2nd USA-Uzbekistan conference; Aug 2017, Urgent, Uzbekistan

Barry Simon's 70th Birthday Conference, Montreal, August 2016, Scientific Committee

SCAPDE meeting, UCSD, April 2011

Spectral theory and Math. Physics, Caltech, March 2006

AMS-IMS-SIAM Summer Research Conference on Spectral and inverse spectral theory for Jacobi operators, Snowbird, Utah, June 2003;

Fractal Geometry and Applications, Satellite Conference to ICM02, Nanjing, China, 08/02,

AMS Conference on Wave Phenomena in Complex Media. UC Boulder, June 1999

OTHER INTERNATIONAL SERVICE:

International Union for Pure and Applied Physics mathematical physics commission, 2021-

European Research Council Advanced Grant Panel (2009-2017);

McGill-Cergy MS program in Mathematical Physics, Scientific Comm. member, 2019-

Scientific committee of the GDR CNRS dynqua (French research network), 2016-

EMS/EWM scientific committee, 2014 -

Expert evaluator, KTH, 2019

Newton Institute, Cambridge, Periodic/Ergodic Spectral Problems, 01/15-06/15, Organizer

Advanced Studies Institutes in Uzbekistan (2018 -), organizing committee member.

AMS:

AMS Council Member at Large, 2022-25

AMS Centennial Fellowship Committee, 2016-2018. Chair 2017-18

AMS Satter Prize Committee, 2012-2016

AMS Western Section Program Committee, 2004-2006, chair 2005-2006

AMS Editorial Boards Committee, 2002-05; CPUB representative, 2003;

OTHER US/CANADA SERVICE:

APS AIP Dannie Heineman Prize Committee, 2020

American Academy of Arts and Sciences Mathematics Membership Panel, 2019-20

CRM-Fields-PIMS Prize committee, 2018, 2019. Chair 2019

UC Davis Mathematics Program, External Reviewer, 2018

Mathematical Physics Thematic Program, CRM, 2018, Org. Committee member

ICMP US travel grant (Committee member), 2000 & 2018

Random physical systems US travel grant (Committee member), 2018

Probabilistic methods in geometry, topology, and spectral theory, CRM, Montreal, Scientific Committee member, 2014-2016

Simons Foundation Collaboration Grants Review Committee member (2014)

Luther Marion Defoe Distinguished Professor Selection Committee 2012

Fields Institute, Toronto, Program on Dynamics and Transport in Disordered Systems, Scientific Committee (2011);

RESEARCH GRANTS:

NSF: 1994-2026
BSF: 2003-2011
Simons targeted grant: 2021-2026

RECENT INVITED SEMINARS/COLLOQUIA:

Mathematical Picture Language Seminar, Harvard, postponed

Alexandra Bellow Distinguished Lecture Series, Northwestern University, to be held Oct 2022

Analysis seminar U Arizona, to be held October 2022

Colloquium, U Toronto, to be held October 2022

Colloquium, U Oregon, to be held October 2022 Colloquium, Berkeley, Jan 2022

Steklov Institute seminar, December 2021

Seminar, MSRI program "Universality and Integrability in Random Matrix Theory and Interacting Particle Systems", October 2021

Colloquium, Berkeley, Oct 2021

Mathematical Picture Language Seminar, Harvard/zoom, 06/21

EIMI/Chebyshev laboratory spectral theory seminar, Feb 2021

London Analysis seminar, March 2021

Webinar on Diophantine approximation and homogeneous dynamics, 12/2020

Colloquium, Physics, UMass Boston, zoom, October 2020

Lisbon Seminar "Quantum Matter Meets Maths", zoom, September 2020

Open PDE & Analysis Seminar, zoom, June 2020

Colloquium, U Minnesota, zoom, April 2020

Colloquium, GaTech, February 2020

Colloquium, PennState, January 2020

Calderon-Zygmund seminar, U Chicago, January 2020

Academies Forum, UCI, November 2019

Caltech/UCLA joint analysis seminar, October 2019

Applied Math Seminar, Stanford, May 2019

Math-physics seminar, PUC Chile, Santiago, Chile, April 2019

Colloquium, UMD, April 2017

Quebec Math Colloquium, November 2018

Mini-course (5 lectures), University College London, July 2018

Colloquium, UC Santa Cruz, May 2018

Colloquium, Queen's University, Canada, January 2018

Noncommutative geometry seminar, Caltech, April 2017

TWIM Distinguished lecture, Tel Aviv University, January 2017

Analysis and PDE seminar, Hebrew University, December 2016

Berkeley Analysis and PDE seminar, May 2016

Bullitt Lecture, Apul 2016

Applied Math seminar, CAS, Beijing, July 2015

Department of Mathematics, Nanjing University, a series of six lectures, June-July 2015

Mathematical Physics seminar, University of Bristol, May 2015

Colloquium, Open University, Milton Keynes, UK, April 2015

Paris-London Analysis seminar, March 2015

Dep. Colloquium, Indiana University-Purdue University Indianapolis, November 2014

Dynamical Systems seminar, Courant Institute, October 2014

Mathematical Physics seminar, IAS, October 2014

Current Topics in Mathematical Physics seminar, McGill, Montreal, July 2014

Department Colloquium, U Wisconsin, February 2014

Applied Math seminar, Stanford University, October 2013

CRM-ISM Mathematics Colloquium, Montreal, September 2013

Mathematical Physics Working Seminar, McGill University, Montreal, September 2013

Sinai's seminar, IITP Moscow, July 2013

Math Physics seminar, Caltech, May 2013

Analysis seminar, University College London, February 2013

RECENT INVITED CONFERENCE TALKS:

Advanced Studies Institute, Uzbekistan, 8 lectures, July 2022

ICM, Plenary, July 2022

Probability and Mathematical Physics, Helsinki, June 2022

Penn State workshop on dynamical systems, Oct. 2021

Summer School "Modern Mathematics", plenary, Dubna, Russia, July 2021

Workshop Quasi-periodic spectral and topological analysis, zoom, May 2021

Dannie Heineman Prize for Math. Physics Talk, APS meeting, 03/21

Workshop "Many faces of renormalization", Stony Brook, March 2021

Workshop "Mathematics of topological insulators", AIM, zoom, 12/20

Dynamique Quantique meeting, Strasbourg, Feb. 2020

2019 Current Developmens in Mathematics Conference, Harvard/MIT, Nov. 2019

Fields Symposium, Toronto, November 2019

Workshop on Conservative dynamics and its interactions, Lausanne, August 2019

QMath14, Aaarhus, Denmark, August 2019

Honoring the Life and Work of Jean Bourgain, Princeton, May 2019

Mathematical Physics at the Crossings, Virginia Tech, May 2019

Quasiperiodicity and Fractality in Quantum Statistical Physics, Rutgers, May 2019

Maryland Dynamical Systems Conference, April 2019

Aisenstadt lectures, CRM, Montreal, November 2018

Conference on quasi-periodic dynamics and Schrdinger operators, Nanjing, Sep 2018

2018 PCMI program on Harmonic Analysis, Park City, July 2018 (mini-course)

Transport and localization in random media, Columbia University, May 2018

Classical and Quantum motion in disordered environment QMUL, London, December 2017

Summer school in mathematical physics, UNAM, June 2017 (mini-course)

Western States Meeting, Caltech, February 2017

Harmonic Analysis, January 2017, MSRI, Berkeley, California

Distinguished lecture, Tel Aviv University, January 2017

Workshop in Dynamical Systems and Related Topics, October 2016, PennState

QMath 13, Atlanta, plenary, Oct. 2016

Barry Simon 70th birthday conference, CRM, Aug 2016

Mathematics, Theoretical Physics and Data Science 2016, dedicated to anniversaries of Yakov Sinai and Grigory Margulis, Moscow, July 2016

Spectral Theory of Periodic, Quasi-periodic, and random problems, London, June 2016

" Interplay between dynamical systems and spectral theory", Simons, Stony Brook, June 2016

Analysis and beyond: celebrating Jean Bourgain's work and its impact, Princeton, May 2016

114th Statistical Mechanics conference (celebrating 80th birthdays of D. Ruelle and Y. Sinai), Rutgers, December 2015

SCAPDE, San Diego, May 2015

Periodic and other ergodic spectral problems, Cambridge INI, March 2015

ORAM 5, Cincinatti Ohio, February 2015

Fourth Abel Conference, IMA, October 2014

Spectral Days 2014, Marseille, June 2014

USA-Uzbekistan Conference on Analysis and Mathematical Physics, Plenary, May 2014

Informal Analysis Seminar, Kent State University (4 lectures), March 2014

Western States Meeting, Caltech, February 2014

COMMUNITY

Multiple appearences in various media outlets targeted at policymakers and the general public, advocating for maintenance of rigorous mathematics standards in K-12 education, 2021-
My 08/21 Cal Matters Guest commentary "California's proposed new math curriculum defies logic" resulted in a constructive discussion and ongoing collaboration with the office of the CA District 74 Assemblywoman Petrie-Norris.

UCI Math Circle, founder (2007); advisor, 2007-;

Bay Area Math Olympiad at UCI*, organizer: 2010-2021;

Tournament of the Towns at UCI* (four yearly events), organizer, 2012-2021;

Formulo Integreco at UCI*, organizer, 2014-2021;

*I organize/advise a team of grad. students/postdocs who run these proof-based competitions

NACLO at UCI, 2014 and 2015, organizer.

Euler winter math camp by S. Rubinstein-Salzedo, UCI, local organizer (2017-18)

Mathcounts coach, 2008-2011 and 2015-2017

Russian Cultural Association, UCI, (founding) Chair (2003 -); In 2016-18 I have organized eight cultural events for the Orange County's Russian community, such as lectures by D. Bykov, V. Shenderovich, concerts by Y. Kim, T. Shaov.

Russian school "Karandash", founding organizer, board member, and teacher of math circle and literature circle, 2003-2015

Advisor to 3 research projects by high-schoolers with Intel/Siemens honors 2003-2005;

Cosmos Summer program for gifted high-schoolers, 2003;

JSHS reviewer;

PUBLICATIONS:

1. Singular spectrum and scaling for Schrodinger operator with binary quasiperiodic potential. Rus. Math. Surveys 45, No.5, 179 (1990).

2. Aharonov-Bohm Problem on a Square Lattice. Theor. Math. Phys. 86, 241-251 (1991) (with V. A. Mandelshtam).

3. Spectral properties of one dimensional quasiperiodic operators, Rus. Math. Surveys, 91, No. 2 (1991).

4. Singular spectral properties of a one dimensional discrete Schrodinger operator with quasiperiodic potential. Adv. of Sov. Math. v.3, 215-254 (1991).

5. 1D-Quasiperiodic Operators. Latent Symmetries. Comm. Math. Phys. 139, 589 -604 (1991) (with V. A. Mandelshtam).

6. Anyon Gas on a Lattice in the Low Density Regime -Sov. Phys. JETP Lett. (Pis'ma Zh. Eksp. Teor. Fis.) 52, 767-768 (1990) (with A. A. Belov, Yu. E. Lozovik, and V. A. Mandelshtam).

7. Anyon Gas on a Lattice. Sov. Phys. JETP 73, 188-192 (1991) (with A. A. Belov, Yu. E. Lozovik, and V. A. Mandelshtam).

8. Ising Model In a Quasi-periodic Transverse Field and Percolation and Contact Processes in Quasi-periodic Environments. J. Stat. Phys. V73 N1-2:319-344. (1993) (with A. Klein).

9. Anderson Localization for the Almost Mathieu Equation: A Nonperturbative Proof. Comm. Math. Phys. 165, 49-58 (1994)

10. Singular Continuous Spectrum is Generic. Bull. AMS 31, 208-212 (1994) (with R. del Rio Castillo, N. Makarov and B. Simon).

11. Operators with Singular Continuous Spectrum, III. Almost Periodic Schrodinger Operators. Comm. Math. Phys. 165, 201-206 (1994) (with B. Simon).

12. Anderson Localization for the Almost Mathieu Equation, II: Point Spectrum for $\lambda > 2$. Comm. Math. Phys. 168, 563-570 (1995).

13. Operators with Singular Continuous Spectrum, IV. Hausdorff Dimensions, Rank One Perturbations and Localization. J.D'Analyse Math. 69, 153-200 (1996) (with R. del Rio, Y. Last and B.Simon).

14. Almost Everything About the Almost Mathieu Operator, II. "Proceedings of XI International Congress of Mathematical Physics",Int. Press, 373-382 (1995).

15. What is Localization? Phys. Rev. Lett. 75, 117-119 (1995) (with R. del Rio, Y. Last and B. Simon).

16. Dimensional Hausdorff Properties of Singular Continuous Spectra. Phys. Rev. Lett. 76, 1765-1769 (1996) (with Y. Last).

17. Duality and Singular Continuous Spectrum in the Almost Mathieu Equation. Acta Math. 178, 169-183 (1997) (with A. Gordon, Y. Last and B. Simon).

18. Continuous Spectrum and Uniform Localization for Ergodic Schrodinger Operators. J. Funct. Anal. 145, 312-322 (1997).

19. Anderson Localization for the Almost Mathieu Equation, III. Uniform Localization, Continuity of Gaps, and Measure of the Spectrum. Comm. Math. Phys. 195, 1-14 (1998) (with Y. Last).

20. Power-Law Subordinacy and Singular Spectra, I. Half-line Operators. Acta Math., 183 (1999), no. 2, 171–189. (with Y. Last).

21. Metal-Insulator Transition for the Almost Mathieu Operator. Annals of Math., 150, 1159-1175 (1999)

22. Power-Law Subordinacy and Singular Spectra, II. Line Operators. Comm. Math. Phys., 211 (2000) 643-658. (with Y. Last).

23. Zero-dimensional spectrum for quasiperiodic operators with analytic potential. J. Stat. Phys., 100, 791-796. (2000) (with M. Landrigan).

24. Strong dynamical localization for the almost Mathieu model. Rev. Math. Phys., 13 (2001), no. 6, 755–765 (with F. Germinet).

25. Nonperturbative analysis of quasiperiodic operators. Proceedings of XIIIth International Congress on Mathematical Physics (London, 2000), 423–424, Int. Press, Boston, (2001).

26. Anderson localization for the band model. Geometric aspects of functional analysis, 67–79, Lecture Notes in Math., 1745, Springer, Berlin, 2000. (with J. Bourgain).

27. Absolutely continuous spectrum for 1D quasiperiodic operators with J. Bourgain. Invent. Math. 148 (2002), no. 3, 453–463.

28. Continuity of the measure of the spectrum for discrete quasiperiodic operators, Math. Res. Letters 9 (2002), no. 4, 413–421 (with I. Krasovsky).

29. Continuity of the Lyapunov exponent for quasiperiodic operators with analytic potential. JSP 108(5): 1203-1218; Sep 2002, special issue dedicated to D. Ruelle and Ya. Sinai in honor of their 65th birthday anniversaries (with J. Bourgain).

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