

Curriculum Vitae SVETLANA JITOMIRSKAYA

EDUCATION AND DEGREES:

- 1991 Ph.D. in Mathematics. Moscow State University
Thesis: Spectral and Statistical Properties of Lattice Hamiltonians
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 2000 - 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:

Mathematical Physics and Dynamical Systems.

AWARDS:

- | | |
|---|----------------------|
| 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 |
| 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 |

RESEARCH GRANTS:

- NSF:1994-2019
BSF: 2003-2011
GGIA: 2012-2013

SELECTED SECTIONAL LECTURES:

ICM 2002, Beijing, August 2002

XIII International Congress of Mathematical Physics, London, July 2000

XI International Congress of Mathematical Physics, Paris, July 1994

SELECTED PLENARY LECTURES

Distinguished lecture, Tel Aviv University, January 2017

QMath 13, Atlanta, Oct. 2016

Frontiers in Mathematical Physics, Montreal, Aug. 2016

Bullitt Lecture, April 2016

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

Joint AMS-MAA address, San Antonio, January 2006

QMath 9, Marseille, France, September 2004

Fractal Geometry and Applications, Satell. Conference to ICM 2002, Nanjing, 08/02

IX ICDEMP, UAB, March 2002

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

VII ICDEMP, GATECH, March 1997

SELECTED MINI-COURSES:

Aisenstadt lectures, CRM, Montreal, to be held November 2018

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 Harm. Analysis and Spec. Theory 08/12, Texas A&M

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

SELECTED PUBLICATIONS:

[73] Noncompact complete Riemannian manifolds with dense eigenvalues embedded in the essential spectrum of the Laplacian. Submitted. (with W. Liu)
<https://www.dropbox.com/s/h2uyho698dc13za/embedpp.pdf?dl=0>

[71] Universal reflective-hierarchical structure of quasiperiodic eigenfunctions and sharp spectral transitions in phase (with W. Liu). Submitted. <https://arxiv.org/abs/1802.00781>

- [70] Inhomogeneous Diophantine approximation in the coprime setting (with W. Liu). Submitted. <https://arxiv.org/abs/1802.04384>
- [69] Cantor spectrum of graphene in magnetic fields. Submitted. (with S. Becker and R. Han). <https://arxiv.org/abs/1803.00988>
- [61] Universal hierarchical structure of quasiperiodic eigenfunctions. (with W. Liu), *Annals of Math.* **187** no. 3, 721-776 (2018)
- [60] Quantitative continuity of singular continuous spectral measures and arithmetic criteria for quasiperiodic Schrödinger operators (with S. Zhang), 44pp, submitted. <https://arxiv.org/abs/1510.07086>
- [58] Spectral theory of Extended Harper's model and a question by Erdős and Szekeres, (with A. Avila and C. Marx) *Invent. Math.* **210**, no. 1, 283–339. (2017)
- [56] All couplings localization for quasiperiodic operators with monotone potentials. *J.Eur. Math.Soc.*, to appear. (with I Kachkovskii), <https://arxiv.org/abs/1509.02226>
- [54] Arithmetic spectral transitions for the Maryland model. (with W. Liu), *Comm. Pure Appl. Math.* **70** (2017), no. 6, 1025-1051.
- [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. *J. Eur. Math. Soc. (JEMS)* **12** (2010), no. 1, 93-131. (with A. Avila)
- [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 *Invent. 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).
- [16] Dimensional Hausdorff Properties of Singular Continuous Spectra. *Phys. Rev. Lett.* **76**, 1765-1769 (1996) (with Y. Last).
- [15] What is Localization? *Phys. Rev. Lett.* **75**, 117-119 (1995) (with R. del Rio, Y. Last and B. Simon).
- [10] Singular Continuous Spectrum is Generic. *Bull. AMS* **31**, 208-212 (1994) (with R. del Rio Castillo, N. Makarov and B. Simon).

GRADUATE STUDENTS:

Michael Landrigan (Ph.D. 2001, UBS, Associate Director)
Melinda Schulteis (Ph.D. 2004, Concordia University, Irvine, Associate Prof.)
Deborah Koslover (Ph.D. 2005, UT Tyler, Associate Professor)
Martin Gartner (MS 2007, US Navy)
Chris Marx (Ph.D. 2012, Bateman at Caltech, now Oberlin, Tenure Track Asst Prof)
Rajinder Mavi (Ph.D. 2012, Whyburn at U of Virgini; now MSU, Vis. Assistant Professor)
Mustafa Said (Ph.D. 2014, College of the Canyons)
Wencai Liu (Ph. D. 2015 (Fudan University), visiting long-term in 2014, 2015; VAP, UCI)
Shiwen Zhang (Ph.D. 2016, MSU, Visiting Assistant Professor)
Rui Han (PhD 2017, IAS, member; now Georgia Tech, Vis. Assistant Professor)
Fan Yang (visiting 2014-2016, PhD 2016 (Ocean University), Researcher, IAS & Lecturer, Rutgers University)
Simon Becker (MS 2017, TU Munich & LMU; PhD student at University of Cambridge)
I directed 1/2 of Simon's MS thesis
Xiaowen Zhu (current)
Nishant Rangamani (current)

POSTDOCTORAL SCHOLARS:

J. Sahbani (WS 1999; Paris VII, Maitre-de-Conference)
F.Germinet (Fall 1999; U Cergy-Pontoise, President),
I. Krasovsky (Fall 2000; Imperial College, London, Reader),
H. Schulz-Baldes (1999-01, Erlangen, Professor)
D. Damanik (2000-01, 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; Tenure Track Assist. Prof., Universidad de Chile)
I. Kachkovkiy (2013-2016, Tenure Track Assistant professor, MSU)
Q. Zhou (2015, Full Professor, Nanjing University)
F. Yang (2017, Researcher, IAS & Lecturer, Rutgers University)
W. Liu (2015-)

UNDERGRADUATES:

Matthew Powell (2017-18; graduate student, UCI), Honors Thesis.

EDITOR:

CRM Short Course Series (2016-)
IMRN (2014 -)
Journal of Fractal Geometry (2013 -)
Journal of Spectral Theory (2009-);
JMP (2006-2009);
Pure and Applied Functional Analysis (2018-)

INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS (IAMP)

IAMP, Vice-President (2012-2014);
IAMP, Executive committee (2009-2014);
ICMP 09 International Advisory Committee;
IAMP Early Career Award Committee, 2009;

OTHER INTERNATIONAL SERVICE:

European Research Council Advanced Grant Panel (2009-2017);
Scientific committee of the GDR CNRS dynqua (French research network), 2016-
EMS/EWM scientific committee, 2014 -
Newton Institute, Cambridge, Periodic and Ergodic Spectral Problems Program, 2012-15,
Organizer
Advanced Studies Institutes in Uzbekistan (2018 -), organizing committee member.

OTHER US/CANADA SERVICE:

UC Davis Mathematics Program, External Reviewer, 2018
Mathematical Physics Thematic Program, CRM, 2018, Org. Committee member
AMS Centennial Fellowship Committee, 2016-2018. Chair 2017-18
ICMP US travel grant (Committee member), 2000 & 2018
AMS Satter Prize Committee, 2012-2016
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);

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

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

CONFERENCE ORGANIZATION:

Fields Symposium, Toronto, to be held Nov. 2019, organizing committee member

Non-self adjoint and magnetic operators in mathematical physics. Nantes, to be held April 2019, scientific committee member

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

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

Second USA-Uzbekistan conference; Organizer, section on mathematical physics and PDE; scientific committee member, Aug 2017, Urgent, Uzbekistan

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

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

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

Ya. Sinai’s 80s Birthday Conference, Princeton, December 2015, Organizer

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

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

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

Arbeitsgemeinschaft on Quasip. Schrödinger operators, Oberwolfach, 04/12, Organizer.

SCAPDE meeting, UCI, Dec. 2011, Organizer

SCAPDE meeting, UCSD, April 2011 (committee member)

SCAPDE meeting, UCI, Nov. 2009 (main organizer)

Spectral theory and Math. Physics, Caltech, March 2006 (committee member);

QMath 9, Marseille, France, Sept. 2004, Session “Spectral theory”, Organizer;

AMS-IMS-SIAM Summer Research Conference on Spectral and inverse spectral theory for

Jacobi operators, Snowbird, Utah, June 2003 (committee member);

Fractal Geometry and Applications, Satellite Conference to ICM02, Nanjing, China, August 2002, (Scientific Committee member)

AMS Session “Random and Deterministic Schrödinger Operators”, Irvine, November 2001 (main organizer)

AMS Session “Schrödinger-type Operators”, Santa-Barbara, 03/00 (main organizer)

AMS Conference on Wave Phenomena in Complex Media. Univ. of Colorado (Boulder), June 1999 (committee member)

RECENT INVITED SEMINARS/COLLOQUIA:

Colloquium, U Toronto, to be held Spring 2019

Operator Algebras seminar, U Toronto, to be held Spring 2019

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

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
Sinai's seminar, IITP Moscow, July 2012
Mathematical Physics seminar, UCD, May 2012
Analysis seminar, Imperial College, London, November 2011
Department Seminar, University College London, November 2011
Analysis seminar, University College London, July 2011
Mathematical Physics seminar, Caltech, June 2011
Colloquium, Stony Brook, March 2011

RECENT INVITED CONFERENCE TALKS:

Fields Symposium, Toronto, to be held November 2019
Random matrix products and Anderson localization, BIRS, to be held September 2019
Workshop on Conservative dynamics and its interactions, Lausanne, to be held August 2019
Spectral Methods in Mathematical Physics, Stockholm, to be held January 2019
Random physical systems, Chile, to be held December 2018
Aisenstadt lectures, CRM, Montreal, to be held November 2018
Conference on quasi-periodic dynamics and Schrödinger 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
Workshop “Interplay between dynamical systems and spectral theory”, Simons Center, 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, Cincinnati 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
TexAMP 2013, Rice University, October 2013
Avronfest, July 2013, Jerusalem Israel
Mathematics and Physics of disordered systems, Cambridge, UK, 9/12
3-lecture mini-course, ”Recent Advances in Harmonic Analysis and Spectral Theory”, 08/12, Texas A&M
Birman 2012, July 2012, St. Petersburg, Russia
Fractal Geometry and Dynamical Systems: IAMIS, June 2012, Riverside
Spectral Days 2012, April 2012, Munich, Germany
Western States mathematical physics meeting, Feb. 2012, Caltech
”PDE and spectral theory”, dedicated to 80th birthday of M.Solomyak, 09/2011, London.

Paris Nord - Berkeley - Bonn analysis seminar, November 2010

PSU-UMD conference in Dynamical Systems, Penn State, Oct. 2010

Western States mathematical physics meeting, Feb. 2010

Random media Symposium, Sendai, Japan, January 2010

COMMUNITY

Russian Cultural Association, UCI, (founding) Chair (2003 -);

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

Mathcounts coach, 2008-2011 and 2015-2017

Advisor to 3 research projects by high-schoolers, including Intel and Siemens semifinalists 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).
30. Delocalization in random polymer chains, *Comm. Math. Phys.* 233 (2003), 27- -48 (with H. Schulz-Baldes and G.Stolz).
31. Nonperturbative localization. *Proceedings of the ICM 2002, Vol III*, 445-457, Higher Ed. Press, Beijing 2002.
32. Localization for a family of one dimensional quasiperiodic operators of magnetic origin, *Annales Henri Poincare.* **6**, 103-121 (2005) (with D. Koslover, M. Schulteis)

33. Solving the Ten Martini problem. *Mathematical Physics of quantum mechanics*, 5-16, Lecture Notes in Physics, 690, Springer, Berlin, 2006 (with A. Avila)
34. Localization for quasiperiodic potentials, *Encyclopedia of Mathematical Physics*, Academic Press, 2006
35. Ergodic Schrödinger operators (on one foot). *Spectral theory and mathematical physics: a Festschrift in honor of Barry Simon's 60th birthday*, 613–647, Proc. Sympos. Pure Math., 76, Part 2, Amer. Math. Soc., Providence, RI, 2007.
36. Treating small denominators without KAM, 33-36, Proceedings of “The legacy of Ladyzhenskaya and Oleinik”, MSRI, 2007.
37. Upper bounds on wavepacket spreading for random polymer models. *Comm. Math. Phys.*, **273** (2007) (with H. Schulz-Baldes)
38. Continuity of the Lyapunov Exponent for analytic quasiperiodic cocycles. *Erg. Theory. Dyn. Syst.*, 29 (2009), 1881-1905 (with D. Koslover and M. Schulteis).
39. The Ten Martini problem. *Annals of Math.*, **170** no. 1, 303-342. (2009) (with A. Avila)
40. Almost localization and almost reducibility. *J. Eur. Math. Soc. (JEMS)* 12 (2010), no. 1, 93-131. (with A. Avila)
41. Hölder continuity of absolutely continuous spectral measures for one-frequency quasiperiodic Schrödinger operators. *Comm. Math. Phys.*, 301 (2011), 563-581 (with A. Avila)
42. Continuity of the Lyapunov exponents for analytic quasiperiodic cocycles with singularities. *JFPTA*, 10 (2011), no. 1, 129-146, Special issue dedicated to the 80th birthday of R. Palais (with C. Marx)
43. Arbeitsgemeinschaft: Quasiperiodic Schrödinger Operators, Oberwolfach Report 17/12, p.1-69 (with A. Avila and D. Damanik)
44. Arbeitsgemeinschaft mit aktuellem Thema: Quasiperiodic Schrödinger Operators, p. 1-26 (with A. Avila and D. Damanik)
45. Analytic Quasi-Periodic Cocycles with Singularities and the Lyapunov Exponent of Extended Harper's model. *Commun. Math. Phys.* **316** 237-267, 2012 (with C. Marx)
46. Analytic quasi-periodic Schrödinger operators and rational frequency approximants. *GAF*, **22** 1407-1443, 2012 (with C. Marx)
47. Erratum to: Analytic quasi-periodic cocycles with singularities and the Lyapunov exponent of extended Harper's model. *Comm. Math. Phys.* 317 (2013), no. 1, 269-271 (with C. Marx)
48. Exponential dynamical localization for the Almost Mathieu operator, *Comm. Math. Phys.* **322** 877-882, 2013 (with H. Krueger)

49. Continuity of the measure of the spectrum for quasiperiodic Schrödinger operators with rough potentials, *Comm. Math. Phys.* **325** 585-601, 2014 (with R. Mavi)
50. On the ground state calculation of a many-body system using a self-consistent basis and quasi-Monte Carlo. An application to water hexamer. *J. Chem. Phys.* **139**, 204104 (2013) (with I. Georgesku and V. Mandelshtam)
51. Complex one-frequency cocycles, *J.Eur. Math.Soc.*, **16**, 1915-1935, (2014) (with A. Avila and C. Sadel).
52. Spectral Theory of Extended Harper's Model. Preprint 2013 (with C. Marx)
53. Dynamical localization bounds for quasiperiodic Schrödinger operators with rough potentials, (with R. Mavi) *Int. Math. Res. Not.* **2017** 96120 (2017)
54. Arithmetic spectral transitions for the Maryland model. (with W. Liu), *Comm. Pure Appl. Math.* **70** (2017), no. 6, 1025-1051.
55. Dynamics and spectral theory of quasiperiodic Schrödinger type operators. 41pp, *Ergod.Th.& Dynam.Sys.*, **37** 2353-2393 (2017) (with C. Marx)
56. All couplings localization for quasiperiodic operators with monotone potentials. *J.Eur. Math.Soc.*, to appear. (with I Kachkovskii), <https://arxiv.org/abs/1509.02226>
57. L^2 -reducibility and localization for quasiperiodic operators. (with I Kachkovskii), *Mathematical Research Letters*, Vol. 23, No. 2 (2016), pp. 431-444.
58. Spectral Theory of Extended Harper's Model and a question by Erdős and Szekeres. (with A. Avila and C. Marx) *Invent. Math.* **210** (2017), no. 1, 283-339.
59. A lower bound on the Lyapunov exponent for the generalized Harper's model. *J Stat.Phys.*, **166** 609-617 (2017) (with W. Liu)
60. Quantitative continuity of singular continuous spectral measures and arithmetic criteria for quasiperiodic Schrödinger operators. preprint 2015, 44pp (with S. Zhang), submitted. <https://arxiv.org/abs/1510.07086>
61. Universal hierarchical structure of quasiperiodic eigenfunctions. (with W. Liu), *Annals of Math.* **187** 3, 721-776 (2018)
62. Pure point spectrum for the Maryland model: A constructive proof. (with F. Yang). *ETDS*, to appear.
63. Second phase transition line. (with A. Avila and Q. Zhou), *Math. Ann.*, **370** 271-285 (2018)
64. Full measure reducibility and localization for quasiperiodic Jacobi operators: a topological criterion. (with R. Han), *Adv. Math.* **319** (2017), 224250.
65. Quantum dynamical bounds for ergodic potentials with underlying dynamics of zero topological entropy. preprint 2016, 30pp (with R. Han), *Analysis and PDE*, to appear <https://arxiv.org/abs/1607.0>

66. Singular continuous spectrum for singular potentials. (with F. Yang), *Comm. Math. Phys.* 351 (2017), no. 3, 11271135.
67. Quasiperiodic Schrödinger Operators. *Notices AMS*, September 2016
68. Discrete Bethe-Sommerfeld Conjecture. *Comm. Math. Phys.*, to appear (with R. Han), arXiv:1707.03482
69. Cantor spectrum of graphene in magnetic fields. Preprint 51pp (with S. Becker and R. Han) <https://arxiv.org/abs/1803.00988>
70. Inhomogeneous Diophantine approximation in the coprime setting (with W. Liu). Submitted. <https://arxiv.org/abs/1802.04384>
71. Universal reflective-hierarchical structure of quasiperiodic eigenfunctions and sharp spectral transitions in phase. Submitted (with W. Liu) <https://arxiv.org/abs/1802.00781>
72. Large deviations of the Lyapunov exponent and localization for the 1D Anderson model. (with X. Zhu) Submitted. <https://arxiv.org/abs/1803.10697>
73. Noncompact complete Riemannian manifolds with dense eigenvalues embedded in the essential spectrum of the Laplacian. Submitted. (with W. Liu) <https://www.dropbox.com/s/h2uyho698dc13za/embedpp.pdf?dl=0>

PREPRINTS AND PRE-PREPRINTS :

74. Second phase transition line. A constructive proof. Preprint 2018 (with Q. Zhou)
75. Spectral transition line in phase for the almost Mathieu operator, Preprint 2018 (with F. Yang)
76. Noncompact complete Riemannian manifolds with singular continuous spectrum embedded in the essential spectrum of the Laplacian. (with W. Liu, working title)
77. Universal hierarchical structure of eigenfunctions for the Maryland model (with R. Han and F. Yang, working title)
78. Wavepacket spreading and fractal spectral dimension of quasiperiodic operators with singular continuous spectrum. (with W. Liu and S. Tcheremchantsev; working title).
79. Exact dynamical exponent for the almost Mathieu operator (with H. Krüeger and W. Liu, working title)