

Yun Yang

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Research Interests

Ergodic Theory and Dynamical Systems.

Education and Experiences

- 2016 – 2019 Visiting Assistant Professor, City University of New York
Mentor: *Enrique Pujals and Michael Shub*
- 2013 – 2015 Visiting graduate student, The University of Chicago
Advisor: *Amie Wilkinson*
- 2010 – 2016 Graduate student, Peking University
Advisor: *Wenxiang Sun*
- 2006 – 2010 Bachelor of science, Jilin University

Publications and Preprints

Publication

1. Christian Wolf and Yun Yang, *A topological classification of locally constant potentials via zero-temperature measures*, Trans. Amer. Math. Soc. 372 (2019), 3113-3140.
2. Jianyu Chen, Hongkun Zhang and Yun Yang, *Almost Sure Invariance Principle for Uniformly Hyperbolic Systems with Singularities*, Journal of Statistical Physics, 172 (6), 2018, 1499-1524.
3. Chao Liang and Yun Yang, *The C^1 density of nonuniform hyperbolicity in C^r conservative diffeomorphisms*, Proceedings of American Mathematical Society, 145 (4), 2017, 1539-1552.
4. Wenxiang Sun and Yun Yang, *Hyperbolic periodic points for chain hyperbolic homoclinic classes.*, Discrete and Continuous Dynamical Systems, 36 (7), 2016, 3911-3925.
5. Gang Liao, Wenxiang Sun and Yun Yang, *Exponential Rate of Periodic Points and Metric Entropy in Nonuniformly Hyperbolic Systems*, Journal of Mathematical Analysis and Applications, 434 (2), 2016, 1253-1266.
6. Yun Yang, *Livšic measurable rigidity for C^1 generic volume-preserving Anosov systems.*, Proceedings of American Mathematical Society, 144, 2016, 1119-1127.
7. Yun Yang, *Horseshoes for $C^{1+\alpha}$ mappings with hyperbolic measures.*, Discrete and Continuous Dynamical Systems, 35 (10), 2015, 5133-5152.

Preprints

1. Alex Blumenthal and Yun Yang, *Positive Lyapunov exponent by small random perturbations*, submitted.
2. Enrique Pujals, Michael Shub and Yun Yang, *Non-symmetric pitchfork bifurcations*, submitted.
3. Enrique Pujals, Michael Shub and Yun Yang, *Periodic point growth for C^2 maps of S^2* , in preparation.
4. Yun Yang, *Hyperbolicity for C^2 local diffeomorphisms with dominated splitting*, in preparation.
5. Jianyu Chen, Huyi Hu and Yun Yang, *Every compact manifold carries a hyperbolic systems with countably many ergodic components*, in preparation.
6. Andrey Gogolev and Yun Yang, *Finite Livshits Theorems and approximate smooth conjugacy for Anosov dynamical systems*, in preparation.
7. Michael Burr, Suddhasattwa Das, Christian Wolf and Yun Yang, *Computability of thermodynamic invariants for shift maps beyond SFTs*, in preparation.

Awards and Honors

2015	Excellent Graduates, Peking University.
2015	Excellent Research Prize, Peking University.
2015	Guanghua Scholarship, Peking University.
2011-2015	Chancellor's Scholarship, Peking University.
2012	Excellent Student, Peking University.
2006-2010	Excellent Student, Jilin University.
2007-2008	Chinese National Scholarship, First Class(2/100), Jinlin University.
2008	Dongrong Scholarship(5/299), Jilin University.
2008	Honorable Mention at Mathematical Contest in Modeling, Jilin University.

Talks Given

April 2019	Semi-annual workshop in Dynamical Systems and Related Topic, University of Maryland. <i>Non-stationary invariance principle for hyperbolic systems with singularities .</i>
April 2019	Complex analysis and dynamics seminar, Graduate Center. <i>Non-stationary invariance principle for hyperbolic systems with singularities .</i>
Sep 2018	Ergodic theory seminar, Ohio State University, <i>Random perturbations of predominantly expanding multimodal circle maps .</i>
Apr 2018	Dynamical systems seminar, Penn State University, <i>Periodic point growth for C^2 maps of the two sphere.</i>
Mar 2018	Ergodic theory seminar, Ohio State University, <i>Periodic point growth for C^2 maps of the two sphere.</i>
Feb 2018	Analysis Seminar, Bronx Community College, <i>Complexity in Dynamics.</i>
Feb 2018	Dynamical systems seminar, Graduate Center of CUNY, <i>Almost Sure Invariance Principle for hyperbolic systems with singularities.</i>
Jun 2017	Dynamics Beyond Uniform Hyperbolicity Conference, BYU, <i>Periodic point growth for C^2 maps of the two sphere, II.</i>
Apr 2017	Analysis Seminar, Fordham University, <i>Complexity in Dynamics.</i>
Mar 2017	Analysis Seminar, University of Massachusetts Amherst, <i>Periodic orbits and entropy for partially hyperbolic systems.</i>

- Feb 2017 Dynamical Systems Seminar, Graduate Center CUNY,
Hyperbolic systems with countably many ergodic components.
- Feb 2017 Colloquium, Graduate Center CUNY,
Complexity in Dynamics.
- Dec 2016 Complex Analysis and Dynamics Seminar, Graduate Center CUNY,
Measurable rigidity for C^1 generic volume-preserving Anosov diffeomorphisms.
- Oct 2016 Dynamical Systems Seminar, New York University,
Growth of periodic orbits and entropy.
- Sep 2016 Dynamical Systems Seminar, Graduate Center CUNY,
Growth of periodic orbits and entropy.
- May 2016 Dynamical Systems Conference, Hebei Normal University,
The growth of periodic orbits for chain hyperbolic homoclinic classes.
- May 2015 Workshop in Smooth Dynamical Systems, Soochow University,
Ljovšić measurable rigidity for C^1 generic volume-preserving Anosov systems.
- Mar 2015 A.M.S. Special Session on Smooth Dynamical Systems and Ergodic Theory, Michigan State University,
Ljovšić measurable rigidity for C^1 generic volume-preserving Anosov systems.

Student Seminar Mini-courses

Lectures on entropy, following the book "Mathematical Theory of Entropy" by Nathaniel F.G. Martin and James W. England, Student dynamical systems seminar, Graduate Center CUNY, Spring Semester 2017.

Lectures on one dimensional dynamics, following the book by Welington De Melo and Sebastian van Strien, Student dynamical systems seminar, Graduate Center CUNY, Spring Semester 2017.

Lectures on ergodic theory of random transformations, following the book by Yuri Kifer, Student dynamical systems seminar, Graduate Center CUNY, Fall 2016.

Generic properties for volume-preserving diffeomorphisms, following the paper by Avila-Bochi, Dynamical systems seminar, Peking University, May 2015.

An invitation to rigidity theory, following the paper by R. J. Spatzier, Student seminar on rigidity in higher rank abelian group actions, Peking University, May 2015.

Multiplicative Ergodic Theorem, following the paper by Karlsson-Ledrappier, Student seminar on random walks, The University of Chicago, February 10 & 17, 2015.

Lectures on Partial Hyperbolic dynamics, following the book by F. Rodriguez Hertz, Student seminar on partially hyperbolic dynamics, Peking University, Summer 2013.

Markov partitions for nonuniformly hyperbolic diffeomorphisms on surfaces, following the paper by O. Sarig, Dynamical Systems Seminar, Peking University, Winter 2012.

Dynamical Zeta functions for Axiom A systems, following the paper by A. Manning, Dynamical Systems Seminar, Peking University, September 2012.

Lectures on ergodic theory, following the book by M. Pollicott, Student seminar, Peking University, Summer 2012.

Teaching Experiences

2019 Fall	Math 2114-86066, Introduction to linear algebra, Virginia Tech.
2019 Fall	Math 2114-86070, Introduction to linear algebra, Virginia Tech.
2017 Fall	Math 39100 B, Methods of Differential Equations, City College of New York.
2017 Fall	Math 39100 H, Methods of Differential Equations, City College of New York.
2017 Spring	Math 39100 C, Methods of Differential Equations, City College of New York.
2015 Winter	Basic Theory for Ordinary Differential Equation, University of Chicago.
2013 Spring	Measure theory, Peking University.
2012 Fall	Complex Functions, Peking University.
2011 Spring	Functional Analysis II, Peking University.
2011 Spring	Basic Topology, Peking University.
2010 Fall	Higher Mathematics, Peking University.

Conferences Attended

April 2019	<i>Semi-annual workshop in Dynamical Systems and Related Topic</i> , University of Maryland.
Oct 2018	<i>Semi-annual workshop in Dynamical Systems and Related Topic</i> , Penn State University.
Jun 2018	<i>International Conference on Dynamical Systems</i> , South University of Science and Technology.
Sep 2017	<i>Conference on Mathematical Physics Perspective of Billiards and Dominoes</i> , University of Massachusetts Amherst.
Jun 2017	<i>Dynamical Systems: Smooth, Symbolic, and Measurable</i> , Snowbird.
Nov 2016	<i>Midwest Dynamical Systems Meeting</i> , Indiana University-Purdue University Indianapolis.
Oct 2016	<i>Semi-annual workshop in Dynamical Systems and Related Topic</i> , Penn State University.
Nov 2014	<i>Midwest Dynamical Systems Meeting</i> , University of Michigan.
Oct 2014	<i>Semi-annual workshop in Dynamical Systems and Related Topic</i> , Penn State University.
Aug 2014	<i>Summer School on Dynamical Systems</i> , University of Maryland.
Apr 2014	<i>Semi-annual workshop in Dynamical Systems and Related Topic</i> , University of Maryland.
Nov 2013	<i>Midwest Dynamical Systems Meeting</i> , at University of Illinois at Urbana-Champaign.
Oct 2013	<i>Semi-annual workshop in Dynamical Systems and Related Topic</i> , Penn State University.

Seminars Organized

Fall 2016	<i>Dynamics and Analysis Research Seminar</i> , Graduate Center, CUNY.
Spring 2017	<i>Dynamics and Analysis Research Seminar</i> , Graduate Center, CUNY.
Fall 2017	<i>Dynamics and Analysis Research Seminar</i> , Graduate Center, CUNY.
Spring 2018	<i>Complex Analysis and Dynamics Seminar</i> , Graduate Center, CUNY.
Fall 2018	<i>Complex Analysis and Dynamics Seminar</i> , Graduate Center, CUNY.
Spring 2019	<i>Complex Analysis and Dynamics Seminar</i> , Graduate Center, CUNY.
Fall 2019	<i>Colloquium Seminar</i> , Virginia Tech.