

CURRICULUM VITAE

Dr. Fan Yang

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Department of Mathematics
University of Oklahoma
Norman, OK 73019-3103
phone: +1 213-610-3760
E-mail: fan.yang-2@ou.edu

Education

- 2015 Ph.D. in Mathematics, University of Southern California.
Advisor: Nicolai T A Haydn.
Dissertation: Entry Time Statistics in Metric Spaces.
- 2011 M.S. in Mathematics, Peking University.
Advisor: Shaobo Gan.
Dissertation: Hyperbolicity in One-dimensional Dynamics.
- 2008 B.S. in Mathematics, Peking University.

Academic Positions

- 2017–now Lecturer-Postdoc, University of Oklahoma, USA.
- 2015–2017 Postdoctoral fellow, Instituto Nacional de Matemática Pura e Aplicada (IMPA),
and Universidade Federal do Rio de Janeiro, Brazil.

Research Interests

Probability, ergodic theory, smooth dynamical systems, and stochastic processes.
Research key words: physical measures; thermodynamical formalism; singular flows; statistical property of invariant measures; limit theorems for dynamical systems; entropy theory.

Honors and Grants

- 2015 The Edward and Dolores Blum Fellowship.

Publications and Preprints

1. Y. Shi, F. Yang and J. Yang, A countable partition for singular flows, and its application on the entropy theory. Submitted and under review. Available at [arxiv/1908.01380](https://arxiv.org/abs/1908.01380).

2. F. Yang, Rare event process and entry times distribution for arbitrary null sets on compact manifolds. Submitted and under review. Available at arxiv/1905.09956.
3. M. J. Pacifico, F. Yang and J. Yang, Entropy theory for sectional hyperbolic flows. Submitted and under review. Available at arxiv/1901.07436.
4. Y. Kifer and F. Yang, Geometric law for numbers of returns until a hazard under ϕ -mixing. Submitted and under review. Available at arxiv/1812.09927.
5. F. Yang and J. Yang, Decay of correlations for maximal measure of maps derived from Anosov. Submitted and under review. Available at arxiv/1610.00796.
6. N. Haydn, J. Rousseau and F. Yang, Exponential law for random maps on compact manifolds. Submitted and under review. Available at arxiv/1705.05869.
7. Y. Hua, F. Yang and J. Yang, A new criterion of physical measures for partially hyperbolic diffeomorphisms. To appear on *Trans. Amer. Math. Soc.* DOI: 10.1090/tran/7920.
8. N. Haydn and F. Yang, Local escape rate for ϕ -mixing dynamical systems. To appear on *Ergodic Theory and Dynamical Systems*. DOI: 10.1017/etds.2019.21.
9. M. J. Pacifico and F. Yang, Hitting times distribution and extreme value law for semi-flows. *Discrete Contin. Dyn. Syst. series A*, **37** (2017), no. 11, 5861–5881.
10. N. Haydn and F. Yang, A derivation of the Poisson law for returns of smooth maps with certain geometrical properties. *Dynamical systems, ergodic theory, and probability: in memory of Kolya Chernov*, 141-160, Contemp. Math., **698**, Amer. Math. Soc., Providence, RI, 2017.
11. N. Haydn and F. Yang, Entry times distribution for dynamical balls on metric spaces. *J. Stat. Phys.*, **167**, 297-316 (2017).
12. N. Haydn and F. Yang, Entry times distribution for mixing systems, *J. Stat. Phys.*, **163**, 374–392 (2016).
13. R. Ures, M. Viana, F. Yang and J. Yang, Statistical properties of ν Gibbs u -states for C^1 diffeomorphisms with mostly contracting center. Preprint.
14. N. Haydn and F. Yang, Shannon-McMillan-Breimann theorem for random systems. Preprint.

Professional Services

- Co-organizer of the 4th Annual Meeting of SIAM Central States Section at University of Oklahoma, October 5-7, 2018.
- Reviewer for *Nonlinearity*, *Discrete and Continuous Dynamical Systems*, *Journal of statistical physics*, and *Entropy*.

Selected Talks

- Apr. 2019 “A new criterion for the physical measures of partially hyperbolic systems”, University of Maryland.

- Feb. 2019 “Physical measures for partially hyperbolic systems”, University of Oklahoma.
- July 2018 “Decay of correlation for maximal measure of certain C^1 maps”, International conference on dynamical systems, SUSTC, China.
- July 2018 “A dichotomy on the local escape rate”, Peking University, China.
- Mar. 2018 “Statistical properties of ν Gibbs states for C^1 diffeomorphisms with mostly contracting center”, University of Southern California.
- Nov. 2017 “Extreme value laws for semi-flows”, AMS Fall Western Sectional Meeting, Riverside, California.
- Sept. 2017 “Hitting times distribution and extreme value laws for semi-flows”, The 3rd Annual Meeting of SIAM Central States Section.
- Oct. 2016 “Decay of correlations for maximal measure of maps derived from Anosov”, University of Maryland.
- Oct. 2016 “Decay of correlations for derived from Anosov maps with measure of maximal entropy”, IMPA.
- July 2016 “Decay of correlations for DA maps with measure of maximal entropy”, International Conference on Statistical Properties of Nonequilibrium Dynamical Systems, SUSTC, China.
- July 2016 “Hitting time distribution and extreme value law for flows”, The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando.
- Apr. 2016 “Poisson law for return times and extreme value law on compact manifolds”, Universidade Federal da Bahia, Brazil.
- May 2015 “Hitting Time Distribution for dynamical balls”, The dynamical systems, ergodic theory, and probability conference dedicated to the memory of Nikolai Chernov, University of Alabama at Birmingham.
- Mar. 2015 “Hitting Time Distribution on Metric Spaces”, AMS Sectional Meeting, Michigan State University.
- July 2014 “Hitting Time Distribution for Bowen-Balls”, Limit theorems in dynamics and applications, CIRM, Aix-Marseille University, France.
- July 2014 “Entry Times Distribution for Dynamical Balls in Metric Spaces”, Research in Residence: Limit theorems for random and non-stationary dynamical systems, CPT, Aix-Marseille University, France.
- Nov. 2013 “Entry and Return times Asymptotics for Bowen-Balls”, AMS Sectional Meeting, UC Riverside.

Visits and Conferences

- Apr. 2019 Visit to the University of Maryland.
- Mar. 2019 Visit to University of Southern California.
- Dec. 2018 Visit to Southern University of Science and Technology.
- Oct. 2018 The 4th Annual Meeting of SIAM Central States Section, Norman, OK, USA.
- Aug. 2018 Visit to Instituto Nacional de Matemática Pura e Aplicada, Brazil.
- July 2018 International conference on dynamical systems, Shenzhen, China.
- Mar. 2018 Visit to University of Southern California.
- Nov. 2017 AMS Fall Western Sectional Meeting, Riverside, CA, USA.
- Sept. 2017 The 3rd Annual Meeting of SIAM Central States Section. Fort Collins, CO, USA
- Jan. 2017 Joint Mathematics Meetings, Atlanta, GA, USA.
- Nov. 2016 New Trends in One-Dimensional Dynamics, IMPA, Brazil.

Oct. 2016 Visit to University of Maryland.
 Aug. 2016 Visit to University of Southern California.
 July 2016 International Conference on Statistical Properties of Nonequilibrium Dynamical Systems. Shenzhen, China.
 July 2016 The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications. Orlando, FL, USA.
 Apr. 2016 Visit to Universidade Federal da Bahia.
 May 2015 The dynamical systems, ergodic theory, and probability conference dedicated to the memory of Nikolai Chernov. Birmingham, AL, USA.
 Mar. 2015 AMS Sectional Meeting. East Lansing, MI, USA.
 Oct. 2014 Dynamical Systems and Related Topics Workshop. University Park, PA, USA.
 July 2014 Limit theorems in dynamics and applications. Marseille, France.
 June 2014 Visit to Centre de Physique Théorique, CNRS Luminy, France.
 June 2013 Limit Theorems for Dynamical Systems, EPFL, Lausanne, Switzerland.
 June 2009 Workshop on Dynamical Systems beyond Uniform Hyperbolicity, Beijing, China.

Teaching Experience

As Primary Instructor, University of Oklahoma:

Fall 2019 Math 3333: Linear Algebra.
 Spring 2019 Math 3113: Introduction to ordinary differential equations.
 Fall 2018 Math 3113: Introduction to ordinary differential equations.
 Spring 2018 Math 3413: Physical Mathematics I.
 Fall 2017 Math 2433: Calculus and Analytic Geometry III.

As Teaching Assistant, University of Southern California:

Spring 2015 Math-425a: Fundamental Concepts of Analysis.
 Fall 2014 Math-425a: Fundamental Concepts of Analysis.
 Math-580: Functional Analysis.
 Spring 2014 Math-407: Probability Theory.
 Fall 2013 Math-425a: Fundamental Concepts of Analysis.
 Spring 2013 Math-245: Mathematics of Physics and Engineering I.
 Fall 2012 Math-226: Calculus III.
 Spring 2012 Math-117: Introduction to Mathematics for Business and Economics.
 Fall 2011 Math-108: Pre-Calculus.

Membership

Member of the American Mathematical Society (AMS) since 2011.
 Member of the Society for Industrial and Applied Mathematics (SIAM) since 2017.