Chenxi Wu

email: wuchenxi2013@gmail.com
https://wuchenxi.github.io
https://arxiv.org/a/wu_c_3.html

Education and Employment

- Assistant Professor at UW Madison, Sept 2020-

- Hill Assistant Professor at Rutgers University-New Brunswick, Sept 2017-May 2020

- Postdoc at MPIM, Nov 2016-July 2017

- Member at MSRI, August 2016-Oct 2016

- Ph. D in Mathematics, Cornell University, August 2016, Advisor: John Smillie

- B. Sc. in Mathematics, Peking University, July 2010

Research Publications

- Kathryn Lindsey, Chenxi Wu. A Characterization of Thurston's Master Teapot, to appear in *Ergodic Theory and Dynamical Systems*. Accepted 2022, 23 pages

- Hyungryul Baik, Eiko Kin, Hyunshik Shin, Chenxi Wu. Asymptotic translation length and normal generation of for the fibered cone, to appear in *Algebraic and Geometric Topology*, Accepted 2021, 32 pages

- Hyungryul Baik, Sebastian Hensel, Chenxi Wu. Foliation from left orders, to appear in *J. Korean Math. Soc.* Accepted 2021, 13 pages.

- Harrison Bray, Diana Davis, Kathryn Lindsey, Chenxi Wu. The shape of Thurston's Master Teapot, *Advances in Mathematics*, 377, 107481. 2021, 26 pages.

- Hyungryul Baik, Hyunshik Shin, Chenxi Wu. An upper bound on the asymptotic translation lengths on the curve graph and fibered faces, to appear in *Indiana University Math Journal*, Accepted 2021, 13 pages.

- Hyungryul Baik, Farbod Shokrieh and Chenxi Wu. Limits of canonical forms on towers of Riemann surfaces, *Crelle*, 2020(764), 287-304, 2020

- Hyungryul Baik and Chenxi Wu. An algorithm to compute Teichmüller polynomial from matrices, *Geometriae Dedicata*, 204(1), 175-189, 2020

- Lucien Clavier, Anja Randecker, Chenxi Wu. Rotational component spaces for infinite-type translation surfaces. *Geometrae Dedicata*, 201(1), 57-80, 2019

- Hyungryul Baik, Ahmad Rafiqi and Chenxi Wu. Is a typical bi-Perron number a pseudo-Anosov dilatation? *Ergodic Theory and Dynamical System*, 39(7), 1745-1750, 2019

- Farbod Shokrieh and Chenxi Wu. Canonical measures on metric graphs and a Kazhdan's theorem, *Invent. Math*, 215(3), 819-862, 2019

- Chenxi Wu. Lattice surfaces and smallest triangle. *Geometrae Dedicata*, 187(1), 107-121, 2017. doi: 10.1007/s10711-016-0191-z

- Hyungryul Baik, Ahmad Rafiqi and Chenxi Wu. Constructing pseudo-Anosov maps with given dilatations. *Geometriae Dedicata*, 180(1), 39-48, 2016. doi: 10.1007/s10711-015-0089-1

- Chenxi Wu. Delone property of the holonomy vectors of translation surfaces. *Israel Journal of Mathematics*, 214(2), 733-740, 2016. doi: 10.1007/s11856-016-1357-y

- Chenxi Wu. The relative cohomology of abelian covers of the flat pillowcase. *Journal of Modern Dynamics*, 9(1), 123, 2015. doi:10.3934/jmd.2015.9.123, 18 pages.

- Yingjie Guo, Chenxi Wu, et al. Gene-Based nonparametric testing of interactions using distance correlation coefficient in case-control association studies, *Genes* 9(12), 2018.

- Yingjie Guo, Chenxi Wu, et al. Combining Sparse Group Lasso and Linear Model improves power to detect genetic variants underlying quantitative traits, *Frontiers in Genetics*, 2019

Research Preprints

- Hyungryul Baik, Dongryul M. Kim, Chenxi Wu, Minimal asymptotic translation lengths on curve complexes and homology of mapping tori, arXiv:2107.09018, 17 pages

- Hyungryul Baik, Dongryul M. Kim, Chenxi Wu, On the asymptotic translation lengths on the sphere complexes and the generalized fibered cone, arXiv:2011.08034, 27 pages

- Kathryn Lindsey, Giulio Tiozzo, Chenxi Wu, Master Teapots and Entropy Algorithms for the Mandelbrot Set, arXiv:2112.14590, 53 pages

- Hyungryul Baik, Dongryul M. Kim, Chenxi Wu, Reducible normal generators for mapping class groups are abundant, arXiv:2112.13726, 11 pages

Grants

- Simons Collaboration Grant, 2021-2026

- AMS MRC, Summer 2017

- KHYS Visiting Researcher Scholarship, Summer 2014

Talks

- Galois conjugates of exponents of core entropies, Fractal and Related Fields IV, Porquerolles, France, September 2022

- Generalized Thurston's Teapot, Dynamics seminar, Stony Brook University, August 2022

- Fibered cones and sphere complex translation lengths, 36th Summer Topological Conference, Vienna, July 2022

- Entropy and kneading of interval and tree maps, 36th Summer Topological Conference, Vienna, July 2022

- Homology directions and translation length on sphere complex, 55th Spring Topology and Dynamics Conference, Baylor University, March 2022

- Fibered cones and stable translation lengths on sphere graphs, CMS Winter Sectional meeting, December 2021

- Fibered cones and stable translation lengths on sphere graphs, Dynamics seminar, Indiana University Bloomington, November 2021

- Galois conjugates for exponents of core entropy, Quasiworld seminar, November 2021

- Topological Entropy on Hubbard Trees, AMS Fall Central Sectional Meeting, October 2021

- Stable length on sphere complexes, Dynamics Seminar, Boston College, April 2021

- Entropy on quadratic Hubbard trees, Dynamics and Geometry seminar, University of Michigan at Ann Arbor, February 2021

- Asymptotic translation lengths on free factor and free splitting complexes, Geometry and Topology Online Seminar, University of Warwick, November 2020

- Kazhdan's Theorem for metric graphs, Topology seminar, CUNY, February 2020

- Characterization of Thurston's Teapot, Dynamics seminar, CUNY, November 2019

- Kazhdan's Theorem for metric graphs, Topology seminar, New York Discrete Geometry seminar, October 2019

- Kazhdan's Theorem for metric graphs, Topology seminar, Geometry/Topology Fair, KAIST, August 2019

- Kazhdan's Theorem for metric graphs, Topology seminar, GAGTA, Bar Ilan University, Israel, May 2019

- Kazhdan's Theorem for metric graphs, Jinan University, China, December 2018

- Canonical metric on surfaces and manifolds, Topology seminar, KAIST, Korea, August 2018

- Invertable coding on Kleinian groups, GAGTA, KIAS, Korea, July 2018

- An upper bound on the asymptotic translation length on the curve complex, Dynamics seminar, CUNY, April 2018

- Dynamics of generalized beta maps, Dynamics seminar, Boston College, March 2018

- Dynamics of generalized beta maps, MRC special section of JMM, San Diego, January 2018

- An upper bound on the asymptotic translation length on the curve complex, Dynamics seminar, CUNY, November 2017

- Entropy of generalized beta maps, KAIST, August 2017

- Canonical metric on graphs, KAIST, August 2017

- Canonical metric on graphs, MIPM Oberseminar, December 2016

- Singularities of infinite translation surfaces, Bugcat conference, Binghamton University, November 2015

- (With Ahmad Rafiqi) Building pseudo-Anosov maps, Young people seminar, Dynamical Developments conference, Jacobs university, Germany, August 2015

- Building pseudo-Anosov maps, Max Planck Institute of Mathematics, August 2015

- Building pseudo-Anosov maps, Bugcat conference, Binghamton University, October 2014

- Characterization of Bouw-Möller surfaces, Karlsruhe Institute of Technology, July 2014

- Horocycle orbit closures in strata, Ergodic theory seminar, UIUC, April 2014

- The affine group action on the cohomology of abelian covers of the pillowcase, Postdoc and Graduate student seminar, ICERM, October 2013

Teaching and Outreach

Spring 2022: Modern Algebra
Fall 2021: Introduction to Dynamics
Spring 2021: Differential Geometry
Fall 2020: Numerical Analysis
Spring 2020: Statistics
Fall 2019: Elementary Linear algebra
Spring 2019: Introduction to Mathematical reasoning
Fall 2018: Introduction to Applied Mathematics
Spring 2018: Instructor for linear optimization
Fall 2017: Instructor for Elementary linear algebra and Introductory PDE
Spring 2015: Calculus I
Madison Experimental Math Lab, Spring 2022, Fall 2022
Madison Math Circle, May 2022
Math Explorer's Club at Cornell, March 2016
Math Club at Ithaca High School, Fall 2011