

My research concerns low-dimensional dynamical systems, quantitative studies in Thurston's earthquake theory, and real Teichmüller theory motivated by rigidity problems in smooth or conformal dynamical systems.

PUBLICATIONS

- Extending the Dehn quandle to shears and laminations on torus. Preprint in preparation (co-authored with Reza Chamanara and Joel Zablów).
- Conformal natural extensions of circle endomorphisms. Preprint in preparation (co-authored with Oleg Muzician).
- Cross-ratio distortion and Douady-Earle extension: II. Quasiconformality and asymptotic conformality are local. Preprint in preparation (co-authored with Oleg Muzician).
- Earthquakes on the hyperbolic plane. A chapter of 54 pages, to appear in Handbook of Teichmüller theory, III, 2010.
- Remarks on Chirka's proof of Slodkowski's theorem. To appear in *Advances in Mathematics (China)*, Vol. 39, No. 6, 2010 (co-authored with Zhe Wang).
- Kobayashi's and Teichmüller's metrics on the Teichmüller space of symmetric circle homeomorphisms. To appear in *Acta Mathematica Sinica, English Series*, Vol. 26, No. 9, 2010 (co-authored with Yunping Jiang and Zhe Wang).
- Finite earthquakes and the associahedron. *Teichmüller Theory and Moduli Problems*. Ramanujan Mathematical Society Lecture Notes Series, Vol. 10, 179-194, 2010 (co-authored with Frederick P. Gardiner).
- A short course on Teichmüller's theorem. *Teichmüller Theory and Moduli Problems*. Ramanujan Mathematical Society Lecture Notes Series, Vol. 10, 195-228, 2010 (co-authored with Frederick P. Gardiner).
- Cross-ratio distortion and Douady-Earle extension: I. A new upper bound on quasiconformality. Preprint, November 2009 (co-authored with Oleg Muzician).
- From left earthquakes to right. *Contemporary Mathematics*, **432**, 75-92, 2007.
- Thurston unbounded earthquake maps. *Ann. Acad. Sci. Fenn.*, **32**, 125-139, 2007 (co-authored with Meiyu Su).
- An earthquake version of the Jackson-Zygmund theorem. *Ann. Acad. Sci. Fenn.*, **Vol. 30**, 237-260, 2005 (co-authored with Frederick P. Gardiner).
- Norms on earthquake measures and Zygmund functions. *Proc. of AMS*, **133**, 193-202, 2005.
- Earthquake measure and cross-ratio distortion. *Contemporary Mathematics*, **Vol. 355**, 285-308, 2004.
- Continuous extensions are not Hölder. *Inter. Journal of Bifurcation and Chaos*, **Vol. 14**, No. 4, 1501-1505, 2004.

- On a norm of tangent vectors to earthquake curves. *Advances in Mathematics, Sinica*, **Vol. 33**, No. 4, 401-414, 2004.
- Feigenbaum quadratic map: External rays and non-Hölder continuity. *Complex Dynamics and Related topics*, New Studies in Advanced Mathematics, **Vol. 5**, edited by Y. Jiang and Y. Wang, pp. 218-235. International Press, Somerville, MA, 2004.
- Thurston's earthquake measures of Sullivan's circle diffeomorphisms. *Complex Dynamics and Related topics*, New Studies in Advanced Mathematics, **Vol. 5**, edited by Y. Jiang and Y. Wang, pp. 198-217. International Press, Somerville, MA, 2004.
- Earthquake curves. *Contemporary Mathematics*, **Vol. 311**, 141–195, 2002 (co-authored with Frederick P. Gardiner and Niklai Lakic).
- The Julia set of the Feigenbaum quadratic polynomial. *Dynamical Systems*, Proceedings of the International Conference on Dynamical Systems in Honor of Professor Shantao Liao (Beijing, August 1998; Editors: Yunping Jiang and Wen Lan), 99-124, World Scientific, 1999 (co-authored with Yunping Jiang).
- Period doubling, entropy, and renormalization, *Fundamenta Mathematicae*. **155**, No. 3, 237-249, 1998 (co-authored with Charles Tresser).
- Bounded geometry in the supports of ergodic invariant probability measures. *The Inter. Journal of Bifurcation and Chaos*, **Vol. 8**, No. 10, 1957-1973, 1998.
- Feigenbaum's rigidities and dynamical systems between simple and chaotic. *Advances in Mathematics, Sinica*, **Vol. 27**, No. 5, 385-402, 1998.
- Topological conjugacy of circle diffeomorphisms. *Ergod. Th. & Dynam. Sys.*, **17**, 173-186, 1997 (co-authored with Dennis P Sullivan).
- Commuting polynomials and polynomials with same Julia sets. *The Inter. Journal of Bifurcation and Chaos*, **Vol. 6**, No. 12A, 2427-2432, 1996 (co-authored with Pau Atela).
- Renormalization, rigidity, and universality in bifurcation theory. Ph.D. thesis, Graduate Center of CUNY, 1995.

UNPUBLISHED PREPRINTS

- Local connectivity of Julia sets of real multi-modal polynomials. Preprint in polishing, Dept. of Math., Brooklyn College of CUNY, 2000 (co-authored with Eduardo A. Prado and Edson Vargas).
- The Julia set of the Couillet-Feigenbaum-Tresser quadratic polynomial is locally connected. Preprint, Dept. of Math., Graduate Center of CUNY, May 1993 (A joint work with Yunping Jiang).

LECTURE NOTES

- Lecture Notes on Complex Analysis I, Preprint, in the Ph.D. Program in Mathematics at Graduate Center of CUNY, March 2006.
- Lecture Notes of Dynamical Systems: an introduction to the flows of autonomous systems, Preprint, in the Ph.D. Program in Mathematics at Rutgers-Newark, 1998.