

# Guizhen Cui

Academy of Mathematics and Systems Science  
Chinese Academy of Sciences  
Beijing 100190, P. R. China  
gzcui@math.ac.cn  
86-10-82541565(offise)

**Date of Birth:** November 10, 1966

**Place of Birth:** Shanxi Province, P. R. China

## Education

1989.9- 1992.7: Ph.D., Department of Mathematics, Peking University. Specialty: Complex dynamics and Teichmüller theory. Advisor: Li Zhong.

1986.9- 1989.7: M.S., Department of Mathematics, Peking University. Specialty: Quasiconformal maps. Advisor: Li Zhong.

1982.9- 1986.7: B.S., Department of Mathematics, Peking University.

## Academic positions

Post-doctor fellow, Institute of Mathematics, Chinese Academy of Sciences, P. R. China (1992.7-1994.7).

Assistant professor, Institute of Mathematics, Chinese Academy of Sciences, P. R. China (1994.7-1995.7).

Associate professor, Institute of Mathematics, Chinese Academy of Sciences, P. R. China (1995.8-1997.12).

Associate professor, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, P. R. China (1998.1-2002.1).

Professor, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, P. R. China (2002.1).

## Visiting research positions

Einstein Chair of Sciences, Graduate Center of City University of New York (1995.8-1996.1).

Department of Mathematics, Chinese University of Hong Kong (2000.10-2000.12, 2002.1-2002.3).

Department de Mathematique, Université de cergy-Pontoise, France (2003.9-11, 2007.2, 2008.3, 2009.6).

Department de Mathematique, Université de Angers, France (2010.5, 2011.9, 2014.7).

## Selected lectures

Conference of Complex Analysis of China (Huaqiao University 2014) (*Rational maps with constant Thurston maps*).

Conference of Computational Methods and Function Theory 2013 (Shantou University 2013)(*Douady-Earle extension and its application*).

ICCM 2013 (The sixth International Congress of Chinese Mathematicians, Taipei) (*Dynamics of rational maps*).

Conference of Complex Analysis of China (Hunan University 2012) (*Shishikura trees associated with disconnected Julia sets*).

CODY Fourth Year Conference: Conformal Methods in Analysis and Dynamics. Seillac (France, May 2-8, 2010) (*Renormalization and wandering Jordan curves of rational maps*).

Trimester on Dynamical Systems (IHP 2003.9-11)

Complex analysis Conference (Kyoto University, 2002. 8)

Japan-Korea Joint Workshop in Mathematics (Yamaguchi University 2001)

China-Korea Joint Seminar of Mathematics (Dynamical Systems and Their Application 1998.8)

## Academic service

Associate Editor, Science in China Mathematics

## Preprints

(with L. Tan) Hyperbolic-parabolic deformations of rational maps. <http://arxiv.org/abs/1501.01385>

(with W. Peng and L. Tan) Renormalizations and wandering Jordan curves of rational maps. <http://arxiv.org/abs/1403.5024>

(with Y. Gao) Wandering continua for rational maps.

## Publications

[1] On the dynamics of analytic endomorphisms of the circle, *Proc. of the International Conference on Complex Analysis at Nankai Institute of Mathematics*, 1992, 41-44.

[2] A note on Mori's theorem of K-quasiconformal mappings, *Acta Math. Sinica*, vol. 9, no. 1 (1993), 55-62.

[3] On the linear representations of circle expanding maps, *Acta Math. Sinica*, vol. 10, no. 2 (1994), 202-208.

[4] On the smoothness of conjugacy for circle covering maps, *Acta Math. Sinica*, vol. 12, no. 2 (1996), 122-125.

- [5] Circle expanding maps and symmetric structures, *Erg. Th. and Dynam. Sys*, vol. 18 (1998), 831-842.
- [6] (with Y. Jiang and A. Quas) Scaling functions Gibbs Measures and Teichmuller spaces of circle endomorphisms, *Discrete and continuous dynamical systems*, vol. 5, no. 3 (1999), 535-552.
- [7] Integably asymptotic affine homeomorphisms of the circle and Teichmuller spaces, *Science in China Series A: Mathematics*, vol. 43, no. 3 (2000), 267-279.
- [8] Conjugacies between rational maps and extremal quasiconformal maps, *Proc. of Amer. Math. Soc.*, vol. 129, no. 7 (2001), 1949-1953.
- [9] (with Yi Qi) Local boundary dilatation of quasiconformal maps in the disk, *Proc. of Amer. Math. Soc.*, vol. 130, no. 5 (2001), 1383-1389.
- [10] (with Y. Jiang and D. Sullivan) On geometrically finite branched covering maps I: Combinatorial contraction and invariant family of curves, *Complex Dynamics and Related Topics, New Studies in Advanced Mathematics*, Vol.5 (2003), 1-14.
- [11] (with Y. Jiang and D. Sullivan) On geometrically finite branched covering maps II: Rational realization, *Complex Dynamics and Related Topics, New Studies in Advanced Mathematics*, Vol.5 (2003), 15-29.
- [12] (with Y. Jiang and F. Gardiner) Scaling functions for degree 2 circle endomorphisms, *Contemporary Mathematics*, Vol. 355 (2004), 147-163.
- [13] (with M. Zinsmeister) BMO-Teichmuller spaces, *Illinois Jour. of Math.*, Vol. 48, no. 4 (2004), 1223-1233.
- [14] (with W. Peng) On the structure of Fatou Domains, *Science in China Series A: Mathematics*, Vol. 51, no. 7 (2008), 1167-1188.
- [15] (with TAN lei) Distortion control of conjugacies between quadratic polynomials, *Science China Mathematics*, 2010, 53(3): 625-634.
- [16] (with W. Peng and L. Tan) On the topology of wandering Julia components, *Disc. and Cont. Dyn. Sys.*, vol. 29 (2010), no. 3, 929-952.
- [17] (with Y. Jiang) Geometrically finite and semi-rational branched coverings of the two-sphere. *Trans. Amer. Math. Soc.* Vol. 363 (2011), 2701-2714.
- [18] (with TAN Lei) A characterization of hyperbolic rational maps, *Invent. Math.*, Vol. 183 (2011), 451-516.
- [19] (with W. Peng and TAN Lei), On a theorem of Rees-Shishikura, *The Annales de la Faculté des Sciences de Toulouse*, Sér. 6 Vol. 21 no. S5 (2012), 981-993.
- [20] (with X. Buff and TAN Lei) Teichmuller spaces and holomorphic dynamics, *Handbook of Teichmuller theory*, Vol. IV, ed. A. Papadopoulos, European Mathematical Society (2014), 717-756.