BING WANG'S CURRICULUM VITAE

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University of Science and Technology of China
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Academic background

University of Science and Technology of China, Hefei, Anhui, P. R. China
- Professor, 2018 – present.

University of Wisconsin-Madison
- Assistant Professor and Associate Professor,　2012 – 2018

Simons Center for Geometry and Physics, State University of New York
- Research Assistant Professor,　2011 – 2012.

Princeton University
- Instructor,　2008 – 2011.

University of Wisconsin-Madison
- Ph.D. in Mathematics,　2003 – 2008.

University of Science and Technology of China, Hefei, Anhui, P. R. China
- B. S. in Mathematics, 1998 – 2003.

Research Interests:
- Geometric Flows.
- Complex Monge-Ampere Equation.
- Metric Geometry.
- Algebraic Geometry.

Awards
- NSFC grant 11971452: "On the classification of 4-dimensional Ricci shrinkers", 2020-2023.

- NSF grant DMS-1510401: "Applications of the Ricci Flow in Differential Geometry", 2015-2018.
- NSF grant DMS-1312836: "Investigation of Ricci Flows with Bounded Scalar Curvature", 2013-2014.
- NSF grant DMS-1221330: "Investigation of Ricci Flows with Bounded Scalar Curvature", 2012-2013.
- NSF grant DMS-1006518: "Investigation of Ricci Flows with Bounded Scalar Curvature", 2010-2012.
- The Excellence in Mathematical Research Award, University of Wisconsin-Madison, 2008.

Publications

(1) *Heat Kernel on Ricci Shrinkers*(in collaboration with Y. Li), Calculus of Variations and Partial Differential Equations, 59(2020), article number: 194.

(2) *Space of Ricci flows(II)—part B: weak compactness of the flows* (in collaboration with X.X.Chen), Journal of Differential Geometry, 116(2020), 1-123.

(3) *On the regular-convexity of Ricci shrinker limit spaces*(in collaboration with S.S Huang, Y. Li), Journal für die reine und angewandte Mathematik, 2020.

(4) *Remarks of weak-compactness along Kähler Ricci flow*(in collaboration with X.X. Chen), Proceedings of the 7th international Congress of Chinese Mathematicians, 2019.

(5) *The extension problem of the mean curvature flow (I)*(in collaboration with H.Z. Li), Inventiones Mathematicae, 218(2019), 721-777.

(6) *Rigidity of vector valued harmonic maps of linear growth*(in collaboration with S.S. Huang), Geometriae Dedicata, 202(2019), 357-371.

(7) *The Rigidity of Ricci shrinkers of dimension four*(in collaboration with Y. Li), Transactions of American Mathematical Society, vol. 371(2019), no 10, 6949-6972.

(8) *The local entropy along Ricci flow—part A: the no-local-collapsing theorems*, Cambridge Journal of Mathematics, vol. 6(2018), no. 3, 267-346.

(9) *Kähler Ricci flow, Kähler Einstein metric, and K-stability*(in collaboration with X.X.Chen, S.Sun), Geometry&Topology, vol. 22(2018), no. 6, 3145-3173.

(10) *Regularity scales and convergence of the Calabi flow*(in collaboration with H.Z. Li, K. Zheng), The Journal of Geometric Analysis, 28(2018), no 3, 2050-2101.

(11) *Space of Ricci flows(II)—part A: moduli of singular Calabi-Yau spaces* (in collaboration with X.X.Chen), Forum of Mathematics, Sigma(2017), Vol. 5.

(12) *On the structure of almost Einstein manifolds* (in collaboration with G.Tian), Journal of American Mathematical Society(2015), vol. 28, no. 4, 1169-1209.

(13) *On the conditions to extend Ricci flow(III)*, Int Math Res Notices, Vol.2013(10): 2349-2367, doi:10.1093/imrn/rns117.

(14) *On the conditions to extend Ricci flow(II)*, Int Math Res Notices, Vol.2012(14): 3192-3223, doi:10.1093/imrn/rnr141.

(15) *Space of Ricci flows(I)* (in collaboration with X.X.Chen), Communications in Pure and Applied Math (2012), vol. 65, no. 10, pp.1399-1457.

(16) *The Kähler Ricci flow on Fano manifolds(I)* (in collaboration with X.X.Chen), Journal of European Mathematical Society (2012), vol. 14, no. 6, pp. 2001-2038, DOI: 10.4171/JEMS/353.

(17) *Remarks on Kähler Ricci flow* (in collaboration with X.X.Chen), Journal of Geometric Analysis (2010), vol. 20, no. 2.

(18) *The Kähler Ricci flow on Fano surfaces (I)* (in collaboration with X.X.Chen), Mathematische Zeitschrift, DOI 10.1007/s00209-010-0813-3.

(19) *Kähler Ricci flow with small initial energy (I)* (in collaboration with X.X.Chen, H.Li), Geometric and Functional Analysis (2009), vol. 18, no.5.

(20) *On the conditions to extend Ricci flow*, Int Math Res Notices (2008), Vol.2008.

Preprints(Selected)

(1) *The local entropy along Ricci flow—Part B: the pseudo-locality theorems*, arXiv:2010.09981, submitted.

(2) *Collapsing geometry with Ricci curvature bounded below and Ricci flow smoothing*(in collaboration with S.S. Huang, X. C. Rong), arXiv:2008.12419, submitted.

(3) *Ricci flow smoothing for locally collapsing manifolds*(in collaboration with S.S. Huang), arXiv:2008.09956, submitted.

(4) *Rigidity of the first Betti number via Ricci flow smoothing*(in collaboration with S.S. Huang), arXiv:2004.09762, submitted.

(5) *On Ilmanen's multiplicity one conjecture for mean curvature flow with type-I mean curvature* (in collaboration with H.Z. Li), arXiv:1811.08654, submitted.

(6) *On the structure of Ricci shrinkers*(in collaboration with Y. Li, H.Z. Li), arXiv:1809.04049, submitted.

Invited Talks(Selected)

- **Rigidity of first Betti number via Ricci flow smoothing**, *Geometric Analysis seminar*, Nanjing University, Nanjing, China, November 6th, 2020.
- **Rigidity of first Betti number via Ricci flow smoothing**, *Tianyuan seminar*, SJTU, Shanghai, China, September 19th, 2020.
- **Sphere, Torus, and the Ricci flow**, *Geometric Analysis seminar*, AMSS, Beijing, China, September 13th, 2020.
- **On the structure of Ricci shrinkers**, *Geometric Analysis seminar*, Tsinghua University, Beijing, China, December 24th, 2019.
- **On the structure of Ricci shrinkers**, *2019 Guangzhou seminar for young geometric analysts*, Sun Yat-sen University, Guang zhou, China, November 9th, 2019.
- **The extension problem of the mean curvature flow**, *Colloquium*, ShanghaiTech University, Shanghai, China, July 5th, 2019.
- **On the structure of Ricci shrinkers**, *Current developments in Complex and Analytic Geometry*, Cortona, Italy, June 7th, 2019.
- **Heat Kernel on Ricci shrinkers**, *Geometric Analysis conference for young mathematicians*, Southeast university, Nanjing, China, May 25th, 2019.
- **Heat Kernel on Ricci shrinkers**, *Tianyuan forum for geometry and analysis*, University of Science and Technology of China, Hefei, China, Jan 18th, 2019.
- **On the structure of Ricci shrinkers**, *Geometric Analysis Seminar*, Shanghai Center for Mathematical Science, Shanghai, China, Jan 4th, 2019.
- **On the structure of Ricci shrinkers**, *Geometric Analysis Seminar*, Shantou University, Shantou, China, Dec 17th, 2018.
- **A compactness theorem of Ricci shrinkers**, *Workshop on geometric analysis*, Hunan University, Oct 20, 2018.
- **The extension problem of the mean curvature flow**, *Geometric Analysis Seminar*, Chicago University, Chicago, Illinois, May 22, 2018.
- **The extension problem of the mean curvature flow**, *Analysis Seminar*, Northwestern University, Evanston, Illinois, Nov 27, 2017.
- **On the convergence of Kähler Ricci flow**, *Geometry of Manifolds*, Simons Center for Geometry and Physics, Stony Brook, October 25th, 2017.
- **The entropy method and Ricci flow convergence**, *2017 NCTS mini-course and workshop on Ricci flow and related aspects*, National Center for Theoretical Science, Taipei, June 13th, 2017.
- **On the smooth convergence of geometric flows**, *Conference in Celebration of the 90th Anniversary of Mathematics Disciplines of Tsinghua University*, Tsinghua University, Beijing, April 23, 2017.

- **The extension problem of the mean curvature flow**, *Geometric Analysis Seminar*, Rutgers University, Piscataway, NJ, February 21, 2017.
- **The extension problem of the mean curvature flow**, *PDE and Geometric Analysis Seminar*, University of Wisconsin-Madison, Madison, WI, February 13 , 2017.
- **The extension problem of the mean curvature flow**, *Geometric Analysis Seminar*, University of Oregon, Eugene, OR, January 10th, 2017.
- **The extension problem of the mean curvature flow**, *Geometry and Topology Seminar*, University of Wisconsin-Madison, Madison, WI, September 9th, 2016.
- **On the Kähler Ricci flow**, *The 7th International Congress of Chinese Mathematicians*, Beijing, China, August 8, 2016.
- **On the Kähler Ricci flow**, *The Pacific Rim Conference on Complex and Symplectic Geometry, XI*, USTC, Hefei, China, July 30, 2016.
- **On the Kähler Ricci flow**, *Conference on Differential Geometry*, Dentre De Recherches Mathématiques, Montreal, Canada, July 8, 2016.
- **Frontier topics in the Ricci flow**, *Geometric Analysis summer school*, Academy of Mathematics and Systems Science, Beijing, China, June 15-July 2, 2016.
- **Kähler Ricci flow on Fano manifolds**, *Kähler geometry, Einstein metrics and generalizations*, MSRI, Berkeley, CA, March 22, 2016.
- **Regularity scales and convergence of the Calabi flow**, *Analysis seminar*, Northwestern University, Evanston, Illinois, Nov 23, 2015.
- **Regularity scales and convergence of the Calabi flow**, *Riemannian convergence theory*, Stony Brook University, Stony Brook, NY, Nov 12, 2015.
- **Kähler Ricci flow on Fano manifolds**, *Conference on Analysis and Geometry*, University of Science and Technology of China, Hefei, China, August 5, 2015.
- **Kähler Ricci flow on Fano manifolds**, *Geometric Analysis seminar*, Shanghai Jiao Tong University, Shanghai, China, July 6, 2015.
- **Kähler Ricci flow on Fano manifolds**, *Workshop on Ricci curvature*, Northwestern University, Evanston, Illinois, May 31, 2015.
- **Kähler Ricci flow on Fano manifolds**, *Recent Advances in Kähler geometry*, Vanderbilt University, Nashville, Tennessee, May 18, 2015.
- **Kähler Ricci flow on Fano manifolds**, *Geometric Analysis seminar*, Courant Institute, New York, April 24, 2015.
- **Regularity scales and convergence of the Calabi flow**, *Geometric Flows: Recent Developments and Applications*, Banff, CA, April 14, 2015.

- **Kähler Ricci flow on Fano manifolds**, *Young Geometric Analysts Forum*, Sanya, China, Jan 27, 2015.
- **On the Kähler Ricci flow**, *Geometric Analysis Seminar*, UC-Irvine, Nov 2014.
- **On the Kähler Ricci flow**, *Geometric Analysis Seminar*, Simons Center for Geometry and Physics, Stony Brook, May, 2014.
- **Regularity of limit spaces**, *The Second Pacific Rim Mathematical Association (PRIMA) Congress*, Shanghai Jiao tong University, China, June 2013.
- **Regularity of limit spaces**, *Geometric Analysis Seminar*, UC-Irvine, April 2013.
- **Regularity of limit spaces**, *7th Pacific Rim Complex and Symplectic Geometry Conference*, Kyoto University, Japan, August 2012.

Graduate Students Education

PhD students: Jie Zhao(graduated in summer 2015), Yu Li(graduated in spring 2017), Ilyas Khan(fifth year student).

Master students: Xin Tan, Jiajie Shen, Yi Gu, Yuqing Li, Yeyu Zhang, Yi Gu, Yuqing Li, Yeyu Zhang, Tianhong Huang, Mengran Tang, Weixiang Jing, Suqi Yu, Hongxu Chen, Yunfan He, Mengchuheng Feng, Xinu Li, Cullen Macdonald, Dadong Peng, Xingye Cai.

Dissertation committee service: Rui Wang(April 2013), Michael Lock(May 2013), Fan Yang(May 2013), Qian You (November 2014), Ye Fang(May 2015), Yueke Hu(May 2015), Sriram Alladi(May 2015), Jie Zhao(August, 2015), Tommy Wong(March, 2016), Yoosik Kim(April 2016), Jaeho Lee(April 2016), Xia Wan(November 2016), Yu Li(April 2017).

Referee Service

- Advances in Math.,
- Annals of Math.,
- Comm. Analysis and Geometry,
- Discrete and continuous dynamical system,
- Duke Mathematical Journal,
- Electron J. Differ. Eq.
- Geom. Topol.
- International Journal of Mathematics,
- Int. Mat. Res. Not.,
- Indiana University Mathematics Journal,
- J. A. M. S.,
- J. Geometric Analysis,

- J. Functional Analysis,
- J. Reine Angew. Math,
- Pacific Journal of Math,
- Transactions of the AMS.

Teaching Experience(Selected)

- Professor   University of Science and Technology of China(2018 — Present)
  001365: Introduction to Pure Mathematics, Summer 2020.

  Summer School Course of Tsinghua University: Ricci flow and Sphere theorem, Summer 2020.

  MA06004: Topics in Differential Geometry, Spring 2020.

  MA06004.01: Topics in Differential Geometry, Spring 2019.

- Assistant Professor and Associate Professor   University of Wisconsin-Madison (2012 – 2018)
  Math 951: Topics in Geometric Analysis, Spring 2018.
  Math 461: College Geometry, Fall 2017.
  Math 461: College Geometry, Spring 2017.
  Math 765: Riemannian Geometry, Spring 2017.
  Math 461: College Geometry, Fall 2016.
  Math 240: Discrete Math, Spring 2016.
  Math 319: Differential Equation, Spring 2016.
  Math 340: Elementary Matrix and Linear Algebra, Fall 2015.
  Math 761: Differentiable Manifolds, Fall 2015.
  Math 234: Calculus III, Spring 2015.
  Math 865: Advanced topics in geometry, Fall 2014.
  Math 234: Calculus III, Fall 2014.
  Math 722: Complex analysis, Spring 2014.
  Math 222: Calculus II, Spring 2014.
  Math 320: Linear Algebra and Ordinary Differential Equations,
  *   Spring 2013.*
  Math 820: Partial Differential Equations, Spring 2013.
  Math 320: Linear Algebra and Ordinary Differential Equations,
  *   Fall 2012.*

- Instructor   Princeton University (2008 – 2011)
  Mat 202: Linear Algebra with Applications, Spring 2011.
  Mat 201: Multivariable Calculus, Fall 2010.
  Mat 202: Linear Algebra with Applications, Spring 2010.
  Mat 327: Introduction to Differential Geometry, Fall 2009.
  Mat 203: Advanced Multivariable Calculus, Fall 2009.
  Mat 202: Linear Algebra with Applications, Spring 2009.
  Mat 202: Linear Algebra with Applications, Fall 2008.

- Teaching Assistant   University of Wisconsin, Madison
  (2004 – 2008)
  Math 210: Finite Mathematics, Spring 2008.
  Math 320: Linear Algebra and Ordinary Differential Equations,
        Fall 2007.
  Math 217: Calculus, Spring 2007.
  Math 211: Calculus, Fall 2006.
  Math 221: Calculus, Summer 2006.
  Math 211: Calculus, Spring 2006.
  Math 211: Calculus, Fall 2005.
  Math 211: Calculus, Spring 2005.
  Math 211: Calculus, Fall 2004.
  Math 222: Calculus, Spring 2004.