Vitae

Xiuxiong Chen

Education:

- Ph.D., Pure Mathematics, University of Pennsylvania, May 1994.
  Thesis Title: *Extremal Hermitian metrics with curvature distortion in a surface.*
  Thesis Advisor: E. Calabi.

- M.A., Graduate School of Academic Sinica, Beijing, China, 1989

- B.A., Pure Mathematics, University of Science and Technology of China, Hefei, China, 1987.

Research Interests:

- Differential Geometry at Large; in particular, Kähler geometry.
- Nonlinear Partial Differential equations.

Professional positions:

- 10/2010—, Professor, Stony Brook University.
- 01/2007–06/2007, Visiting Professor, Princeton University.
- 2005—, Professor, University of Wisconsin at Madison.
- 2002-2005, Associate professor, University of Wisconsin at Madison.
- 1998-2002, Assistant professor, Princeton University.
- 1996-1998, NSF Post-doctoral Fellow, Stanford University.
- 1994-1996, Instructor, McMaster University, Canada.

Honors:

- April 2005, Invited address at AMS regional meeting in Newark, Delware.
- August 2002, Invited address at International Congress of Mathematicians, Beijing, China.

Publications:

1 *Kähler Ricci flow on Fano manifolds(I)* (co-author: B. Wang).
   Priprint, arXiv:0909.2391.
   to appear in *Comm. pure and applied math.*

2 *Complex Monge Ampere equation on compact Kähler manifolds* (co-author: W. Y. He)
   Priprint, arXiv:1004.0543.
   to appear in *Math Annlen.*

3 *Space of Ricci flows (I)* (co-author: B. Wang).
   Priprint, arXiv:0902.1545.
   to appear in Journal of European Math. Soc.

4 *The space of volume forms* (co-author: He, Weiyong)
   Int. Math. Res. Not. IMRN 2011, no. 5, 9671009.

5 *A note on Kähler-Ricci Soliton*(co-author: S. Song, G. Tian)
   Int. Math. Res. Not. IMRN 2009, no. 17, 3328–3336.

6 *Kähler-Ricci flow with small initial energy*(co-author: H. Li and B. Wang)
   Geom. Funct. Anal. 18 (2009), no. 5, 1525–1563.

7 *Space of Kaehler metric (III)—Lower bound of the Calabi energy*
   Invent. Math. 175 (2009), no. 3, 453–503.

8 *Test configuration and geodesic rays* (co-author: Y. Tang)
   Gomtrie diffrentielle, physique mathmatique, mathmatiques et socit. I. Astrisque No. 321 (2008), 139–167.

9 *Geometry of Kähler metrics and foliations by holomorphic discs* (co-author: G. Tian)
   Publ. Math., Inst. Hautes tud. Sci. 107(1), 1107.

10 *On Conformally Kaehler, Einstein Manifolds* (co-author: C. LeBrun and B. Weber)
   Journal of AMS. 21(2008), no. 4,1137-1168.

11 *On the Calabi flow* (co-author: W. Y. He)
   Amer. J. Math. 130 (2008), no. 2, 539–570.

12 *Kähler manifold with 2-positive traceless bisectional curvature* (co-author: H. Li)
   Chin. Ann. Math. Ser. B 29 (2008), no. 5, 543–556.

13 *Note on weak Ricci flow in Riemannian surface*(co-author: W. Y. Ding)
   Journal of PDE, 20 (2007), no. 3, 193-202.

14 *Kähler manifold with positive orthogonal bisectional curvature*
   Adv. Math. 215 (2007), no. 2, 427–445.

15 *Lower bound of the energy functional E_1 (I)—Stability of Kähler Ricci flow*
   J. Geom. Anal. 16 (2006), no. 1, 23–38.

16 *Singular angles of weak limits under certain integral curvature bound* (co-author: Q. Chen
   and W.Y. He)
   Pacific Journal of Mathematics, 231(2007), no. 1, 35-49.

17 *A note on uniformization of Riemann surfaces by Ricci flow* (co-author: P. Lu, G. Tian)
   Proc. Amer. Math. Soc. 134 (2006), no. 11, 3391–3393.

18 *Uniqueness of extremal Kähler metrics* (co-author: G. Tian)
   C. R. Math. Acad. Sci. Paris 340 (2005), no. 4, 287–290.

19 *Partial regularity for Homogenous complex Monge Ampere equations* (co-author: G. Tian)
   C. R. Math. Acad. Sci. Paris 340 (2005), no. 5, 337–340.

20 The structure of HCMU metric in K- Surface (co-author: Q. Chen, Y. Wu)
   International Mathematics Research Notice 2005, no. 16, 941–958.

21 *Ricci flow on Kähler-Einstein manifolds* (co-author: G. Tian)
   Duke Mathematical Journal, Volume 131, Number 1 (2006), 17-73.

22 *A new parabolic flow in Kähler manifold*
   Communication in Analysis and Geometry, 12 (2004), no. 4, 837-852.

23 *Recent progress in Kähler geometry*
   Proceedings of the International Congress of Mathematicians, Vol. II (Beijing, 2002), 273–
   282, Higher Ed. Press, Beijing, 2002

24 *Space of Kähler metrics (II)* (co-auhor: E. Calabi)
   Journal of Differential Geometry 61 (2002), no. 2, 173–193.

25 *Ricci flow on Kähler-Einstein surfaces* (co-auhor: G. Tian)
   Inventiones Mathematics 147 (2002), no. 3, 487–544.

26 *Calabi flow in Riemann surfaces revisited: a new point of view*

International Mathematics Research Notices 2001, no. 6, 275–297.

27 *Space of Kähler metrics*
Journal of Differential Geometry, vol 56, p. 189-234, 2000.

28 *On lower bound of the Mabuchi energy and its application*
International Mathematics Research Notices , p. 607-623, vol 12, 2000.

29 *Ricci flow on Kähler manifolds* (coauthor: G. Tian)
C. R. Acad. Sci. Paris Sr. I Math. 332 (2001), no. 3, 245–248.

30 *Obstruction to the Existence of Extremal Kähler metric in a Surface with conical singularities*
Communication in Analysis and Geometry, p. 267-299, vol 8(1), 2000.

31 *Existence of extremal metrics on almost homogeneous manifolds of cohomogeneity one* (coauthor: D. Guan),
Loo-Keng Hua: a great mathematician of the twentieth century. Asian J. Math. 4 (2000), no. 4, 817–829.

32 *Remarks on the existence of branch bubbles on the blowup analysis of equation* $-\Delta u = e^{2u}$ *in dimension two*
Communication Analsis and Geometry 7 (1999), no. 2, 295–302.

33 *Extremal Hermitian Metrics on Riemannian Surfaces (part I) Uniqueness and classification of Extremal hermitian metric in Riemannian surfaces with finite many weak cusp singularities*
Calculus of Variations, p. 191-232, vol 8(3),1999.

34 *Extremal Hermitian metrics in Riemann Surface*
International Mathematics Research Notices , p. 781-797, 15,1998.

35 *Weak limits of Riemannian metrics in surfaces with integral curvature bound*
Calculus of Variations 6 (1998), no. 3, 189–226.

36 *Extremal Hermitian metrics with curvature distortion in a Surface (Thesis)*
University of Pennsylvania,1994.

37 *Deformation of surfaces preserving principal curvatures*(co-author: C. K. Peng)
Differential geometry and topology (Tianjin, 1986–87), p. 63–70, Lecture Notes in Mathematics, 1369, Springer, Berlin-New York, 1989.

Research in Progress:

1 *Volume estimates for Kähler-Einstein metrics: the three dimensional case (co-author: S. Donaldson).*
Preprint, arXiv:1104.0270.

2 *Volume estimates for Kähler-Einstein metrics and rigidity of complex structures (co-author: S. Donaldson) .*
Preprint, arXiv:1104.4331

3 *Calabi flow, Geodesic rays, and Kempf-Ness uniqueness theorem* (co-author: S. Sun)
Preprint.

4 *Space of Kähler metrics (V)—Kähler quantization* (co-author: S. Sun)
Preprint, arXiv:0902.4149.

5 *The space of Kähler metrics (IV)—On the lower bound of the K energy.*
Preprint, arXiv:0809.4081.

NSF grants: