

Curriculum Vita of Fangyang Zheng

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Education:

1984-87: M.A., UC San Diego
1987-89: Ph.D., Harvard University

Employment:

1989-90: Moore Instructor, MIT
1990-96: Assist. Prof., Duke Univ.
1996-01: Assoc. Prof., Ohio State Univ.
2001-19: Prof., Ohio State Univ.
2019-present: Prof., Chongqing Normal University

Visiting Positions:

Fall, 1995: IAS
Spring, 1996: MSRI
July-Aug, 1996: IMPA, Brazil
Fall, 2002: IMS, HK Chinese U
Nov-Dec, 2003, IHES
2010-11, CMS, Zhejiang University
Spring, 2012, CMS, Zhejiang University

Graduate Students:

Dincer Guler, PhD 2006
Hongyuan Wang, PhD 2006
Lingfei Li, PhD 2009
Wing San Hui, PhD 2011
Andy Gard, PhD 2012
Jinwen Yan, PhD 2013
Gabriel Khan, PhD 2018
Kai Tang, PhD 2019
Dong Pu, PhD 2020
Yulu Li, PhD 2026
Kexiang Cao, PhD 2026
Current PhD students: Shuwen Chen; Dongmei Zhang; Yuqin Guo

Grants and Awards:

NSF Grant: 91-93 (DMS-91-05185), 93-97 (DMS-93-08239), 97-02 (DMS-97-03884),
02-07 (DMS-02-03647), 07-10 (DMS-07-05468)

NSF Conference Grant: 01-02 (DMS-01-02392)
 Alfred P. Sloan Fellowship: 95-98
 NSA Young Investigator Award, 98-00 (MDA-904-98-1-0036)
 Simons Collaboration Grant, 15-20 (355557)

Publications:

86. (with Q. Zhao) *Bismut Kahler-like manifolds in dimension 4 and 5*, arXiv: 2303.09267
85. (with L. Ni) *A classification of locally Chern homogenous Hermitian manifolds*, arXiv: 2301.00579
84. (with Q. Zhao) *Curvature characterization of Hermitian manifolds with Bismut parallel torsion*, arXiv: 2407.14097
83. (with S. Chen) *Bismut torsion parallel metrics with constant holomorphic sectional curvature*, arXiv: 2405.09110
82. MR5093975 - (with G. Khan) *Kähler-Ricci flow preserves negative anti-bisectional curvature*, Trans. Amer. Math. Soc. **379** (2026), no. 8, 5319–5351.
81. MR5010407 - (with Y. Guo) *Streets-Tian conjecture on several special types of Hermitian manifolds*, Ann. Mat. Pura Appl. (4) **205** (2026), no. 1, 101–118.
80. MR4997157 - (with D. Zhang) *Flat Hermitian Lie algebras are Kähler*, J. Geom. Phys. **220** (2026), Paper No. 105730, 8 pp.
79. MR4989649 - (with Y. Li) *A note on almost abelian groups with constant holomorphic sectional curvature*, Proc. Amer. Math. Soc. **153** (2025), no. 12, 5369–5383.
78. MR4954640 - (with S. Chen) *On Hermitian manifolds with constant mixed curvature*, Mediterr. J. Math. **22** (2025), no. 7, Paper No. 175, 26 pp.
77. MR4938910 - (with G. Khan and J. Zhang) *Positively curved Kähler metrics on tube domains and their applications to optimal transport*, Math. Res. Lett. **32** (2025), no. 2, 457–491.
76. MR4920800 - (with F. Podestà) *A note on compact homogeneous manifolds with Bismut parallel torsion*, Sci. China Math. **68** (2025), no. 7, 1643–1670.
75. MR4885167 - (with X. Huang) *On solvmanifolds with complex commutator and constant holomorphic sectional curvature*, Internat. J. Math. **36** (2025), no. 6, Paper No. 2550006, 15 pp.
74. MR4882754 - (with S. Chen) *Canonical metric connections with constant holomorphic sectional curvature*, Pacific J Math, **334** (2025), no. 2, 329–348.
73. MR4875615 - (with L. Ni) *Kähler manifolds and cross quadratic bisectional curvature*, J. Eur. Math. Soc. (JEMS), **27** (2025), no. 4, 1715–1738.
72. MR4862162 - (with D. Zhang) *Chen flat manifolds that are torsion-critical*, Proc. Amer. Math. Soc. **153** (2025), no. 3, 1275–1282.
71. MR4836594 - (with S. Chen) *Streets-Tian Conjecture holds for 2-step solvmanifolds*, J. Geom. Phys. **209** (2025), article 105390, 13 pp.
70. MR4745105 - (with K. Cao) *Fino-Vezzoni conjecture on Lie algebras with abelian ideals of codimension two*, Math. Z. **307** (2024), no. 2, Paper No. 31, 23 pp.
69. (with Y. Li) *Fino-Vezzoni conjecture in Hermitian geometry (in Chinese)*, Sci. Sin. Math. **54** (2024), no. 10, 1603–1614.
68. (with W. Zhou) *Hermitian threefolds with vanishing real bisectional curvature (in Chinese)*, Sci. Sin. Math. **52** (2022), no. 7, 757–764. doi: 10.1360/SCM-2021-0109 (English version: arXiv: 2103.04296)
67. MR4630788 - (with L. Ni) *On Hermitian manifolds whose Chern connections is Ambrose-Singer*, Trans. Amer. Math. Soc. **376** (2023), no. 9, 6681–6707.

66. MR4611790 - (with Y. Guo) *Hermitian geometry of Lie algebras with abelian ideals of codimension 2*, Math. Z. **304** (2023), no. 3, Paper No. 51, 24 pp.
65. MR4577328 - (with S-T Yau and Q. Zhao) *On Strominger Kähler-like manifolds with degenerate torsion*, Trans. Amer. Math. Soc. **376** (2023), no. 5, 3063–3085.
64. MR4554474 - (with Q. Zhao) *Strominger connection and pluriclosed metrics*, J. Reine Angew. Math. **796** (2023), 245–267.
63. MR4552178 - (with Q. Gao and Q. Zhao) *Maximal nilpotent complex structures*, Transform. Groups **28** (2023), no. 1, 241–284.
62. MR4550367 - (with D. Zhang) *On a variational theorem of Gauduchon and torsion-critical manifolds*, Proc. Amer. Math. Soc. **151** (2023), no. 4, 1749–1762.
61. MR4523514 - (with B. Yang) *Examples of complete Kähler metrics with nonnegative holomorphic sectional curvature*, J. Geom. Anal. **33** (2023), no. 2, Paper No. 47, 32 pp.
60. MR4521247 - (with L. Ni) *Positivity and Kodaira embedding theorem*, Geom. Topol. **26** (2022), no. 6, 2491–2505.
59. MR4444200 - (with P. Rao) *Pluriclosed manifolds with constant holomorphic sectional curvature*, Acta Math. Sin. (Engl. Ser.) **38** (2022), no. 6, 1094–1104.
58. MR4406131 - (with P. Li) *Chern class inequalities on polarized manifolds and nef vector bundles*, Int. Math. Res. Not. IMRN **2022**, no. 8, 6262–6288.
57. MR4381725 - (with S. Chen) *On Strominger space forms*, J. Geom. Anal. **32** (2022), no. 4, Paper No. 141, 21 pp.
56. MR4372903 - (with Q. Zhao) *On Gauduchon Kähler-like manifolds*, J. Geom. Anal. **32** (2022), no. 4, Paper No. 110, 27 pp.
55. MR4335879 - (with Y. Li) *Complex nilmanifolds with constant holomorphic sectional curvature*, Proc. Amer. Math. Soc. **150** (2022), no. 1, 319–326.
54. MR4270259 - (with L. Ni and Q. Wang) *Manifolds with positive orthogonal Ricci curvature*, Amer. J. Math. **143** (2021), no. 3, 833–857.
53. MR4127891 - (with Q. Wang and B. Yang) *On Bismut flat manifolds*, Trans. Amer. Math. Soc. **373** (2020), no. 8, 5747–5772.
52. MR4033928 - (with B. Yang) *Hirzebruch manifolds and positive holomorphic sectional curvature*, Ann. Inst. Fourier (Grenoble) **69** (2019), no. 6, 2589–2634.
51. MR4028283 - *Some recent progress in non-Kähler geometry*, Sci. China Math. **62** (2019), no. 11, 2423–2434.
50. MR4009628 - (with Q. Zhao) *Complex nilmanifolds and Kähler-like connections*, J. Geom. Phys. **146**, (2019), 103512, 9 pp.
49. MR4002291 - (with L. Vezzoni and B. Yang) *Lie groups with flat Gauduchon connections*, Math. Z. **293** (2019), no. 1-2, 597–608.
48. MR3996490 - (with L. Ni) *On orthogonal Ricci curvature*, Contemp. Math. 735, American Mathematical Society, Providence, RI, 2019, 203–215. ISBN: 978-4704-4333-7
47. MR3896094 - (with X. Yang) *On real bisectional curvature for Hermitian manifold*, Trans. Amer. Math. Soc. **371** (2019), no. 4, 2703–2718.
46. MR3959850 - (with J. Lafont and G. Sorcar) *Some Kähler structures on products of 2-spheres*, Enseign. Math. **64** (2018), no. 1-2, 127–142.

45. MR3900484 - (with B. Yang) *On curvature tensor of Hermitian manifolds*, Comm. Anal. Geom. **26** (2018), no. 5, 1195–1222.
44. MR3880288 - (with G. Heier, S. Lu, and B. Wong) *Reduction of manifolds with semi-negative holomorphic sectional curvature*, Math. Ann. **372** (2018), no. 3-4, 951–962.
43. MR3858834 - (with L. Ni) *Comparison and vanishing theorems for Kähler manifolds*, Calc. Var. Partial Differential Equations **57** (2018), no. 6, Paper No. 151, 31 pp.
42. MR3843433 - (with B. Yang) *On compact Hermitian manifolds with flat Gauduchon connections*, Acta Math. Sin. (Engl. Ser.) **34** (2018), no. 8, 1259–1268.
41. MR3787350 - (with A. Alvarez and G. Heier) *An example of compact Kähler manifold with positive holomorphic sectional curvature*, Proc. Amer. Math. Soc. **146** (2018), no. 7, 2877–2882.
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37. MR3043747 - (with B. Yang) *$U(n)$ -invariant Kähler-Ricci flow with nonnegative curvature*, Comm. Anal. Geom. **21** (2013), no. 2, 251–294.
36. MR3034437 - (with Q. Li and D. Wu) *An example of compact Kähler manifold with nonnegative quadratic bisectional curvature*, Proc. Amer. Math. Soc. **141** (2013), no. 6, 2117–2126.
35. MR2882437 - (with H. Wu) *Examples of positively curved complete Kähler manifolds*, Adv. Lect. Math. (ALM), 17, International Press, Somerville, MA, 2011, 517–542. **ISBN:** 978-1-57146-224-4
34. MR2882422 - *On Yau’s pioneer contribution on the Frankel conjecture and related questions*, Adv. Lect. Math. (ALM), 17, International Press, Somerville, MA, 2011, 215–219. **ISBN:** 978-1-57146-224-4
33. MR2737265 - (with D. Guler) *On nonpositively curved manifolds with degenerate Ricci tensor*, Trans. Amer. Math. Soc. **363** (2011), no. 3, 1265–1285.
32. MR2496750 - (with D. Wu and S-T Yau) *A degenerate Monge–Ampère equation and the boundary classes of Kähler cones*, Math. Res. Lett. **16** (2009), no. 2, 365–374.
31. MR2415017 - (with H. Seshadri) *Complex product manifold cannot be negatively curved*, Asian J. Math. **12** (2008), no. 1, 145–150.
30. MR2357637 - (with L. Florit) *Complete real Kähler Euclidean submanifolds in codimension two*, Math. Z. **258** (2008), no. 2, 291–299.
29. MR2313088 - (with L. Florit) *Complete real Kähler Euclidean hypersurfaces are cylinders*, Ann. Inst. Fourier (Grenoble) **57** (2007), no. 1, 155–161.
28. MR2120988 - (with L. Florit and W-S Hui) *On real Kähler Euclidean submanifolds with non-negative Ricci or holomorphic curvature*, J. Eur. Math. Soc. (JEMS) **7** (2005), no. 1, 1–11.
27. MR2106408 - (with L. Florit) *A local and global splitting result for real Kähler Euclidean submanifolds*, Arch. Math. (Basel) **84** (2005), no. 1, 88–95.
26. MR2498000 - *Ricci degeneracy in nonpositively curved manifolds*, New Stud. Adv. Math., 4, International Press, Somerville, MA, 2004, 441–450. **ISBN:** 1-57146-155-8
25. MR2018347 - (with H. Wu) *Kähler manifolds with slightly positive bisectional curvature*, Contemp. Math., 332, Exploration in complex and Riemannian geometry, American Mathematical Society, Providence, RI, 2003, 305–325. **ISBN:** 0-8218-3273-5

24. MR1972147 - (with H. Wu) *Compact Kähler manifolds with nonpositive bisectional curvature*, J. Differential Geom. **61** (2002), no. 2, 263–287.
23. MR1915520 - (with D. Guler) *On Ricci rank of Cartan-Hadamard manifolds*, Internat. J. Math. **13** (2002), no. 6, 557–578.
22. MR1915039 - *Kodaira dimension and hyperbolicity for nonpositively curved Kähler manifolds*, Comment. Math. Helv. **77** (2002), no. 2, 221–234.
21. MR1912259 - (with H. Wu) *On complete developable submanifolds in complex Euclidean spaces*, Comm. Anal. Geom. **10** (2002), no. 3, 611–646.
20. MR1777835 - *Complex Differential Geometry*, AMS/IP Stud. Adv. Math., **18**, American Mathematical Society, Providence, RI; International Press, Boston, MA, 2000, xii+264pp. **ISBN**: 0-8218-2163-6
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18. MR1714914 - (with M. Davis and B. Okun) *Piecewise Euclidean structures and Eberlein's Rigidity Theorem in the singular case*, Geom. Topol. **3** (1999), 303–330.
17. MR1677106 - (with L. Florit) *On nonpositively curved Euclidean submanifolds: splitting results*, Comment. Math. Helv. **74** (1999), no. 1, 53–62.
16. MR1676866 - (with L. Florit) *On nonpositively curved Euclidean submanifolds: splitting results, II*, J. Reine Angew. Math. **508** (1999), 1–15.
15. MR1393560 - *Examples of non-positively curved Kähler manifolds*, Comm. Anal. Geom. **4** (1996), no. 1-2, 129–160.
14. MR1380454 - *Isometric embedding of Kähler manifolds with nonpositive sectional curvature*, Math. Ann. **304** (1996), no. 4, 769–784.
13. MR1393093 - *Intersection domains and the sum of two complex hyperbolic metrics*, J. Geom. Anal. **5** (1995), no. 4, 551–560.
12. MR1355023 - *First Pontrjagin form, rigidity and strong rigidity of nonpositively curved Kähler surfaces of general type*, Math. Z. **220** (1995), no. 2, 159–169.
11. MR1310732 - *On compact Kähler surfaces with non-positive bisectional curvature*, J. London Math. Soc. (2) **51** (1995), no. 1, 201–208.
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9. MR1256183 - *Curvature characterization of certain bounded domains of holomorphy*, Pacific J. Math. **163** (1994), no. 1, 183–188.
8. MR1200182 - *Kähler-Einstein surfaces with non-positive bisectional curvature*, Proc. Amer. Math. Soc. **121** (1994), no. 4, 1217–1220.
7. MR1217351 - *Nonpositively curved Kähler metrics on product manifolds*, Ann. of Math. (2) **137** (1993), no. 3, 671–673.
6. MR1216570 - (with S-T Yau) *Remarks on higher dimensional quasi-Fuchsian domains*, Proc. Sympos. Pure Math., vol. 54, Part 2. American Mathematical Society, Providence, RI, 1993, 629–635. **ISBN**: 0-8218-1495-8
5. MR1214048 - (with S-T Yau) *On a borderline class of non-positively curved compact Kähler manifolds*, Math. Z. **212** (1993), no. 4, 587–599.
4. MR1135847 - (with S-T Yau) *On projective manifolds covered by space $\mathbf{C}^n$* , International Symposium in Memory of Hua Loo Keng, vol. II, Springer-Verlag, Berlin, 1991, 323–332. **ISBN**: 3-540-51329-9

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2. MR1046563 - (with J. Li and S-T Yau) *A simple proof of Bogomolov's theorem on class VII_0 surfaces with $b_2 = 0$* , Illinois J. Math. **34** (1990), no. 2, 217–220.
1. MR2637587 - *Semipositive threefolds and threefolds with universal covering $\mathbf{C}^3$* , ProQuest LLC, Ann Arbor, MI, 1989, 60 pp.