

Chang-Shou Lin

Curriculum Vitae

Current Position: Department Of Mathematics, National Taiwan University, Professor

Gender: Male

Birth Date: 04/17/1951

Citizenship: Taiwan

Fields of Specialty

Nonlinear Partial Differential Equations, Differential Geometry

Education

B.S.	National Taiwan University	1971-1975
M.C.	National Taiwan University	1975-1977
Ph.D.	New York University	1979-1983

Experience

Post doctor	The Institute for Advanced Study, Princeton.	1983-1985
Assistant Professor	University of California, San Diego	1985-1987
Professor	National Taiwan University	1987-1990
Professor	National Chung-Cheng University	1990-2007
	Member of Academia Sinica	1998
Director	National Center for Theoretical Sciences, National Science Council	1999-2003
Director	Taida Institute for Mathematical Sciences	2006-2011
NTU Chair Professor	National Taiwan University	2006-present
Director	Center for Advanced Study in Theoretical Sciences	2011-present

Award and Honors

National Chair Professor, MOE (1998-2001)

Morningside Prize (1998)

Member of Academia Sinica (1998)

Presidential Scientific Award (2001)

NTU Chair Professor (2006.08.01-2018.7.31)

Publication List

2017

1. Lin, Chang-Shou; Wang, Chin-Lung On the minimality of extra critical points of Green functions on flat tori. *Int. Math. Res. Not. IMRN* 2017, no. 18, 5591–5608. 58E15 (35A08 35B38 35J08 35J20 35J61 35R01)
2. Choe, Kwangseok; Kim, Namkwon; Lin, Chang-Shou Existence of mixed type solutions in the $SU(3)$ Chern-Simons theory in \mathbb{R}^2 . *Calc. Var. Partial Differential Equations* 56 (2017), no. 2, Art. 17, 30 pp. (Reviewer: Nicola Soave) 35J47 (35A01 35J50 35J91 49J35 70S15)
3. Chen, Zhijie; Kuo, Ting-Jung; Lin, Chang-Shou Unitary monodromy implies the smoothness along the real axis for some Painlevé VI equation, I. *J. Geom. Phys.* 116 (2017), 52–63. (Reviewer: Tsvetana Lyubenova Stoyanova) 34M55 (34M35)
4. Han, Xiaosen; Huang, Hsin-Yuan; Lin, Chang-Shou Bubbling solutions for a skew-symmetric Chern-Simons system in a torus. *J. Funct. Anal.* 273 (2017), no. 4, 1354–1396. 35J47 (35A01 35B25 35C08 35J91)
5. Chen, Zhijie; Kuo, Ting-Jung; Lin, Chang-Shou Existence and non-existence of solutions of the mean field equations on flat tori. *Proc. Amer. Math. Soc.* 145 (2017), no. 9, 3989–3996. 35J15 (35A01 58J05)
6. Lin, Chang-Shou; Wang, Chin-Lung Mean field equations, hyperelliptic curves and modular forms: II. *J. Éc. polytech. Math.* 4 (2017), 557–593. 33E10 (14H50 35J08 35J91)
7. Choe, Kwangseok; Kim, Namkwon; Lee, Youngae; Lin, Chang-Shou Existence of mixed type solutions in the Chern-Simons gauge theory of rank two in \mathbb{R}^2 . *J. Funct. Anal.* 273 (2017), no. 5, 1734–1761. 81T13
8. Lin, Chang-Shou; Wang, Chin-Lung; On the Minimality of Extra Critical Points of Green Functions on Flat Tori. *Int. Math. Res. Not. IMRN* 2017, no. 18, 5591–5608. 58E15 (35)

9. Lin, Chang-Shou; Zhang, Lei Energy concentration and a priori estimates for B2 and G2 types of Toda systems. *Int. Math. Res. Not. IMRN* 2016, no. 16, 5076–5105.
10. Kuo, Ting-Jung; Lin, Chang-Shou; Estimates of the mean field equations with integer singular sources: Non-Simple blowup. *J. Differential Geom.* 103 (2016), no. 3, 377–424
11. Chen, Zhijie; Kuo, Ting-Jung; Lin, Chang-Shou; Hamiltonian system for the elliptic form of Painlevé VI equation. *J. Math. Pures Appl.* (9) 106 (2016), no. 3, 546–581.
12. Lin, Chang-Shou; Wei, Juncheng; Zhang, Lei; Local profile of fully bubbling solutions to $SU(n+1)$ Toda systems. *J. Eur. Math. Soc. (JEMS)* 18 (2016), no. 8, 1707–1728.
13. Chen, Zhijie; Lin, Chang-Shou; Zou, Wenming Infinitely many sign-changing and semi-nodal solutions for a nonlinear Schrödinger system. *Ann. Sc. Norm. Super. Pisa Cl. Sci.* (5) 15 (2016), 859–897. 35J57 (35J50 35J91)
14. Huang, Gengeng; Lin, Chang-Shou The existence of non-topological solutions for a skew-symmetric Chern-Simons system. *Indiana Univ. Math. J.* 65 (2016), no. 2, 453–491. 35J47 (35C05 35J91 58E15)
15. Lin, Chang-Shou; Tarantello, Gabriella When "blow-up" does not imply "concentration": A detour from Brézis-Merle's result. *C. R. Math. Acad. Sci. Paris* 354 (2016), no. 5, 493–498. 35J91 (35B44 35B45 35R01)
16. Han, Xiaosen; Lin, Chang-Shou, Yang, Yisong, Resolution of Chern–Simons–Higgs Vortex Equations. *Comm. Math. Phys.* 343 (2016), no. 2, 701–724.
17. Fan, Yen-Wen; Lee, Youngae; Lin, Chang-Shou, Mixed Type Solutions of the $SU(3)$ Models on a Torus. *Comm. Math. Phys.* 343 (2016), no. 1, 233–271.
18. Ao, Weiwei; Lin, Chang-Shou, Wei, Juncheng, On non-topological solutions of the A2 and B2 Chern-Simons system. *Mem. Amer. Math. Soc.* 239 (2016), no. 1132, v+88 pp. ISBN: 978-1-4704-1543-3; 978-1-4704-2747-4 35J47 (35J91 35Q75 58J37)

19. Choe, Kwangseok; Kim, Namkwon; Lin, Chang-Shou, New type of nontopological bubbling solutions in the SU(3) Chern-Simons model in R^2 . *J. Funct. Anal.* 270 (2016), no. 1, 1–33. 81T13.

2015

20. Guest, Martin A.; Its, Alexander R.; Lin, Chang-Shou Isomonodromy aspects of the tt^* equations of Cecotti and Vafa I. Stokes data. *Int. Math. Res. Not. IMRN* 2015, no. 22, 11745–11784. (Reviewer: Chuanzhong Li)37K10 (35Q53)

21. Chen, Zhijie; Lin, Chang-Shou Asymptotic behavior of least energy solutions for a critical elliptic system. *Int. Math. Res. Not. IMRN* 2015, no. 21, 11045–11082. 35J57 (35B33 35B40 35B44 35J50 35J91)

22. Deng, Yinbin; Lin, Chang-Shou, Yan, Shusen, On the prescribed scalar curvature problem in R^N , local uniqueness and periodicity. *J. Math. Pures Appl.* (9) 104 (2015), no. 6, 1013–1044.

23. Lin, Chang-Shou, Wei, Juncheng; Zhang, Lei, Convergence rate, location and $\partial\bar{\partial}$ condition for fully bubbling solutions to SU($n+1$) Toda systems. *Adv. Math.* 285 (2015), 1189–1224.

24. Choe, Kwangseok; Han, Jongmin; Lee, Youngae; Lin, Chang-Shou Bubbling solutions for the Chern-Simons gauged O(3) sigma model on a torus. *Calc. Var. Partial Differential Equations* 54 (2015), no. 2, 1275–1329.

25. Chen, Zhijie; Lin, Chang-Shou, Removable singularity of positive solutions for a critical elliptic system with isolated singularity. *Math. Ann.* 363 (2015), no. 1-2, 501–523.

26. Huang, Hsin-Yuan; Lee, Youngae; Lin, Chang-Shou, Uniqueness of topological multi-vortex solutions for a skew-symmetric Chern-Simons system. *J. Math. Phys.* 56 (2015), no. 4, 041501, 12 pp.

27. Lin, Chang-Shou, Wei, Jun-cheng; Zhang, Lei Classification of blowup limits for SU(3) singular Toda systems. *Anal. PDE* 8 (2015), no. 4, 807–837. 35J47 (35A16 35B44 35B45 35J91)

28. Chai, Ching-Li; Lin, Chang-Shou, Wang, Chin-Lung Mean field equations, hyperelliptic curves and modular forms: I. *Camb. J. Math.* 3 (2015), no. 1-2, 127–274. 35J91 (11G05 35J08).

29. Bartolucci, Daniele; Lee, Youngae; Lin, Chang-Shou, Onodera, Michiaki Asymptotic analysis of solutions to a gauged $O(3)$ sigma model. *Ann. Inst. H. Poincaré Anal. Non Linéaire* 32 (2015), no. 3, 651–685. (Reviewer: Jean Van Schaftingen) 35J91 (35B25 35B40 35B44 35Q60)
30. Huang, Genggeng; Lin, Chang-Shou, Uniqueness of topological solutions of self-dual Chern-Simons equation with collapsing vortices. *J. Differential Equations* 259 (2015), no. 5, 1819–1840. (Reviewer: Christos G. Sourdis) 35J91 (35B25)
31. Ao, Weiwei; Lin, Chang-Shou, Wei, Juncheng, On Toda system with Cartan matrix G_2 . *Proc. Amer. Math. Soc.* 143 (2015), no. 8, 3525–3536. (Reviewer: Pantelis A. Damianou) 35J47 (17B80 35J91 58A17)
32. Chen, Chiun-Chuan; Lin, Chang-Shou, Mean field equation of Liouville type with singular data: topological degree. *Comm. Pure Appl. Math.* 68 (2015), no. 6, 887–947. 35R01 (35A16 35B10 53C21 58J05)
33. Guest, Martin A.; Its, Alexander R.; Lin, Chang-Shou Isomonodromy aspects of the tt^* equations of Cecotti and Vafa II: Riemann-Hilbert problem. *Comm. Math. Phys.* 336 (2015), no. 1, 337–380. (Reviewer: Xiaobin Li) 81S22 (30E25 32G34 35J47 35J61 35Q15)
34. Choe, Kwangseok; Kim, Namkwon; Lin, Chang-Shou, Self-dual symmetric nontopological solutions in the $SU(3)$ model in R^2 . *Comm. Math. Phys.* 334 (2015), no. 1, 1–37. (Reviewer: Matthew B. Young) 81Q80 (81R12)
35. Hsia, Chun-Hsiung; Lin, Chang-Shou, Ma, Tian; Wang, Shouhong Tropical atmospheric circulations with humidity effects. *Proc. A.* 471 (2015), no. 2173, 20140353, 24 pp. (Reviewer: John Adam) 86A10 (37N10).

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- an Elliptic System with Critical Exponent. *Comm. Partial Differential Equations* 39 (2014), no. 10, 1827–1859.
38. Huang, Hsin-Yuan; Lin, Chang-Shou, Uniqueness of non-topological solutions for the Chern-Simons system with two Higgs particles. *Kodai Math. J.* 37 (2014), no. 2, 274–284. 35J60
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40. Han, Xiaosen; Lin, Chang-Shou; Tarantello, Gabriella; Yang, Yisong Chern-Simons vortices in the Gudnason model. *J. Funct. Anal.* 267 (2014), no. 3, 678–726. 81T13
41. Bartolucci, Daniele; Lin, Chang-Shou, Existence and uniqueness for mean field equations on multiply connected domains at the critical parameter. *Math. Ann.* 359 (2014), no. 1-2, 1–44.
42. Huang, Hsin-Yuan; Lin, Chang-Shou, Classification of the entire radial self-dual solutions to non-Abelian Chern–Simons systems. *J. Funct. Anal.* 266 (2014), no. 12, 6796–6841.
43. Huang, Hsin-Yuan; Lin, Chang-Shou, On the Entire Radial Solutions of the Chern–Simons $SU(3)$ System. *Comm. Math. Phys.* 327 (2014), no. 3, 815–848.
44. Guest, Martin A.; Lin, Chang-Shou, Nonlinear PDE aspects of the tt^* equations of Cecotti and Vafa. *J. Reine Angew. Math.* 689 (2014), 1–32.
45. Choe, Kwangseok; Han, Jongmin; Lin, Chang-Shou, Bubbling solutions for the Chern-Simons gauged $O(3)$ sigma model in \mathbb{R}^2 . *Discrete Contin. Dyn. Syst.* 34 (2014), no. 7, 2703–2728.
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47. Han, Xiaosen; Lin, Chang-Shou, Existence of non-Abelian vortices with product gauge groups. *Nuclear Phys. B* 878 (2014), 117–149.
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50. Chen, Zhijie; Lin, Chang-Shou, Zou, Wenming Multiple sign-changing and semi-nodal solutions for coupled Schrödinger equations. *J. Differential Equations* 255 (2013), no. 11, 4289–4311.
51. Kwangseok Choe; Jongmin Han; Lin, Chang-Shou; Tai Chia Lin, Uniqueness and solution structure of nonlinear equations arising from the Chern-Simons gauged $O(3)$ sigma models. *J. Differential Equations* 255 (2013), no. 8, 2136-2166.
52. Lin, Chang-Shou; Shusen Yan, Bubbling solutions for the $SU(3)$ Chern-Simons model on a torus, *Comm. Pure Appl. Math.*, 66 (2013), 991-1027.
53. Lin, Chang-Shou; Lei Zhang, On Liouville systems at critical parameters, Part 1: One bubble. *J. Funct. Anal.* 264 (2013), no. 11, 2584-2636.
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55. Lin, Chang-Shou; Gabrella Tarantello; Yisong Yang, Solutions to the master equations governing fractional vortices. *J. Differential Equations* 254 (2013), no. 3, 1437-1463.
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singular sources, *Inventiones Math.*, Vol. 190, 1(2012), 169-207.

60. YanYan Li; Lin, Chang-Shou, Nonlinear PDE with to Hardy-Sobolev critical exponents, *Arch. Ration. Mech. Anal.*, 203(2012), no. 3, 943-968.
61. Lin, Chang-Shou; Hidemitsu wadade, Minimizing problems for the Hardy-Sobolev type inequality with the singularity on the boundary. *Tohoku Math. J. (2)* 64 (2012), no.1, 79-103.
62. Daniele Bartolucci; Lin, Chang-Shou, Sharp existence of mean field equation with singular datas, *J. Differ. Equ.*, 252(2012), no. 7, 4115-4137.
63. Lin, Chang-Shou; Juncheng Wei; Chunyi Zhao, Asymptotic behavior of SU(3) Toda system in a bounded domain. *Manuscripta Math.* 137 (2012), no. 1-2, 1-18.

2011

64. Lin, Chang-Shou Topological counting formulas for Liouville system of mean field type. *Frontiers of mathematical sciences*, 353–362, Int. Press, Somerville, MA, 2011. 35J57 (35J91)
65. C.H. Hsia, Lin, Chang-Shou and Z.Q.Wang, Asymptotic symmetry and local behaviors of solutions to a class of anisotropic elliptic equations, *Indiana University mathematics Journal*, Vol. 60, 5(2011) , 1623-1654.
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74. Lin, Chang-Shou; Lei Zhang, A topological degree counting for some liouville systems of mean field type, *Comm. Pure Appl. Math.*, 64 (2011), no. 4, 556--590.
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2010

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