

CURRICULUM VITA

Juncheng Wei

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Personal information

- Born: March 27, 1968, P.R. China.
- Married.

Education

- Ph.D. University of Minnesota, September 1990- August 1994.
- B.S. Wuhan University, August 1985- July 1989.

Professional Experience

- Canada Research Chair (Tier I) in Nonlinear Partial Differential Equations, October 2013-present
- Professor of Mathematics, University of British Columbia, Sept 2012-present
- Wei Lun Professor of Mathematics, Chinese University of Hong Kong, October 2011-September 2013
- Chair Professor in Mathematics, Chinese University of Hong Kong, August 2009-present
- Professor I in Mathematics, Chinese University of Hong Kong, August 2005-July 2009
- Professor II in Mathematics, Chinese University of Hong Kong, August 2003-July 2005
- Associate Professor in Mathematics, Chinese University of Hong Kong, September, 1999-July 2003
- Assistant Professor in Mathematics, Chinese University of Hong Kong, September, 1995-August 1999
- Postdoctoral Fellow, Nonlinear Analysis and Geometry Section, SISSA, Italy, September, 1994- September, 1995.

- Research Assistant, School of Mathematics, University of Minnesota, Summer 1992, 1993, 1994.
- Teaching Assistant, School of Mathematics, University of Minnesota, Fall 1990-Spring 1994.

Research Area and Main Interests

- Nonlinear Partial Differential Equations, Concentration Phenomenon in Nonlinear PDEs and Elliptic Systems, De Giorgi Conjectures, Lane-Emden Equations, Phase Transitions, Nonlinear Analysis, Singular Perturbation Problems, Prescribing Curvature Problems, Higher-order Conformal Invariant Equations, Mean Curvature Flows, Harmonic Map Flows
- Reaction-Diffusion Systems, Pattern Formation, Mathematical Biology, Phase-transition in Material Sciences, Di-block and Triblock Copolymer Problems

Courses taught at UBC

Year	Courses
2013-2014	MATH400
2014-2015	MATH256, MATH257-201, MATH517
2015-2016	MATH516, MATH400-201, MATH301-201
2016-2017	MATH516, MATH400-101, MATH305-201
2017-2018	MATH253-105, MATH256-201, MATH517

Awards and Honors

- Invited Speaker, International Congress of Mathematicians 2014, Korea
- Cheung Kong Chair Professorship 2015, Ministry of Education of China
- Canada Research Chair Tier I, 2013
- Morningside Silver Medal, International Congress of Chinese Mathematicians 2010
- First Class Award of Natural Science 2010, Ministry of Education of China
- Inclusion in ISIHighlyCited.com, 2010
- Research Excellence Award, Chinese University of HK, 2010

- **Awards of the Joint Research Fund for HK and Macau Young Scholars, National Science Fund for Distinguished Young Scholars in China, 2009**
- **Croucher Senior Fellowship, 2005-2006**
- **Young Research Award, Chinese University of HK, 2004**
- **Outstanding Thesis Award, School of Mathematics, University of Minnesota, 1994**

National and International Services

- Referee for: **Earmarked Grant of RGC (HK), Nato Research Council (Netherlands), National Science Foundation of China, National Science Foundation, NSERC, Chilean Science Foundation.**
- Review Panel, National Science Foundation 2014
- Review Panel, National Science Foundation 2015

Editorship

- Managing Editor for **Methods of Analysis and Applications**
- Managing Editor for **DCDS-A**
- Editor for **Journal of Functional Analysis**
- Editor for **Journal of Differential Equations**
- Editor for **Comm. Pure Appl. Anal.**
- Editor for **Differential and Integral Equations**
- Editor for **Comm. Contemp. Math.**
- Associate Editor for **Canadian Journal of Mathematics**
- Associate Editor for **IMA Journal of Applied Mathematics**

Citations

According to **AMS/Mathscinet/Citations**, I am cited **7601** times by **1711** authors. I have a total of **108** coauthors.

According to **Google Scholar**, I am cited **12654** times. My h-index is **59**.

Conference Organization

- Joint UBC-HKUST Workshop on Frontiers in Nonlinear PDEs and Applied Mathematics, HKUST, Dec. 11-15, 2017
- BIRS-CMO Workshop on Nonlocal Equations, May 22-26, 2017
- Third Sino-Chilean Conference on Nonlinear PDEs and Nonlinear Analysis, Wuhan University, Dec. 2016
- Conference on Nonlinear PDEs and Nonlinear Analysis, May 27-June 1, 2016, Chern Institute of Mathematics
- Focus month on nonlocal elliptic equations, May-June 2016, Fields Institute
- BIRS 2014
- Eighth East-Asia PDE, Postech, Dec. 2011
- Internal Conf. on Nonlinear PDEs, Hefei, August 2011
- Croucher Foundation Advanced Study Institute on Recent Advances in Nonlinear PDEs, Feb. 28-March 4, 2011
- Sino-Chilean Conference on Nonlinear Partial Differential Equations and Nonlinear Analysis, Dec. 6-10, 2010
- Banff International Research Station, Recent Advances on De Giorgi Conjecture and Entire Solutions, Aug. 11-17, 2010
- Seventh East-Asia PDE Conference, Dec. 14-18, 2009
- Lijiang Workshop on Nonlinear Analysis, Dec. 22-26, 2008
- HK-Japan Workshop in Reaction-Diffusion Systems, Dec., 2006
- Sixth East-Asia PDE Conference, May 15-19, 2006
- Fifth East-Asia PDE Conference, April, 2005
- Fourth East-Asia PDE Conference, Jan., 2004
- Banff International Research Station, Localized Solutions in Elliptic Systems, Aug. 5-12, 2004

Research Grants (as Principal Investigator)

- Collaborative Research Group at PIMS, 2015-2017
- NSERC, Canada, 2013-2017

- CFI, Canada 2014
- NSERC accelerator scheme, Canada, 2013-2015
- CAS-Croucher Joint Laboratory on Nonlinear Partial Differential Equations and Nonlinear Analysis, Sept 1 2012-AUGust 31 2015: HK\$ 960,000
- HK/France Joint Research Grant, Jan. 1 2011-Dec. 30 2012: HK\$ 63,000
- Croucher Advanced Study Institute 2010 (co-organized with ZP Xin): HK\$ 560,000
- Earmarked Grant from Research Grants Council of Hong Kong 12-14: HK\$ 560,000
- Earmarked Grant from Research Grants Council of Hong Kong 11-13: HK\$ 650,000
- Earmarked Grant from Research Grants Council of Hong Kong 10-12: HK\$ 520,000
- Focused Research Scheme, CUHK (with ZPXin and J. Zou) 08-10: HK\$ 1,000,000
- Earmarked Grant from Research Grants Council of Hong Kong 08-10: HK\$ 570,000
- Earmarked Grant from Research Grants Council of Hong Kong 07-09: HK\$ 388,000
- Earmarked Grant from Research Grants Council of Hong Kong 06-08: HK\$ 463,000
- Earmarked Grant from Research Grants Council of Hong Kong 05-07: HK\$ 318,000
- Earmarked Grant from Research Grants Council of Hong Kong 03-06: HK\$ 300,000
- Earmarked Grant from Research Grants Council of Hong Kong 01-03: HK\$ 293,370
- Earmarked Grant from Research Grants Council of Hong Kong 99-01: HK\$ 641,000
- Earmarked Grant from Research Grants Council of Hong Kong 97-99: HK\$ 396,000
- Earmarked Grant from Research Grants Council of Hong Kong 96-98: HK\$ 488,000
- IMS Programm on Nonlinear PDE and Geometric Analysis (with T. Wan), 2002-2003, HK\$ 460,000
- HongKong-Germany Joint Research Grant, HK \$24,000, 1998-1999.
- Direct Grant from Chinese University of Hong Kong 98-99: HK\$ 56,000.
- Direct Grant from Chinese University of Hong Kong 95-96: HK\$ 100,000.

List of Publications

Publications in refereed Journals:383

1994

- [1] (with X. Ren) On a two dimensional elliptic problem with large exponent in nonlinearity, **Trans. Amer. Math. Soc.** 343 (2) 1994, 749-763.

1995

- [2] (with X. Ren) Counting peaks of solutions to some quasilinear elliptic equations with large exponent, **J. Diff. Eqns.** 117(1995), 28-55.
- [3] (with X. Ren) Asymptotic behavior of least energy solutions to a two dimensional semilinear problem with mixed boundary condition, **Nonlinear Analysis: Theory, Methods and Applications**, 24(4) 1995, 587-604.
- [4] (with X. Ren) On a semilinear equation in R^2 when the exponent approaches infinity, **J. Math. Anal. Appl.** 189(1995), 179-193.
- [5] (with X. Wang) On the equation $\Delta u + K(x)u^{\frac{n+2}{n-2} \pm \epsilon^2} = 0$ in R^n , **Rendiconti Del Circolo Matematico Di Palermo XLIV** (1995), 1-37.
- [6] (with W.-M. Ni) On the location and profile of spike-layer solutions to singularly perturbed semilinear Dirichlet problems, **Comm. Pure Appl. Math.** 48(1995), 723-761.

1996

- [7] On construction of single-peak spiky solutions to singularly perturbed semilinear Dirichlet problems, **J. Diff. Eqns.** , 129 (2) 1996, 315-333.
- [8] (with X. Ren) Single-point condensation and least energy solutions, **Proc. Amer. Math. Soc** 124 (1) 1996, 111-120.
- [9] Asymptotic behavior of a nonlinear fourth order eigenvalue problem, **Comm. Part. Diff. Eqns.** , 21 (1996), 1451-1468.

1997

- [10] (with E. Noussair) On the effect of domain geometry on the existence and profile of nodal solutions of some singularly perturbed semilinear Dirichlet problem, **Indiana Univ. Math. J.** 46(1997), 1255-1272.
- [11] Exact multiplicity for some nonlinear elliptic equations in balls, **Proc. American Math. Soc.** , 125 (1997), 3235-3245.
- [12] (with Dancer) On the profile of solutions with two sharp layers to a singularly perturbed semilinear Dirichlet problem, **Proc. Royal Soc. Edinburgh, Section A (Mathematics)** 127 A (1997), 691-701.

[13] On the boundary spike layer solutions of a singularly perturbed semilinear Neumann problem, **J. Diff. Eqns.** 134 (1997), 104-133.

[14] (with G. Lu) On positive entire solutions to the Yamabe-type problem on the Heisenberg and stratified groups, **Electronic Research Announcements of American Mathematical Society** 3(1997), 83-89.

[15] (with Flucher) Semilinear Dirichlet problem with nearly critical exponent, asymptotic location of hot spots, **Manuscripta Math.** 94 (1997), 337-346.

1998

[16] (with G. Lu) On nonlinear Schrödinger equations with totally degenerate potentials, **C. R. Acad. Sci. Paris** 326 (1998), 691-696.

[17] On the interior spike layer solutions of a singularly perturbed semilinear Neumann problem, **Tohoku Math. J.** 50 (2)(1998), 159-178.

[18] Asymptotic behavior of least-energy solutions of a semilinear Dirichlet problem involving critical Sobolev exponent, **J. Math. Soc. of Jap.** 50 (1998), 139-153.

[19] Conditions for two-peaked solutions of singularly perturbed elliptic equations, **Manuscripta Mathematica** 96(1998), 113-136.

[20] (with Xingwang Xu) On Conformal Deformations of Metrics On S^n , **J. Functional Analysis** 157(1998), 292-325.

[21] (with M. Winter) Stationary solutions of Cahn-Hilliard equation, **Ann. Non lineaire, Annales de l'Institut H. Poincare** 15 (1998), 459-492.

[22] (with G. Cerami) Multiplicity of multiple interior spike solutions for some singularly perturbed Neumann problem, **International Mathematics Research Notes** 12(1998), 601-626.

[23] (with E. Noussair) On the existence and profile of nodal solutions of some singularly perturbed semilinear Neumann problem, **Comm. Partial Diff. Eqns.** 23(1998), 793-816.

[24] On the interior spike layer solutions for some singular perturbation problems, **Proc. Royal Soc. Edinburgh, Section A (Mathematics)** 128(1998), 849-874.

[25] (with M. Winter) On the Cahn-Hilliard equations II: interior spike Layer solutions, **J. Diff. Eqns.** 148 (1998), 231-267.

- [26] (with M. Winter) On the stationary Cahn-Hilliard equation: Bubble solutions, **SIAM Journal on Mathematical Analysis** 29(1998), 1492-1518.
- [27] (with W.-M. Ni and I. Takagi) On the location and profile of spike-layer solutions to singularly perturbed semilinear Dirichlet problems: intermediate solutions, **Duke Math. J.** 94(1998), 597-618.
- [28] (with M. Flucher) Asymptotic behavior of elliptic free boundary problem, **Math. Zeit** 228 (1998), 683-705.
- [29] (with E.N.Dancer) On the effect of domain topology in some singular perturbation problems, **Topological Methods in Nonlinear Analysis** 11(2) (1998), 227-248.
- 1999**
- [30] Point condensations of a model for fungal development, **C. R. Acad. Sci. Paris** 328(1999), 129-134.
- [31] (with Xingwang Xu) Classification of solutions of high order conformally invariant equations, **Math. Annalen** 313(2)(1999), 207-228.
- [32] (with Xuefeng Wang) Shift and stability of ground states of a nonlinear Schrödinger equation outside a small insulated domain, **J. Diff. Eqns.** 154(1999), 73-95.
- [33] Existence, stability and metastability of point condensation patterns generated by Gray-Scott System, **Nonlinearity** 12(1999), 593-616.
- [34] (with Winter) Multiple-peak solutions for a wide class of singular perturbation problems, **J. London Math. Soc.** 59(2)(1999), 585-606.
- [35] (with E.N.Dancer) On the location of spikes and profile of solutions with two sharp layers, **J. Diff. Eqns.** 157(1999), 82-101.
- [36] On single interior spike solutions of Gierer-Meinhardt system: uniqueness, spectrum estimates, **Europ. J. Appl. Math.** 10(1999), 353-378.
- [37] (with C. Gui) Multiple interior peak solutions for some singularly perturbed Neumann problems, **J. Diff. Eqns.** 158(1999), 1-27.
- [38] (with M. Winter) On the two dimensional Gierer-Meinhardt system with strong coupling, **SIAM J. Math. Anal.** 30(1999), 1241-1243.

2000

- [39] (with G. Lu) On a Sobolev inequality with remainder terms, **Proceedings of AMS** 128(2000), 75-84.
- [40] (with M. del Pino and Felmer) On the role of mean curvature in some singularly perturbed Neumann problems, **SIAM J. Math. Anal.** 31 (2000), 63-79.
- [41] On the effect of the domain geometry in a singularly perturbed Dirichlet problem, **Diff. Int. Eqns** 13(2000), 15-45.
- [42] (with M. Winter) Multi-Interior-Spike solutions for the Cahn-Hilliard equation with arbitrarily many peaks, **Cal. Var. PDE** 10(2000), 249-289.
- [43] (with Kang Xiaosong) On interacting bumps of semiclassical states of nonlinear Schrödinger equations, **Adv. Diff. Eqns.** 5 (2000), 899-928.
- [44] (with Xiaofeng Ren) On the multiplicity of solutions of two nonlocal variational problems, **SIAM J. Math. Anal.** 31(2000), 909-924.
- [45] (with C. Gui) On a sharp Moser-Aubin-Onofri inequality for functions on S^2 with symmetry, **Pacific J. Math.** 194(2000), 349-358.
- [46] (with C. Gui) On Multiple Mixed Interior and Boundary Peak Solutions for Some Singularly Perturbed Neumann Problems, **Can. J. Math.** 52(2000),522-538.
- [47] (with M. del Pino and Felmer) On the role of distance function in some singular perturbation problems, **Comm. P.D.E.**25(2000), 155-177.
- [48] (with M. Del Pino and P. Felmer) Mutiple peak solutions for some singular perturbation problems, **Cal. Var. PDE.** 10(2000), 119-134.
- [49] On a nonlocal eigenvalue problem and its applications to point-condensations in reaction-diffusion systems, **Int. J. Bifurcation and Chaos**10 (6) (2000), 1485-1496.
- [50] (with M. Winter and Gui) Mutiple boundary peak solutions for some singularly perturbed Neumann problems, **Ann. Non linearie, Annoles de l'Institut H. Poincare**, 17(2000), 47-82.
- [51] (with M. Grossi and A. Pistoia) Existence of multiple-peaked solutions for a semilinear Neumann problem via nonsmooth critical point theory, **Cal. Var. PDE.**11(2000),143-175.
- [52](with M. Winter) On a two dimensional reaction-diffusion system with

hypercyclical structure, **Nonlinearity** 13(2000), 2005-2032.

2001

[53] Pattern formations in two dimensional Gray-Scott model: Existence of single spot solutions and their Stability, **Physica D: Nonlinear Phenomena** 148(2001), Vol. 1-2, 20-48.

[54] (with G. Lu and X. Xu) On Conformally Invariant Equation $(-\Delta u)^p u - K(x)u^{\frac{N+2p}{N-2p}} = 0$ and Its Generalizations, **Annali di Matematica Pura ed Applicata** 179 (2001), 309-329

[55](with D. Iron and M.J. Ward) The stability of spike solutions to the one-dimensional Gierer-Meinhardt model, **Physica D.: Nonlinear Phenomena** 150 (2001), no. 1-2, 25-62.

[56] (with M. Winter) Solutions for the Cahn-Hilliard equation with many boundary spike layers, **Proc. Royal Soc. Edinburgh, Section A (Mathematics)** 131(2001), 185-204.

[57] (with L. Zhang) On a nonlocal eigenvalue problem, **Annali della Scuola Normale Superiore di Pisa, Classe di Scienze** XXX(2001), 41-61.

[58] (with L. Ma) Convergences for a Liouville equation, **Comm. Math. Helv.** 76(2001), 506-514.

[59] (with J. Ai and K.S. Chou) Self-similar solutions for the anisotropic affine curve shortening problem and a related nonlinear Hill's equation, **Cal. Var. PDE** 13 (2001), 311-337.

[60] Multiple condensations for a nonlinear elliptic equation with sub-critical growth and critical behavior, **Proc. Edinburgh Math. Soc.** 44(2001), 631-660.

[61] Uniqueness and critical spectrum of boundary spike solutions, **Proc. Royal Soc. Edin. A** 131(2001), 1457-1480.

[62] (with M. Winter) Spikes for the two-dimensional Gierer-Meinhardt system: the weak coupling case, **J. Nonlinear Sciences** 6(2001), 415-458.

[63] (with M. Winter) On a Hypercycle System with Nonlinear Rate, **Methods Appl. Anal.** 8(2001), 257-278.

2002

[64] (with Guofang Wang) On a conjecture of Wolansky, **Nonlinear Analysis:TMA** 48(2002), 927-937.

[65] (with G. Wang) Steady state solutions of a reaction-diffusion system modeling chemotaxis, **Math. Nachr.** 233-234(2002), 221-236.

[66] (with M. J. Ward) Asymmetric spike patterns for the one-dimensional Gierer-Meinhardt model: equilibria and stability, **Eur. J. Appl. Math.** 13(2002), 283-320.

[67] (with M. Winter) Spikes for the two-dimensional Gierer-Meinhardt system: the strong coupling case, **J. Diff. Eqns.**178(2002), 478-518.

[68] (with S.-I. Ei) Dynamics of metastable localized patterns and its application to the interaction of spike solutions for the Gierer-Meinhardt systems in two spatial dimension, **Japan J. Industr. Appl. Math.** 19(2002), 181-226.

[69] (with M. Winter) Critical threshold and stability of cluster solutions for large reaction-diffusion systems in R^1 , **SIAM J. Math. Anal.** 33(2002), 1058-1089.

[70] (with X. Ren) Concentrically layered energy equilibria of the di-block copolymer problem, **Eur. J. Appl. Math.**13(2002), 479-496.

[71] (with M.-J. Ward) The existence and stability of asymmetric spike patterns for the Schnakenberg model, **Studies in Appl. Math.**, 109(2002), 229-264.

[72] (with J. Norbury and M. Winter) Existence and stability of singular patterns in a Ginzburg-Landau equation coupled with a mean field, **Nonlinearity**15(2002), 2077-2096.

2003

[73] (with X. Sun, T. Tang and M. Ward) Numerical challenges for resolving spike dynamics for two one-dimensional reaction-diffusion systems, **Studies in Appl. Math.** 111(2003), no.1, 41-84.

[74] (with M. Winter) A nonlocal eigenvalue problem and the stability of spikes for reaction-diffusion systems with fractional reaction rates, **Int. J. Bifur. Chaos** 13 (6) (2003), 1529-1543.

[75] (with M. Winter) Asymmetric spotty patterns for the Gray-Scott model, **Studies in Appl. Math.** 110(2003), 63-102.

[76] (with M. del Pino and M. Kowalczyk) Multi-bump Ground States of the Gierer-Meinhardt system in R^2 , **Ann. Non lineaire, Annales de l'Institut H. Poincare** 20 (2003), no. 1, 53–85.

[77] (with M.J.Ward) Hopf bifurcations and oscillatory instabilities of spike solutions for the one-dimensional Gierer-Meinhardt model, **J. Nonlinear Science** 13(2003), 209-264.

[78] (with M. Winter) Existence and stability of multiple spot solutions for the Gray-Scott model in R^2 , **Physica D: Nonlinear Phenomena**, 176 (2003), no. 3-4, 147–180.

[79] (with X. Ren) Triblock copolymer theory: ordered ABC lamellar phase, **Journal of Nonlinear Sciences** 13 (2003), no. 2, 175-208.

[80] (with X. Ren) Triblock copolymer theory: free energy, disordered phase and weak segregation, **Physica D:Nonlinear Phenomena** 178 (2003), no. 1-2, 103–117.

[81] (with H. Berestycki) On singular perturbation problems with Robin boundary condition, **Annali Suola Norm. Sup. Pisa, Class Sci.** (5) Vol.II (2003), 199-230.

[82] (with X. Ren) On the spectra of 3-D Lamellar solutions of the Diblock copolymer problem, **SIAM J. Math. Anal.** 35(1)(2003), 1-32.

[83] (with C.S. Lin) Locating the peaks of solutions via the Maximum Principle II: A local version of the method of moving planes. **Comm. Pure Appl. Math.** 6(2003), 784-809.

[84](with J. Leach) Pattern formation in a simple chemical system with general orders of autocatalysis and decay. I. Stability analysis. **Physica D:Nonlinear Phenomena** 3-4(180)2003, 185-209.

[85] (with X. Ren) On energy minimizers of the di-block copolymer problem. **Interfaces and Free Boundaries** 5 (2003), no. 2, 193-238.

[86] (with M. Winter) Higher order energy expansions for some singularly perturbed Neumann problems, **Comptes Rend de L' Acad. des Sci. I. Math.** 337(2003), 37-42.

[87] (with X. Sun, T. Tang and M. Ward) Numerical challenges for resolving spike dynamics for two one-dimensional reaction-diffusion systems, **Studies in Appl.**

Math. 111 (2003), no. 1, 41-84.

[88] (with M.J.Ward) Hopf bifurcations of spike solutions for the shadow Gierer-Meinhardt model, **Europ. J. Appl. Math.** 14 (2003), 677-711.

[89] (with M. Winter) Stability of monotone solutions for the the shadow Gierer-Meinhardt system with finite diffusivity, **Diff. Int. Eqns.**16(2003), 1153-1180.

[90] (with X. Ren) Soliton-stripe patterns in the charged Langmuir monolayers, **Journal of Nonlinear Sciences**13 (2003), no. 6, 603-624.

2004

[91] (with X. Ren) The soliton-stripe pattern in the Seul-Andelman membrane. **Physica D:Nonlinear Phenomenon**, 188 (2004), no. 3-4, 277-291.

[92] (with X. Ren) Molecular chirality and soliton-stripe pattern in liquid crystal films. **Nonlinearity** 17(2004), Vol. 2, 617-632.

[92] (with D. Iron and M. Winter) Stability analysis of Turing patterns generated by the Schnakenberg model, **Journal of Math. Biology** 49(2004), 358-390.

[93] (with M. Winter) On Gierer-Meinhardt system with saturation, **Comm. Contemp. Math.**, 6 (2004), no. 2, 259-277

[94] (with M. Winter) Higher order expansions and spike locations, **Cal. Var. PDE** 20(2004), 403-430.

[95] (with M. Winter) Asymmetric Patterns for the Gierer-Meinhardt system, **J. Math. Pures Appl.** 83 (2004), no. 4, 433-476.

[96] (with O. Rey) Blowing up solutions for an elliptic Neumann problem with sub- or supercritical nonlinearity, Part I: $N = 3$, **Journal of Functional Analysis**, 212 (2004), no. 2, 472-499.

[97] (with Xiaofeng Ren) Stability of spot and ring solutions of the Diblock copolymer equation. **Journal of Mathematical Physics** 45(2004), no.11, 4106-4133.

2005

[98] (with O. Rey) Arbitrary Number of Positive Solutions For an Elliptic Problem with Critical Nonlinearity. **Journal of European Mathematical Society** 7(2005), no.4, 449-476.

[99] (with Theo Kolokolnikov and M. Ward) The existence and stability of spike

equilibria in the one-dimensional Gray-Scott model: the low feed-rate regime. **Studies in Appl. Math.** 115(2005), no.1, 21-71.

[100] (with X. Ren) Wriggled lamellar solutions and their stability in the Diblock copolymer problem, **SIAM J. Math. Anal.** 37(2005), no.2, 455-489.

[101] (with W. Chen) On Brezis-Nirenberg Problem on S^3 and A Conjecture of Bandle and Benguria. **Comptes Rend de L' Acad. des Sci. I. Math.** 341(2005), no.3, 153-156.

[102] (with Theo Kolokolnikov and M. Ward) The existence and stability of spike equilibria in the one-dimensional Gray-Scott model: the pulse-splitting regime. **Physica D: Nonlinear Phenomena** 202(2005), 258-293.

[103] (with T. D'Aprile) On bound states concentrating on spheres for the Maxwell-Schrodinger Equation **SIAM J. Math. Anal.** 37(2005), no. 1, 321-342.

[104] (with T.-C. Lin) Ground state of N coupled Nonlinear Schrödinger Equations in $R^n, n \leq 3$. **Comm. Math. Physics** 255(2005), 629-653.

[105] (with M. Winter and W.-K. Yeung) A higher-order energy expansion to two-dimensional singularly perturbed Neumann problems, **Asymptotic Analysis** 43(2005), no.1-2, 75-110.

[106] (with M. Winter) On a cubic-quintic Ginzburg-Landau equation with global coupling, **Proceedings of Amer. Math. Soc.** 133(2005), no.6, 1787-1796.

[107] (with Theo Kolokolnikov and M.J.Ward) Pulse-splitting for some reaction-diffusion systems in one-space dimension, **Studies in Appl. Math.** 114(2005), 115-165

[108] (with Theo Kolokolnikov and M.J.Ward) The existence and stability of spike equilibria in the one-dimensional Gray-Scott model. **Appl. Math. Letters** 18(2005), no.8, 951-956.

[109] (with T.-C. Lin) Spikes in two coupled nonlinear Schrödinger equations, **Ann. Non linearie, Annales de l'Institut H. Poincare** 22(2005), no.3, 707-741.

[110] (with M. Winter) Symmetry of nodal solutions for singularly perturbed elliptic problems on a ball, **Indiana Univ. Math. Journal** 54(2005), no.3, 707-741.

[111] (with A. Machiodi and Wei-Ming Ni) Multiple clustered layer solutions for

semilinear Neumann problems on a ball, **Ann. Non lineaire, Annales de l'Institut H. Poincare** 22(2005), 143-163.

[112](with B.D. Sleeman and M.J.Ward) The existence, stability, and dynamics of spike patterns in a chemotaxis model. **SIAM J. Appl. Math.** 65(2005), 790-817.

[113] (with O. Rey) Blowing up Solutions for an Elliptic Neumann Problem with Sub- or Supercritical Nonlinearity. Part II: $N \geq 4$. **Ann. Non lineaire, Annales de l'Institut H. Poincare**, 22(2005), no.4, 459-484.

[114] (with Theo Kolokolnikov) On ring -like solutions for the Gray-Scott model: existence, instability and self-replicating rings. **Eur. J. Appl. Math.** 16(2005), 201-237.

[115] (with Xingwang Xu) Uniqueness and a priori estimates for some nonlinear elliptic Neumann equations in R^3 , **Pacific J. Math.** 221(2005), no.1, 159-165.

[116](with Xiaofeng Ren) Nucleation in the FitzHugh-Nagumo System: Interface-Spike Solutions. **Journal of Differential Equations** 205(2005), 266-301.

[117](with Matthias Winter) Clustered spots in the FitzHugh-Nagumo system. **Journal of Differential Equations** 213(2005), no.1, 121-145.

[118] (with M.E. Hubbard and J. A. Leach) Pattern formation in a two-dimensional simple chemical system with general orders of autocatalysis and decay. **IMA J. Appl. Math.** 70(6)(2005), 723-747.

[119] (with Tobias Weth) On the Number of Nodal Solutions to a Singularly Perturbed Neumann Problem. **Manuscripta Mathematica** 117(2005), no. 3, 333-344.

[120] (with M. del Pino and M. Kowalczyk) Nonlinear Schrödinger equations: Concentration on weighted geodesics in the semi-classical limit. **Comp. Rend. Acad. Sci. Paris** 341(2005), no. 4, 223-228.

2006

[121] (with T. D'Aprile) Standing waves in the Maxwell-Schrodinger equation and an optimal configuration problem. **Cal. Var. and PDE** 25(2006), 105-137.

[122] (with W.-M. Ni) On positive solutions concentrating on spheres for the Gierer-Meinhardt system **J. Diff. Eqns.** 221(2006) , 158-189.

- [123] (with X. Ren) Droplet Solutions in the Diblock Copolymer Problem with Skewed Monomer Composition. **Cal. Var. and Part. Diff. Eqns** 25(2006), no.3, 333-359.
- [124] (with T. Kolokolnikov and M. J. Ward) Zigzag and breakup instabilities of stripes and rings for the two-dimensional Gray-Scott model. **Studies in Applied Math.** 116(2006), no.1, 35-95.
- [125] (with Juan Dávila, Manuel del Pino, Monica Musso) Singular limits of a two-dimensional boundary value problem arising in corrosion modelling. **Archive Rational Mechanical Analysis** 182(2006), no.2, 181-221.
- [126] (with Xiaofeng Ren) Existence and Stability of Spherically Layered Solutions of the Diblock Copolymer Equation **SIAM J. Appl. Math.** 66(2006), 1080-1099.
- [127] (with M. Winter) Standing waves in the FitzHugh-Nagumo system and a problem in combinatorial geometry. **Math. Zeit** 254(2006), no.2, 359-383.
- [128] (with D'Aprile) Layered solutions for a semilinear elliptic system in a ball. **J. Diff. Eqns** 226(2006), 269-294.
- [132] (with T. D'Aprile) Boundary Concentration in radial solutions for a system of semilinear elliptic equations. **Journal of London Mathematical Society.** 74(2006), no.2, 415-440.
- [133] (with T. Kolokolnikov, Thomas Erneux) Mesa-type patterns in the one-dimensional Brusselator and their stability **Physica D: Nonlinear Phenomena** 214(2006), no.1, 63-77.
- [134] (with M. del Pino) Collapsing steady states of the Keller-Segel system. **Nonlinearity** 19(2006), no.3, 661-684.
- [135] (with T.C. Lin) Spikes in Two-component Systems of Nonlinear Schrödinger Equations with Trapping Potentials **Journal of Differential Equations** 229(2006), no.2, 538-569.
- [137] (with T. Kolokolnikov, M. Ward) The Stability of A Stripe for the Gierer-Meinhardt Model and the Effect of Saturation. **SIAM J. Applied. Dynamical Systems** 5(2006), no.2, 313-363.
- [138] (with T. Kolokolnikov, M. Ward) Slow translational instabilities of spike

patterns in the one-dimensional Gray-Scott model. **Interfaces and Free Boundaries** 8(2006), no.2, 185-222.

[139] (with ZM Guo) Hausdorff Dimension of Ruptures for Solutions of a Semilinear Elliptic Equation with Singular Nonlinearity. **Manuscripta Mathematica** 120(2006), 193-209.

[140] (with M. Musso) Stationary Solutions to a Keller-Segel Chemotaxis System. **Asymptotic Analysis** 49(2006), no.3-4, 217-247.

[141] (with D. Ye and F. Zhou) Bubbling Solutions for an Anisotropic Emden-Fowler Equation **Comp. Rend. Acad. Sci. Paris** 343(2006), no.4, 253-258.

[142] (with P. Esposito and A. Pistoia) Concentrating solutions for Henon equation in R^2 . **J' Analyse Math.** 100(2006), 249-280.

[143] (with S. Yan) Solution Explosant Au Centre Et Le Long Du Bord Pour Un Problème Elliptique De Neumann Avec Non-Linéarité Critique . **C. R. Acad. Sci. Paris** 343(2006), no.5, 311-316.

[144] (with M. del Pino and M. Kowalczyk) Resonance and interior layers in an inhomogeneous phase transition model. **SIAM J. Math. Anal.** 38(2006/2007), no.5, 1542-1564.

[145] (with TC Lin) Symbiotic bright solitary wave solutions of coupled nonlinear Schroedinger equations **Nonlinearity** 19(2006), no.12, 2 755-2773.

[146] (with D'Aprile) Locating the boundary peaks of least-energy solutions to a singularly perturbed Dirichlet problem. **Annali della Scuola Normale Superiore di Pisa, Classe di Scienze** Vol. V (2006), 219-259.

[147] (with TC Lin) Solitary and Self-similar Solutions of Two-component System of Nonlinear Schrödinger Equations. **Physica D: Nonlinear Phenomena** 220(2006), no. 2, 99-115.

2007

[148] (with F.-H. Lin and W.-M. Ni) On the Number of Interior Peak Solutions for A Singularly Perturbed Neumann Problem. **Communications on Pure and Applied Mathematics** 60 (2007), no. 2, 252-281.

[149] (with M. del Pino and M. Kowalczyk) Concentration on curves for nonlinear

Schrödinger equations. **Communications on Pure and Applied Mathematics** 60 (2007), no. 1, 113-146.

[150] (with D. Ye and F. Zhou) Bubbling Solutions for an Anisotropic Emden-Fowler Equation **Cal. Var. and Part. Diff. Eqns.** 28(2007), 217-247.

[151] (with D'Aprile) Clustered Solutions Around Harmonic Centers to a Coupled Elliptic System. **Ann. Non lineaire, Annales de l'Institut H. Poincare** 24(2007), no.4, 605-628

[152] (with A. Malchiodi and W.-M. Ni) Boundary Clustered Interfaces for Allen Cahn Equation. **Pacific Journal of Mathematics** 229(2007), no.2, 447-468.

[153] (with M. del Pino) Supercritical elliptic problems in domains with small holes. **Ann. Non lineaire, Annales de l'Institut H. Poincare** 24(2007), no.4, 507-520.

[154] (with Z. Guo) Symmetry of Nonnegative Solutions of a Semilinear Elliptic Equation with Singular Nonlinearity. **Proc. Royal. Soc. Edinburgh. Section A. (Mathematics)** 137(2007), no.5, 963-994.

[155] (with CS Lin and L. Wang) Bubble Accumulations In An Elliptic Neumann Problem With Critical Sobolev Exponent. **Cal. Var. PDE** 30(2007),no.2, 153-182.

[156] (with S. Yan) Lazer-Mckenna conjecture: the critical case. **Journal of Functional Analysis** 244(2007), 639-667.

[157] (with C.-S. Lin) Uniqueness of multiple-spike solutions via the Method of Moving Planes. **Pure and Applied Mathematics, A Quarterly Journal** (special volume in honour of L. Simon's 60th birthday) 3(2007), no.3, 689-735.

[158] (with J. Norbury and M. Winter) Stability of patterns with arbitrary period for a Ginzburg-Landau equation with a mean field. **European Journal of Applied Mathematics** 18(2007), no.2, 129-151.

[159] (with Juan Dávila, Manuel del Pino and M. Musso) Standing waves for supercritical nonlinear Schrödinger equations. **Journal of Differential Equations** 236(2007), no.1, 164-198.

[160] (with Jun Yang) Concentration on Lines for a Singularly Perturbed Neumann Problem in Two-Dimensional Domains **Indiana Univ. Math. Journal** 56(2007),

no.6, 3025-3073.

[161] (with M. Winter) Symmetric and asymmetric clusters for an elliptic system, **NoDEA** 14(2007), no.5-6, 787-823.

[162] (with Th. Kolokolnikov and Michael Ward) Self-replication of mesa patterns in reaction-diffusion systems, **Physica D: Nonlinear Phenomena** 236(2007), no.2, 104-122.

[163] (with Tobias Weth) Nonradial Symmetric Bound States for a System of Coupled Schrödinger Equations. **Rendiconti Lincei:Matematica e Applicazioni** 18(2007), no.3, 279-293.

[164] (with A. Malchiodi) Boundary Interface for the Allen-Cahn Equation **Journal of Fixed Point Theory and Applications (JFPTA)** 1(2007), no.2, 305-336.

[165] (with S. Yan) New Solutions For Nonlinear Schrödinger Equations with critical nonlinearity. **Journal of Differential Equations** 237(2007), no.2, 446- 472.

[166] (with TCLin) Half-Skyrmions and Spike-Vortex Solutions of Two-component Nonlinear Schrödinger Systems **Journal of Mathematical Physics** 48(2007), no.5, 053518.

[166] (with C. Bandle) Nonradial Clustered Spike Solutions for Semilinear Elliptic Problems on S^n . **J' Analyse Math.** 102(2007), 181-208.

[167] (with E.Dancer) Sign-changing solutions for supercritical elliptic problems in domains with small holes. **Manuscripta Mathematica** 123(2007), no.4, 493-511.

[168] (with Xiaofeng Ren) Single droplet pattern in the cylindrical phase of diblock copolymer morphology **Journal of Nonlinear Science** 17(2007), no.5, 471-503

[169] (with S. Yan) Arbitrary many boundary peak solutions for An Elliptic Neumann problem with critical growth **J. Math. Pures Appl.** (9)88(2007), no.4, 350-378.

[170] (with Guo ZM) On the Cauchy problem for a reaction-diffusion equation with a singular nonlinearity **J. Diff. Eqns.** 240(2007), 181-208.

[171] (with X. Ren) Many droplet pattern in the cylindrical phase of diblock copolymer morphology **Reviews in Mathematical Physics** 19(2007), no.8, 879-921.

[172] (with PK Maini and M. Winter) Stability of Spikes in the Shadow

Gierer-Meinhardt system with Robin Boundary Conditions **Chaos** (special issue on pattern formations in reaction-diffusion systems) 17(2007),037106, 16pp.

[173] (with YH Ding) Semiclassical states for nonlinear Schrodinger equations with sign-changing potentials. **Journal of Functional Analysis** 251(2007), no.2, 546-572

[174] (with T. Bartsch and Zhi-qiang Wang) Bound states for a coupled nonlinear Schrodinger system **JFPTA** 2(2007), no.2, 353-367.

[175] (with CS Lin) Sharp Estimates For Bubbling Solutions of A Fourth Order Mean Field Equation **Annali della Scuola Normale Superiore di Pisa, Classe di Scienze** (5)6(2007), no.4, 599-630.

[176] (with M. Winter) Existence, Classification and Stability Analysis of Multiple-peaked Solutions for the Gierer-Meinhardt System in R^1 . **Methods Appl. Anal.** 14(2007), no.2, 119-163.

2008

[177] (with Manuel del Pino and Mike Kowalczyk) The Toda system and clustering interfaces in the Allen-Cahn equation **Archive Rational Mechanical Analysis** 190(2008), no.1, 141-187.

[178] (with F.Mahmoudi and A. Malchiodi) Transition Layer for the Heterogeneous Allen-Cahn Equation **Ann. Non linearie, Annoles de l'Institut H. Poincare** 25(2008), no.3, 609-631.

[179] (with X. Ren) Spherical solutions to a free boundary problem from diblock copolymer morphology **SIAM Journal of Mathematical Analysis** 39(2008), no.5, 1497-1535.

[180] (with F. Robert) Asymptotic behavior of a fourth order equation with Dirichlet boundary condition **Indiana Univ. Math. J.** 57(2008), no.5, 2039-2060.

[181] (with M. Winter) Stationary Multiple Spots for Reaction-Diffusion Systems **Journal of Mathematical Biology** 57(2008), no.1, 53-89.

[182] (with TC Lin) Orbital stability of bound states of semi-classical nonlinear Schrödinger equations with critical nonlinearity **SIAM J. Mathematical Analysis** 40(2008), no.1, 365-381.

[183] (with Liping Wang) Solutions with Interior Bubble and Boundary Layer for an Elliptic Problem. **DCDS-A** (special volume in celebration of Dancer's sixtieth birthday) 21(2008), no.1, 333-351.

[184] (with Dong Ye) Nonradial solutions for a conformally invariant fourth order equation in R^4 , **Cal. Var. PDE** 32(2008), no.3, 373-386.

[185] (with ZM Guo) Asymptotic Behavior of touch-down solutions and global bifurcations for an elliptic problem with a singular nonlinearity **Comm. Pure Appl. Anal.** 7(2008), no.4, 765-786.

[186] (with Li Ma) Properties of positive solutions to an Elliptic Equation with negative exponent. **Journal of Functional Analysis** 254(2008), no.4, 1058-1087.

[187] (with F. Zhou and Dong Ye) Analysis of boundary bubbling solutions for an anisotropic Emden-Fowler equation, **Ann. Non linearie, Annales de l'Institut H. Poincaré** 25(2008), no.3, 4250447.

[188] (with ZM Guo) Infinitely many turning points for an elliptic problem with a singular nonlinearity **Journal of London Mathematical Society** 78(2008), no.1, 21-35.

[189] (with Juan Dávila, Manuel del Pino and Monica Musso) Fast and slow decay solutions for supercritical elliptic problems in exterior domains. **Calculus of Variations and PDE** 32(2008), no.4, 453-480.

[190] (with T. Weth) Asymptotic behavior of solutions of planar elliptic systems with strong competition. **Nonlinearity** 21(2008), no.2, 305-317.

[191] (with Theodore Kolokolnikov) Positive Clustered Layered Solutions For the Gierer-Meinhardt System **Journal of Differential Equations** 245(2008), no.4, 964-993.

[192] (with M. Winter) Mutually Exclusive Spiky Pattern and Segmentation Modeled by the Five-Component Meinhardt-Gierer System. **SIAM J. Appl. Math.** 69(2008), no.2, 419-452.

[193] (with Y. Ding) Stationary states of nonlinear Dirac equations with general potentials. **Reviews in Mathematical Physics** 20(2008), no.8, 1007-1032.

[194] (with X. Ren) The critical mass constraint in the Cahn-Hilliard equation

Interfaces and Free Boundary Problems 10(2008), no.3, 301-338.

[195] (with Jun Yang) Toda system and interior clustering line concentration for a singularly perturbed Neumann problem in two dimensional domain. **DCDS-A** 22(2008), no.3, 465-508.

[196] (with Tobias Weth) Radial solutions and phase separation in a system of two coupled Schrödinger equations, **Archive Rational Mechanical Analysis** 190(2008), no.1, 83-106.

[197] (with Z.M. Guo) Entire solutions and global bifurcations for a biharmonic equation with singular nonlinearity in R^3 **Adv. Diff. Eqns.** 13(2008), No.7-8, 753-780.

[198] (with C. Bandle) Multiple Clustered Layer Solutions for Semilinear Elliptic Problems on S^n . **Comm. Partial Diff. Equations** 33(2008), no.4-6, 613-635.

[199] (with Wang Hung Tse and M. Winter) Spikes for the Gierer-Meinhardt System with Many Segments of Different Diffusivities, **Bulletin of Academia Sinica (New Series), Special volume in celebration of Prof. M. Mimura's 65th birthday**, 3(2008), no.4, 525-566.

[200] (with M. del Pino and M. Kowalczyk) On De Giorgi Conjecture in Large Dimensions, **C. R. A. S.** 346(2008), no.23-24, 1261-1266.

[201] (with ZM Guo) On a fourth order elliptic problem with negative exponent, **SIAM J. Math. Anal.** 40(2008/09), no.5, 2034-2054.

[202] (with YX Guo) Nonexistence of positive finite Morse index solutions to an elliptic problem with singular nonlinearity. **Methods of Analysis and Applications**, special issue on MEMS 15(2008), no.3, 391-403.

[203] (with ZM Guo) On solutions with point ruptures for a semilinear Elliptic problem with singularity. **Methods of Analysis and Applications, special issue on MEMS** 15(2008), no.3, 391-403.

2009

[204] (with E.N. Dancer) Spike Solutions in coupled nonlinear Schrödinger equations with Attractive Interaction. **Transc. American Math. Soc.** 361(2009), no.3, 341-375.

- [205] (with Theodore Kolokolnikov and M. Ward) Spot self-replication and dynamics for the Schnakenburg model in a two-dimensional domain. **Journal of Nonlinear Science** 19(2009), no.1, 1-56.
- [206] (with P. Esposito) Non-simple Blow-up Solutions for the Neumann two-dimensional sinh –Gordon equation **Cal Var. PDE** 34(2009), no.3, 341-375.
- [207] (with M. Winter) Spikes for the Gierer-Meinhardt system with Discontinuous Diffusion Coefficients, **J. Nonlinear Sciences** 19(2009), no.3, 301-339.
- [208] (with J. Yang) Solutions with transition layer and spike in an inhomogeneous phase transition model, **Journal of Differential Equations** 246(2009), no.9, 3642-3667.
- [209] (with M. Winter) Strongly Interacting Bumps for the Schrodinger-Newton Equations, **Journal of Mathematical Physics** 50(2009), no.1, 012905, 22pp.
- [210] (with YX Guo) Supercritical biharmonic elliptic problems in domains with small holes **Math. Nach.** 282(2009), no.12, 1724-1739.
- [211] (with M. Winter) On the Gierer-Meinhardt system with precursors **DCDS-A**,(special volume in honor of Prof. Mimura's 65th birthday), 25(2009), no.1, 363-398.
- [212] (with T. Kolokolnikov and M. Winter) Existence and Stability Analysis of Spiky Solutions for the Gierer-Meinhardt System with Large Reaction Rates. **Physica D: Nonlinear Phenomena.** 238(2009), no.16-1695-1710.
- [211] (with X.Ren) On a phase field problem driven by interface tension and interface curvature.**Eur.J. Appl.Math.** 20(2009), no.6, 531-556.
- [212] (with Xingwang Xu) Prescribing Q -curvature problem on S^n . **Journal of Functional Analysis.** 257(2009), no.7, 1995-2023.
- [213] (with Fanghua Lin and Taichia Lin) Skymions in Gross-Pitaevskii Functionals. **Acta Mathematica Scientia** 2009, 29B(3): 751-776. Special Volume dedicated to Prof. Wu Wenjun's 90th birthday.
- [214] (with X. Ren) Oval shaped droplet solutions in the saturation process of some pattern formation problems. **SIAM Journal of Applied Mathematics** 70(2009), no.4, 1120-1138.

[215] (with S.Santra) Homoclinic solutions for fourth order travelling wave equations, **SIAM J. Math. Anal.** 41(2009), no.5, 2038-2056.

2010

[216] (with H. Berestycki) On Least Energy Solutions to A Semilinear Elliptic Equation in A Strip, **DCDS-A** 28(2010), no.3, 1083-1099

[217] (with EN Dancer and T. Weth) A priori bounds versus multiple existence of positive solutions for a nonlinear Schrodinger system, **AIHP** 27 (2010), pp. 953-969

[218] (with Manuel del Pino and M. Kowalczyk) The Jacobi-Toda system and foliated interfaces, **DCDS-A** 28(2010), no.3, 975-1006.

[219] (with M. del Pino, M. Kowalczyk and F. Pacard) The Toda system and multiple-end solutions of autonomous planar elliptic problems. **Advances in Mathematics** 224(2010), no.4, 1462-1516.

[220] (with M. del Pino, M. Kowalczyk and F. Pacard) Multiple-end solutions to the Allen-Cahn equations in R^2 **Journal of Functional Analysis** 258(2010), no.2, 458-503.

[221] (with Manuel del Pino, M. Kowalczyk and Jun Yang) Interface foliation near minimal submanifolds in Riemannian manifolds with positive Ricci curvature **Geom. Funct. Anal.** 20(2010), no.4, 918-957.

[222] (with Qiang Du and C. Zhao) Vortex Solutions of the High- κ High-field Ginzburg-Landau Model with an Applied Current **SIAM J. Math. Anal.** 42(2010), no.6, 2368-2401.

[223] (with ZM Guo) Qualitative properties of entire radial solutions for a biharmonic equation with supercritical nonlinearity. **Proc. American Math. Soc.** 138(2010), no.11, 3957-3964.

[224] (with FH Lin) Traveling Wave Solutions of Schrödinger Map Equation. **Comm. Pure Appl. Math.** 63(2010), no.12, 1585-1621.

[225] (with TC Lin and Xiaojin Chen) Blow up and solitary waves with ring profiles for two-component nonlinear Schrodinger equations. **Phys. D: Nonlinear Phenomena** 239(2010), no.10, 613-626.

[226] (with T-C Lin and W. Yao) Orbital stability of bound states of nonlinear

Schrödinger equations with linear and nonlinear lattices. **J. Diff. Eqns.** 249(2010), no.9, 2111-2146.

[227] (with H. Tse and M. Winter) The Gierer-Meinhardt System on a Compact Two-Dimensional Riemannian Manifold: Interaction of Gaussian Curvature and Green's Function. **J. Math. Pures Appl.** 94(2010), no.4, 366-397.

[228] (with Liping Wang and Shusen Yan) A Neumann Problem with Critical Exponent in Non-convex Domains and Lin-Ni's Conjecture. **Transcation of Amer. Math. Soc.** 362(2010), no.9, 4581-4615.

[229] (with M. Winter) Stability of Spiky Solutions in a Reaction-Diffusion System with Four Morphogens on the Real Line. **SIAM J. Math. Anal.** 42(2010), no.6, 2818-2841.

[230] (with S. Yan) On an elliptic problem with critical growth and a stronger Lazer-McKenna conjecture **Ann. Scuola. Norm. Pisa** (5)9(2010), no.2, 423-457.

[231] (with S. Yan) Infinitely many positive solutions for the nonlinear Schrödinger equations in R^N **Cal.Var. PDE** 37(2010), 423-439.

[232] (with Shusen Yan) Infinitely many solutions for the prescribed scalar curvature problem on N **Journal Functional Analysis** 258(2010), 3048-3081.

[233] (with Jun Yang) Toda system and cluster phase transition layers in an inhomogeneous phase transition model **Asymptotic Analysis** 69(2010), no.3-4, 175-218.

[234] (with Dong Ye) On MEMS equations with fringing fields **Proc. American Math. Soc.** 138(2010), no.5, 1693-1699.

2011

[235] (with Weiwei Ao and M. Musso) On Spikes Concentrating on Line-Segments to a Semilinear Neumann Problem **Journal of Differential Equations** 251(2011), no.4-5, 881-901.

[236] (with Weiwei Ao and M. Musso) Triple Junction Solutions for a Singularly Perturbed Neumann Problem **SIAM Journal of Mathematical Analysis** 43(2011), no.6, 2519-2541.

[237] (with D. Cao and I. Chern) On ground states of spinor Bose-Einstein

condensates **NoDEA** 18(2011), no.4, 427-445.

[238] (with E.Dancer and S. Santra) Least energy nodal solution of a singular perturbed problem with jumping nonlinearity **Annali della Scuola Normale Superiore di Pisa, Classe di Scienze.** (5) 10(2011), no.1, 19-36.

[239] (with O. Druet and F. Robert) The Lin-Ni's problem for mean convex domains **Memoirs of American Mathematical Society** November 30, 2011

[240] (with Manuel del Pino) Solutions to the Allen-Cahn Equation and Minimal Surfaces **Milan Journal of Mathematics** 79(2011), 39-65.

[241] (with M. del Pino and M. Kowalczyk) On De Giorgi Conjecture in Dimensions $N \geq 9$ (final version) **Annals of Mathematics** 174 (2011), no.3, 1485-1569.

[242] (with Yuxin Ge and Feng Zhou) A critical elliptic problem for polyharmonic operators **J. Funct. Analysis** 260(2011), no.8, 2247-2282.

[243] (with ZM Guo) Global solution branch and Morse index estimates of a semilinear elliptic equation with super-critical exponent **Trans. American Math. Soc.** 363(2011), no.9, 4777-4799

[244] (with Z. Guo, Z. Liu F. Zhou) Bifurcations of some elliptic problems with a singular nonlinearity via Morse index **CPAA** 10(2011), no.2, 507-525.

[245] (with Meiyue Jiang and LP Wang) 2π -periodic self-similar solutions for the anisotropic affine curve shortening problem **Cal. Var. PDE** 41(2011), no.3-4, 535-565.

[246] (with Theodore Kolokolnikov) Stability of spiky solutions in a competition model with cross-diffusion **SIAM Journal of Applied Mathematics** 71(2011), no.4, 1428-1457.

[247] (with CS Lin and LP Wang) Topological Degree For Solutions of A Fourth Order Mean Field Equation **Math. Zeit** 268(2011), 675-705.

[248] (with S. Santra) Asymptotic behavior of solutions of a biharmonic Dirichlet problem with large exponents **Journal d'Analyse Math.** 115(2011), 1-31.

[249] (with L. Wang and S. Yan) On Lin-Ni's Conjecture in Convex Domains **Proc. London Math. Soc.** 102(2011), 1099-1126.

[250] (with L. Wang and J. Yang) On Ambrosetti-Malchiodi-Ni Conjecture for

General Hypersurfaces **Communications in Part. Diff. Eqns.** 36(2011), vol. 12, 2117-2161

[251] (with L. Wei and F. Zhou) Mixed interior and boundary nodal bubbling solutions for a sinh-Poisson equation **Pacific Journal of Mathematics** 250(2011), no.1, 225-256.

[252] (with W. Yao) Asymptotic axisymmetry of the subsonic traveling waves to the Gross-Pitaevskii equation **Comm. Contemp. Math.** 13(2011), no.6, 1095-1104.

[253] (with S. Yan) Infinitely many positive solutions for an elliptic problem with critical or super-critical growth **J. Math Pures Appl.** (9) 96(2011), no.4, 307-333.

[254] (with CY Zhao and F. Zhou) On nondegeneracy of solutions of $SU(3)$ Toda system **CRAS** 349(2011), no.3-4, 185-190.

[255] (with EN Dancer and S. Santra) Asymptotic behavior of the least energy solution of a problem with competing powers **Journal of Functional Analysis** 261(2011), 675-705.

2012

[256] (with A. Aftalion and P. Mason) Vortex-peak interaction and lattice shape in rotating two-component Bose-Einstein condensates. **Physical Review A** 85(2012), no.3, 033614.

[257] (with Wenyi Chen and S. Yan) Infinitely many solutions for the Schrödinger equations in R^N with critical growth **Journal of Differential Equations** 252(2012), no.3, 2425-2447.

[258] (with J. Davila) Point ruptures for a MEMS equation with fringing field **Comm. Part. Diff. Eqns.** 37(2012), 1462-1493.

[259] (with EN Dancer and ZM Guo) Non-radial singular solutions of Lane-Emden equation in R^N **Indiana Univ. Math. Journal** 61(2012), no.5, 1971-1996.

[260] (with Manuel del Pino and Mike Kowalczyk) On De Giorgi's conjecture and beyond **Proceedings of National Acad. of Sciences (PNAS)** 109(2012), vol. 18, 6845-6850.

[261] (with E. Hebey) Resonant states for the static Klein-Gordon-Maxwell-Proca system **Math Research Letters** 19(2012), no.4, 953-967.

[262] (with Chang-Shou Lin and Dong Ye) Classification and nondegeneracy of $SU(n+1)$ Toda system with singular sources **Inventiones Mathematicae** 190(2012), no.1, 169-207.

[263] (with Chang-Shou Lin and Chunyi Zhao) Sharp estimates for fully bubbling solutions of a $SU(3)$ Toda system **Geom. Funct. Anal.** 22(2012), no.6, 1591-1635.

[264] (with CSLin and CY Zhao) Asymptotic behavior of $SU(3)$ Toda system in a bounded domain **Manuscripta Math.** 137(2012), no.1-2, 1-18.

[265] (with Monica Musso) Nonradial solutions to critical elliptic equations of Caffarelli-Kohn-Nirenberg type **International Mathematics Research Notices** 18(2012), 4120-4162.

[266] (with Frank Pacard and M. Musso) Finite-energy sign-changing solutions with dihedral symmetry for the stationary non linear Schrödinger equation **Journal of European Mathematical Society** 14(2012), no.6, 1923-1953.

[267] (with A. Pakylak and F. Ting) Multi-vortex solutions to Ginzburg-Landau equations with external potential **Archive Rational Mech. Analysis** 204(2012), no.1, 314-354.

[268] (with M. Winter) Flow-Distributed Spikes for Schnakenberg Kinetics **Journal of Mathematical Biology** 64(2012), no.1-2, 211-254.

[269] (with Jun Yang) Vortex rings pinning for the Gross-Pitaevskii equation in three dimensional space **SIAM Journal of Mathematical Analysis** 44(2012), no.6, 3991-4047.

[270] (with W. Yao) Uniqueness of positive solutions to some coupled nonlinear Schrödinger equations **CPAA** 11(2012), no.3, 1003-1011

2013

[271] (with WW Ao and Jing Zeng) An optimal bound on the number of interior spike solutions for the Lin-Ni-Takagi problem **Journal of Functional Analysis** 265 (2013), no. 7, 13241356.

[272] (with H. Berestycki, TCLin and CY Zhao) On Phase-Separation Model: Asymptotics and Qualitative Properties **Archive Rational Mechanics Analysis** 208(2013), no.1, 163-200.

- [273] (with H. Berestycki, S. Terracini and K. Wang) On Entire Solutions of an Elliptic System Modeling Phase Separations **Advances in Mathematics** 243(2013), pp. 102 - 126
- [274] (with M. del Pino and M. Kowalczyk) Traveling waves with multiple and non-convex fronts for a bistable semilinear parabolic equation **Comm. Pure Appl. Math.** 66(2013), no.4, 481-547.
- [275] (with M. del Pino and M. Kowalczyk) Entire Solutions of the Allen-Cahn Equation and Complete Embedded Minimal Surfaces of Finite Total Curvature **Journal of Differential Geometry** 83(2013), no.1, 67-131.
- [276] (with Yanheng Ding and T. Xu) Existence and concentration of semi-classical solutions for an nonlinear Maxwell-Dirac system **Journal of Mathematical Physics** 54(2013), no.6, 061505, 33pp.
- [277] (with Yuxia Guo and B. Li) Large energy entire solutions for the Yamabe type problem of polyharmonic operator **J. Diff. Eqns.** 254(2013), no.1, 199-228
- [278] (with E. Hebey) Schrodinger-Poisson system in the 3-sphere **Cal Var PDE** 47(2013), no.1-2, 25-54.
- [279] (with Fouad Hadj Selem and Hiroaki Kikuchi) Existence and uniqueness of singular solution to stationary Schrödinger equation with supercritical nonlinearity **DCDS-A** 33 (2013), no. 10, 46134626.
- [280] (with T. Kolokolnikov and W. Yang) On large ring solutions for Gierer-Meinhardt system in R^3 **Journal of Differential Equations** 255(2013), no.7, 1408-1436.
- [281] (with TC Lin and Jun Yang) Vortex rings for the Gross-Pitaevskii equation in R^3 **J. Math. Pures Appl.** (9) 100(2013), no.1, 69-112.
- [282] (with L.Ma) Stability and multiple solutions to Einstein-scalar field Lichnerowicz equation on manifolds **J. Math. Pures Appl.** (9)99(2013), no.2, 174-186.
- [283] (with Frank Pacard) Stable solutions of the Allen-Cahn equation in dimension 8 and minimal cones **Journal of Functional Analysis** 264(2013), no.5, 1131-1167.
- [284] (with Xiaofeng Ren) A double bubble in a ternary system with long range

interaction. **Archive Rational Mech. Analysis** 208(2013), no.1, 201-253.

[285] (with S. Santra) New entire positive solution for the nonlinear Schrödinger equation: Coexistence of fronts and bumps **American Journal of Mathematics** 135(2013), no.2, 443-491.

[286] (with F. Ting) Multi-vortex non-radial solutions to the magnetic Ginzburg-Landau equations **Comm. Math. Phys.** Volume 317, Issue 1 (2013), Page 69-97

[287] (with L. Wang) Infinite Multiplicity for an Inhomogeneous Supercritical Problem in Entire Space **Comm. Pure Appl. Anal.** 12(2013), No. 3, 1243-1257.

[288] (with Kelei Wang) On solutions with polynomial growth to an autonomous nonlinear elliptic problem **Advance Nonlinear Studies** 13(2013), no.4, 921-932.

[289] (with Xingwang Xu and Wen Yang) On the classification of stable solution to biharmonic problems in large dimensions **Pacific Journal of Mathematics** 263(2013), no.2, 495-512.

[290] (with S. Yan) Infinitely many non-radial solutions for the Hénon equation with critical growth **Revista Matemática Iberoamericana** 29(2013), no.3, 997-1020

[291] (with Dong Ye) Liouville Theorems for finite Morse index solutions of Biharmonic problem **Mathematische Annalen** 356(2013), no.4, 1599-1612.

[292] (with C.Zhao) Non-compactness of the Prescribing Q -curvature problem in large dimensions **Cal. Var. PDE** 46(2013), No.1, 123-164

2014

[293] (with WW Ao) Infinitely many positive solutions for nonlinear equations with non-symmetric potential *Cal Var. PDE* 51(2014), no.3-4, 761-798.

[294] (with H. Berestycki and M. Winter) Existence of Symmetric and Asymmetric Spikes for a Crime Hotspot Model *SIAM J. Math. Analysis* 46(2014), no.1, 691-719

[295] (with Juan Davila, Louis Dupaigne and Kelei Wang) A Monotonicity Formula and a Liouville-type Theorem for a Fourth Order Supercritical Problem *Advances in Mathematics* 258(2014), 240-285

[296] (with Juan Davila and Manuel del Pino) Concentrating standing waves for the fractional nonlinear Schrodinger equation *J. Diff. Eqns.* 256(2014), no.2, 858-892.

- [297] (with Daomin Cao and Z. Liu) Regularization of point vortices pairs for the Euler equation in dimension two *Archive Rat. Mech. Anal.* 212(2014), no.1, 179-217
- [298] (with Y.Guo and B. Li) Entire nonradial solutions for non-cooperative coupled elliptic system with critical exponents *J. Diff. Eqns.* 256(2014), no. 10, 3463-3495
- [299] (with ZM Guo) Liouville Type Results and Regularity of the Extremal Solutions of Biharmonic equation with negative exponents *DCDS-A* 34(2014), no.6, 2561-2580.
- [300] (with ZM Guo) Rupture solutions of an elliptic equation with a singular nonlinearity *Proc. Roy. Soc. Edin., A* 144(2014), no. 5, 905-924.
- [301] (with D. Iron, J. Rumsey and M. Ward) Logarithmic Expansions and the Stability of Periodic Patterns of Localized Spots for Reaction-Diffusion Systems in R^2 *Journal of Nonlinear Science* 24(2014), no. 5, 857-912.
- [302] (with T. Kolokolnikov and A. Alcolado) Basic mechanisms driving complex spike dynamics in a chemotaxis model with logistic growth. *SIAM Journal of Applied Mathematics* 74(2014), no.5, 1375-1396.
- [303] (with T. Kolokolnikov and M.J. Ward) The stability of steady-state hotspot patterns for a reaction-diffusion model of urban crime *DCDS-B* 19(2014), no.5, 1373-1410.
- [304] (with Xiaofeng Ren) Double tori solution to an equation of mean curvature and Newtonian potential *Cal Var PDE* 49(2014), no.3-4, 987-1018
- [305] (with Xiaofeng Ren) Asymmetric and symmetric double bubbles in an inhibitory ternary system *SIAM J. Math. Anal.* 46(2014), no.4, 2798-2852.
- [306] (with S. Santra) Profile of the least energy solution of a singular perturbed Neumann problem with mixed powers *Annali di Matematica Pura ed Applicata* (4) 193(2014), no.1, 39-70.
- [307] (with M. Winter) Stability of cluster solutions to a tritrophic food chain model *Journal of Mathematical Biology* 68(2014), no.1-2, 1-39.

2015

- [308] (with WW Ao and CS Lin) On Toda system with Cartan matrix G_2 *Proc. Amer. Math. Soc.* 143(2015), no.8, 3525-3536.

- [309] (with M. del Pino and O. Agudelo) Multiple Catenoidal End Solutions to the Allen-Cahn Equation in R^3 *J. Math. Pures Appl.* 103(2015), no.1, 142-218
- [310] (with M. del Pino and F. Pacard) Serrin's overdetermined problems and constant mean curvature surfaces *Duke Math Journal* 164(2015), no.14, 2643-2722.
- [311] (with M. del Pino and Wei Yao) Intermediate Reduction Methods and Infinitely many positive solutions of nonlinear Schrödinger equations with non-symmetric potentials *Cal. Var. PDE* 53(2015), no.1-2, 473-523.
- [312] (with M. Fazly and X. Xu) A point-wise inequality for the fourth order Lane-Emden equation *Analysis PDE* 8(2015), no. 7, 1541-1563.
- [313] (with M. Grossi and F. Gladiali) On a general $SU(3)$ Toda system *CVPDE* 54(2015), no.4, 3353-3372.
- [314] (with D. Iron, J. Rumsey, M.J. Ward) On accurately estimating stability threshold for periodic spot patterns of reaction-diffusion systems in R^2 *European Journal of Applied Math* 26(2015), no.3, 325-353.
- [315] (with M. Kowalczyk and Yong Liu) Singly periodic solutions of the Allen-Cahn equation and the Toda lattice *Comm. Part. Diff. Eqns.* 40(2015), no.2, 329-356.
- [316] (with M. Kowalczyk, Yong Liu and Frank Pacard) End-to-end construction for the Allen-Cahn equation in the plane *Cal. Var. PDE* 52(2015), no.2, 329-356.
- [317] (with CS Lin and L. Zhang) Classification of blowup limits for $SU(3)$ singular Toda systems *Analysis and PDE* 8(2015), no. 4, 807-837.
- [318] (with CS Lin and L. Zhang) Convergence rate, location and ∂_z^2 condition for fully bubbling solutions to $SU(n+1)$ Toda systems *Advances in Mathematics* 285(2015), 1189-1224.
- [319] (with M. Musso) Nondegeneracy of nonradial nodal solutions to Yamabe problem *Comm. Math. Physics* 340(2015), no.3, 1049-1107
- [320] (with Xiaofeng Ren) A double bubble assembly as a new phase of a ternary inhibitory system *Arch Rat Mech Anal* 215(2015), no.3, 967-1034.
- [321] (with Kelei Wang) Analysis of Blow-up Locus and Existence of Weak Solutions for Nonlinear Supercritical Problems *Int. Math. Res. Not. IMRN* 2015, no.10, 2634-2670

[322] (with M. Winter) Existence and stability of a spike in the central component for a consumer chain model *Journal of Dynamical and Differential Equations* 27(2015), no.3-4, 1141-1171.

[323] (with S. Yan) Clustered bubbles for An Elliptic problem with critical growth *Nonlinear Analysis:TMA* 119(2015), 46-61.

2016

[324] (with WW Ao and CS Lin) On Non-topological Solutions of the A_2 and B_2 Chern-Simons System (112 pages) *Memoirs of American Mathematical Society* 239(2016), no. 1132.

[325] (with WW Ao and CS Lin) On non-topological solutions of the G_2 Chern-Simons system *Communications Analysis and Geometry* 24 (2016), no. 4, 717752.

[326] (with WW Ao, M. Musso and F. Pacard) Solutions without any symmetry for semilinear elliptic problems *Journal of Functional Analysis* 270(2016), no.3, 884-956.

[327] (with W. Ao and W. Yao) Uniqueness and nondegeneracy of sign-changing radial solutions of an almost critical problem *Advances in Differential Equations* 21(2016), no.11-12, 1049-1084.

[328] (with Juan Davila and Kelei Wang) Qualitative Analysis of Rupture Solutions for an MEMS Problem *Ann.Inst. Henri.Poincaré NonLinearie* 33(2016), no.1, 221-242

[329] (with Z.Du) Clustering layers for the Fife-Greenlee problem in R^n *Proc. Royal Soc. Edin. Math Section A* 146(2016), no. 1, 107-139.

[330] (with Z. Du, C. Gui and Y. Sire) Layered solutions for a fractional inhomogeneous Allen-Cahn equation *NoDEA* 23(2016), no.3, 23:29

[331] (with Changfeng Gui and Yong Liu) On variational characterization of four-end solutions of the Allen-Cahn equation in the plane *Journal of Functional Analysis* 271(2016), no. 10, 2673-2700.

[332] (with ZM Guo and Wen Yang) On non-radial singular solutions of supercritical bi-harmonic equations *Pacific Journal of Math.* 284(2016), no.2, 395-430.

[333] (with M. Fazly) On stable solutions of the fractional Henon-Lane-Emden equation *Comm. Contemp. Math.* 18(2016), No. 5, 1650005 (24pages)

[334] (with Meiyue Jiang and Liping Wang) 2π -periodic self-similar solutions for the anisotropic affine curve shortening problem II *DCDS-A* 36(2016), no.2, 785-803.

[335] (with CS Lin and L. Zhang) Local profile of fully bubbling solutions to $SU(n+1)$ Toda Systems *Journal of Europ.Math. Soc. (JEMS)* 18(2016), no. 8, 1707-1728.

[336] (with Bruno Premoselli) Non-compactness and infinite number of conformal initial data sets in high dimensions *Journal of Functional Analysis* 270(2016), no.2, 718-747.

[337] (with M. Musso) Sign-changing blowing-up solutions for supercritical Bahri-Corn's problem *CVPDE* 55(2016), no.1, 55:1

[338] (with A. Pistoia and M. Musso) New blow-up phenomena for $SU(n+1)$ Toda system *JDE* 260(2016), no. 7, 6232-6266.

[339] (with M. Musso and S. Yan) Infinitely many positive solutions for an nonlinear field equation with super-critical growth *Proceedings of London Math Society* 112(2016), no.1, 1-26.

[340] (with S. Santra) Positive solutions of nonlinear Schrodinger equation with peaks on a Clifford torus *Mathematische Nachrichten* 289(2016), no. 8-9, 1131-1147.

[341] (with Santra) On a singular perturbed problem in an annulus *Annali della Scuola Normale Superiore di Pisa, Classe di Scienze* (5)15(2016), 837-857

[342] (with Kelei Wang) On the uniqueness of solutions of an nonlocal elliptic system *Math. Annalen* 365(2016), no.1-2, 105-153.

[343] (with Jun Yang) Traveling vortex helicies for Schrödinger Map Equation *Transc. of Amer. Math. Soc.* 368(2016), no.4, 2589-2622.

2017

[344] (with A. de la Torre, M. del Pino, Mar del mar Gonzalez) Delaunay-type singular solutions for the fractional Yamabe problem *Math Annalen* 369 (2017), no. 1-2, 597626.

[345] (with W. Ao and W. Yang) Infinitely many positive solutions of fractional nonlinear Schrödinger equations with non-symmetric potentials *DCDS-A* 37 (2017), no. 11, 55615601.

[346] (with Hardy Chan) Travelling wave solutions for bistable fractional Allen-Cahn

equations with a pyramidal front. *Journal of Differential Equations* 262 (2017), no. 9, 45674609.

[347] (with Juan Davila and L. Dupaigne) On the fractional Lane-Emden equation *Trans. Amer. Math. Soc.* 369 (2017), no. 9, 60876104.

[348] (with M. del Pino and O. Agudelo) Catenoidal layers for the Allen-Cahn equation in bounded domains *Chinese Annals of Mathematics* (a special volume for Professor H. Brezis' 70th birthday) 38 (2017), no. 1, 1344.

[349] (with Y. Ding) Multiplicity of semiclassical solutions to nonlinear Schrodinger equations *J. Fixed Point Theory Appl.* (special volume in honor of Professor Paul Rabinowitz's 75th birthday) 19 (2017), no. 1, 9871010.

[350] (with N. T. Fadai and M.J. Ward) Delayed reaction-kinetics and the stability of spikes in the Gierer-Meinhardt system *SIAM Journal Applied Math* 77(2017), no.2, 664-696.

[351] (with M. Fazly) On finite Morse index solutions of higher order fractional Lane-Emden equation *American Journal of Mathematics* 139 (2017), no. 2, 433460

[352] (with Changfeng Gui and Yong Liu) Two-end solutions to the Allen-Cahn equation in R^3 *Advances in Math* 320C (2017), 926-992.

[353] (with Yujin Guo and CS Lin) Local uniqueness and refined spike profiles of ground states for two-dimensional attractive Bose-Einstein condensates *SIAM J. Math. Anal.* 49 (2017), no. 5, 36713715

[354] (with ZM Guo and Feng Zhou) Singular radial entire solutions and weak solutions with prescribed singular set for a biharmonic equation *J. Diff. Eqns.* 263 (2017), no. 2, 11881224.

[355] (with S. Kim and M. Musso) A non-compactness result on the fractional Yamabe problem in large dimensions and supplement material *Journal of Functional Analysis* 273 (2017), no. 12, 37593830.

[356] (with Yong Liu and Kelei Wang) Global minimizers of Allen-Cahn equation in dimensions $n \geq 8$ *J. Math Pure Appl.* 108 (2017), no. 6, 818840.

[357] (with S Luo and W. Zou) On a transcendental equation involving quotients of Gamma functions *Proc. AMS* 145(2017), no. 6, 2623-2637.

[358] (with X. Ren) The spectrum of the torus profile to a geometric variational problem with long range interaction *Physica D: Nonlinear Phenomena* 351/352 (2017), 6288.

[360] (with M. Winter) Stable spike clusters for the one-dimensional Gierer-Meinhardt system *European Journal of Applied Math* 28 (2017), no. 4, 576635

[361] (with M. Winter and W. Yang) Stable spike clusters for the precursor Gierer-Meinhardt system in R^2 *CVPDE* 56 (2017), no. 5, 56:142

2018

[362] (with S. Kim and M. Musso) Existence theorems of the fractional Yamabe problem *Analysis PDE* 11(2018), no.1, 75-113.

[363] (with H. Kikuchi) Bifurcation diagram of solutions to elliptic equation with exponential nonlinearity in higher dimensions *Proc. Eding. Math. A.* 148 (2018), no. 1, 101122.

[364] (with CS Lin, Y. Lee and W. Yang) Degree counting and shadow system for $SU(3)$ Toda system: one bubbling *Journal of Differential Equations* 264 (2018), no. 7, 43434401.

[365] (with CS Lin, W. Yang and L. Zhang) On rank two Toda system with arbitrary singularities: local max and new estimates *Analysis PDE* 11 (2018), no.4, 873-898.

Papers accepted

[366] (with Kelei Wang) Finite Morse index implies finite ends *Comm. Pure Appl. Math.* accepted for publication

[367] (with CS Lin and Z. Nie) Toda system and hypergeometric equations *Transcations of American Math Society* accepted for publication

[368] (with W. Ao and M. Musso) Nondegeneracy of nonradial sign-changing solutions to the nonlinear Schrodinger equations *Bulletin de la SMF* accepted for publication

[369] (with Y. Guo, S. Li and X. Zeng) Ground states of two-component attractive Bose-Einstein condensates II: Semi-trivial limit behavior *Transc. of AMS* accepted for publication

[370] (with Justin Tzou and M. Ward) Anomalous Scaling of Hopf Bifurcation

Thresholds for the Stability of Localized Spot Patterns for Reaction-Diffusion Systems in 2-D *SIAM Journal of Applied Dynamical Systems* accepted for publication

[371] (with T. Kolokolnikov) Pattern formation in a reaction-diffusion system with space-dependent feed rate *SIAM Review* accepted for publication

[372] (with N. T. Fadaei and M. Ward) A time-delay in the activator kinetics enhances the stability of a spike solution to the Gierer-Meinhardt model *DCDS-B* accepted for publication

[373] (with M. Musso and S. Deng) Sign-changing blow-up solutions for Yamabe problem *International Math. Research Notes (IMRN)* accepted for publication

[374] (with Yong Liu and Kelei Wang) On a free boundary problem and minimal surfaces *Annals IHP-ANL* accepted for publication

[375] (with W. Ao and H. Chan) Boundary concentrations on segments for the Lin-Ni-Takagi problem *Annali della Scuola Normale Superiore di Pisa* accepted for publication

[376] (with A. Jevnikar and W. Yang) Classification of blow-up limits for the Sinh-Gordon equation *Diff. Int. Equations* accepted for publication

[377] (with A. Jevnikar and W. Yang) On the topological degree of the mean field equation with two parameters *Indiana Univ. Math. Journal* accepted for publication

[378] (with Kelei Wang) On Serrin's overdetermined problem and a conjecture of Berestycki, Caffarelli and Nirenberg *Comm. PDE* accepted for publication

[379] (with Manuel del Pino, M. Musso, C. Roman) Interior bubbling solutions for the critical Lin-Ni-Takagi problem in dimension 3 *Journal d'Analyse Mathématique* accepted for publication

[380] (with Juan Davila and Manuel del Pino) Nonlocal s -minimal surfaces and Lawson cones *Journal of Differential Geometry* accepted for publication

[381] (with Y. Sire) On a fractional Henon equation and applications *Math Research Letters* accepted for publication

[382] (with Yanyan Li and H. Xu) Multi-bump solutions of $-\Delta u = K(x)u^{\frac{n+2}{n-2}}$ on Lattices in R^n *Journal für die reine und ang. Math. (Crelle's Journal)* accepted for publication

[383] (with X.Ren) A toroidal tube solution of a nonlocal geometric problem *Interfaces and Free Boundaries* accepted for publication.

[384] (with W. Ao and M. Winter) Stable boundary spike clusters for the two-dimensional Gierer-Meinhardt system. *J. Math. Pure Appl.* accepted for publication.

[385] (with Wen Yang) Multi-bump ground states of the fractional Gierer-Meinhardt system on the real line *J. Dyn. Diff. Eqns.* accepted for publication.

[386] (with H. Chan) On De Giorgi's Conjecture: recent progress and open problems. *Science in China: Mathematics* accepted for publication.

[387] (with Lei Zhang) Nondegeneracy of Gauss curvature equation with negative conic singularity. *Pacific Journal of Mathematics* accepted for publication.

[388] (with Y. Sire and Y. Zheng) Nondegeneracy of half-harmonic maps from R into S^1 . *Proc. AMS* accepted for publication.

Papers submitted (selected)

1. (with W. Ao H. Chan, A. Delatorre, M. Fontelos Mar Gonzalez) On higher dimensional singularities for the fractional Yamabe problem: a non-local Mazzeo-Pacard program
2. (with Azahara Delatorre, W. Ao and Mar Gonzalez) A gluing approach for the fractional Yamabe problem with isolated singularities
3. (W. Ao, Hardy Chan and Mar Gonzalez) Existence of positive weak solutions for fractional Lane-Emden equations with prescribed singular sets
4. (with W. Ao and M. Winter) Stable boundary spike clusters for the two-dimensional Gierer-Meinhardt system
5. (with Chang, Tzou and Ward) Refined Stability Thresholds for Localized Spot Patterns for the Brusselator Model in R^2
6. (with H. Chan and Y.Liu) A gluing construction for fractional elliptic equations. Part I: a model problem on the catenoid
7. (with Juan Davila, Manuel del Pino and Monica Musso) Gluing methods for vortex dynamics in Euler equation
8. (with Manuel del Pino and Juan Davila) Singularity formation for the

two-dimensional harmonic map flow into S^2

9. (with Manuel del Pino and Monica Musso) Infinite time blow-up for the three dimensional energy critical heat equation
10. (with Manuel del Pino and Monica Musso) Geometry driven Type II higher dimensional blow-up for the critical heat equation
11. (with Yong Liu) Nondegeneracy, Morse index and orbital stability of the lump solution to the KP-I equation
12. (with Yong Liu) Nondegeneracy of the traveling lump solution to the 2 + 1 Toda lattice
13. (with Yong Liu and Kelei Wang) On smooth solutions to one phase free boundary problem in R^n
14. (CS Lin and Z. Nie) Classification of solutions to general Toda systems with singular sources
15. (with Y. Liu) On Helmholtz equation and Dancer's type entire solutions for nonlinear elliptic equations
16. (with M. Musso, M. Medina) Desingularization of Clifford Torus and Nonradial Solutions to Yamabe Problem with Maximal Rank
17. (with Y. Sire and Y. Zheng) Infinite time blow-up for half-harmonic map flow from R into S^1

Book

1. (with M. Winter) Mathematical Aspects of Pattern Formation in Biological Systems Applied Mathematical Sciences Series, Vol. 189, Springer 2014 , ISBN: 978-4471-5525-6.

Publications in Proceedings of Conference as Invited Talks

[1] On the effect of domain geometry and boundary geometry in some singular perturbation problems, **Differential Equations and Applications (P. Bates ed.)**, International Press, 1998,326-339.

[2] On the construction of interior spike layer solutions to a singularly perturbed semilinear Neumann problem, **PARTIAL DIFFERENTIAL EQUATIONS:THEORY AND NUMERICAL SOLUTION**, CRC Press LLC,

1998, 336-349.

[3] Point-condensations generated by Gierer-Meinhardt system: a brief survey, book chapter in **New Trends in Nonlinear Partial Differential Equations 2000**, (Y. Morita, H. Ninomiya, E. Yanagida, and S. Yotsutani editors), pp. 46-59.

[4] Existence and Stability of Lamellar and Wiggled Lamell Solutions in the DiBlock Copolymer Problem, in **Differential Equations and Asymptotic Theory in Mathematical Physics**, (H. Chen d R. Wong), pp. 365-378, World Scientific.

[5] Geometrization Program of Semilinear Elliptic Equations in **2010 ICCM Proceedings** AMS/IP Studies in Advanced Mathematics.

[6] Geometric Approaches of Semilinear Elliptic Equations in **2014 ICM Proceedings**

Invited Lectures

April 2017-March 2018

1. Vortex dynamics in Euler flows, the Liouville equation and Keller-Segel system
Venue, Date: Opening Ceremony of Silkroad Mathematics Center, Beijing, April 19-24, 2017
2. Counterexamples to De Giorgi Conjecture: the Fractional Case
Venue, Date: Clay Workshop, Oxford University, September 24-28, 2017
3. Finite Morse index implies finite ends
Venue, Date: Banach Center, Poland, June 19-23, 2017
4. Finite Morse index implies finite ends Venue, Date: Nonlinear Analysis in Rome, June 26-30, 2017
5. Finite time blow-up for the two-dimensional harmonic map flow into S^2
Venue, Date: 11th Huadong PDE meeting, Shanghai, June 14-16, 2017
6. Finite Morse index implies finite ends
Venue, Date: Americas XI on Differential Equations and Nonlinear Analysis, Edmonton, August 15-19, 2017
7. On De Giorgi Conjecture: the Fractional Case
Venue, Date: HK UST-UBC Joint Workshop, Dec. 11-15, 2017
8. Recent Advances on Gierer-Meinhardt System

Venue, Date: International Workshop on Reaction-Diffusion Systems, June 3-8, 2017

9. Singular solutions to fractional Yamabe problem: a fractional Mazzeo-Pacard program

Venue, Date: Conference on Geometric Analysis, Zhejiang University, Dec. 16-19, 2017

10. Singularity formation for harmonic map flows into S^2

Venue, Date: Tsinghua University, April 22-26, 2017

11. Singularity formations of harmonic map flows into S^2

Venue, Date: CRM Workshop on Geometric Analysis, March 12-16, 2018

12. Superfluids passing obstacles, Gross-Pitaevskii, and KP-I

Venue, Date: Celebration of Jalal Shatah and Fanghua Lin's contributions, NYU-AD, Jan. 14-18, 2018

13. Recent Progress on De Giorgi's Conjecture

Venue, Date: CRM-UQAM, Colloquium of Quebec, November 17, 2017

14. Singularity formation of two-dimensional harmonic map flow into S^2

Venue, Date: Anhui Normal University, July 29, 2017

15. Lecture series on De Giorgi conjecture

Venue, Date: Univ. Science Tech. of China, July 16-31, 2017

Before 2012

- Nonlinear and Geometric Analysis, Banff, August 2012
- Second Sino-Chilean meeting on Nonlinear PDE and Nonlinear Analysis, Santiago, Chile, July 2012
- Progress of Nonlinear PDEs, Hangzhou, June 2012
- Third International Conference on Variational Methods and Nonlinear PDE, Tianjin, May 2012
- Variational Methods and Nonlinear PDE, Beijing, April 2012
- 8th East-Asia PDE, Pohang, Dec. 2011
- Nonlinear Dynamics in PDEs, MSJ-SI, Sept 12-21, 2011, Japan
- Plenary Talk at Fifth ICCM, Dec. 17-22, 2010, Beijing
- Conference on Nonlinear PDEs, Oct. 5-8, 2010, POSTECH, Korea
- Mission Beach Conference on Geometric PDEs, Aug. 29-Sept. 3, 2010, Australia

- Sapporo Symposium on PDE, Aug. 23-25, 2010, Japan
- Fifth Pacific Conference in Mathematics, Stanford Univ., June 28-July 5, 2010
- CBMS, Tulane, May, 2010
- BIRS Meeting on “Deterministic and Stochastic Fronts”, March, 2010
- BIRS Meeting on “Multi-scale Problems”, Feb., 2010
- Asymptotic Analysis in the Calculus of Variations, PIMS Thematic Program in PDEs, Vancouver, Jul. 2009
- Readilab Meeting, Univ. Paris-Orsay, June 2009
- International Conf. on Liquid Crystals and Magnetism, Guangzhou, June 2009
- Variational Methods in Nonlinear PDEs and Hamiltonian Systems, Tianjin, Chern Institute, May 2009
- 3rd International Conference on Nonlinear PDE, Xian, China, Dec. 27-31, 2008
- Joint Meeting of AMS and China MS, Shanghai, Dec. 17-23, 2008
- Sino-France Meeting on PDE, Nankai, China, Oct. 19-24, 2008
- Variational and Hamiltonian Methods, Pohang, Korea, Oct. 8-12, 2008
- 5th Huadong PDE meeting, Nanjing, China, July 7-12, 2008
- 5th Huadong PDE meeting, Nanjing, China, July 7-12, 2008
- Nonlinear Analysis and Variational Method, Otrano, Italy, May 2008
- Recent Advances in Nonlinear Elliptic Equations, Oct. 2007, Banff Research Station, Canada
- Loss of Compactness in Nonlinear Elliptic Equations, August 2007, Banff Research Station, Canada
- Geometric Inequalities, June 2007, Banff Research Station, Canada
- Nonlinear Elliptic Equations, May 2006, Oberwolfach, Germany
- 5th East-Asia PDE Conference (Organizer), Osaka, Feb. 1-3, 2005
- Conference on Nano-materials, IMS, NUS, Singapore, Jan. 9-14, 2005
- Eastern China PDE Conference, Nanjing Univ., July, 2004
- Program in Geometric Analysis and Nonlinear PDE, National University of Singapore, June 15-25, 2004
- Internations Conference on PDE and Several Complex Variables, Wuhan University,

June 9-13, 2004

- Recent Advances in Variational Methods, Banff Research Station, Banff, Canada, May 14-20, 2004
- HK Math. Soc. AGM, Invited Speaker, April 2004
- Differential Equations, Asymptotic Theory in Mathematical Physics, Wuhan, Oct. 20-29, 2003
- Banff Workshop on Localization Behavior of Solutions (Organizer), August 2003, BIRS, Canada
- “Infinite Dynamical System”- CMS Summer Meeting, June 2003, Edmonton, Canada
- Principal Speaker, Singular Behavior of Nonlinear Problems (SNP 2002), Dec. 1-Dec.4, 2002, Kyoto
- Concentrations and Singularities of Nonlinear Elliptic and Parabolic Equations, Jan. 26-Feb.2, 2002, Oberwolfach
- Concentration Phenomenon and Vortex Dynamics in Nonlinear PDEs, Jul. 19-29, 2001, Vancouver
- Program on Nonlinear PDE and Transition Phenomenon, June 25-Jun 2, 2001, Cambridge
- AMS Eastern Section Meeting, May 1-4, 2000, New York
- International Conference dedicated to Prof. Hua, Dec., 2000, Beijing
- Pacific Rim Conf. on Dynamical Systems, Aug. 2000, Hawaii
- Pacific Northwest PDE Conf., May 2000, UBC
- IMS workshop on Reaction-Diffusion Systems, Dec., 1999, HK.
- Reaction-Diffusion Section (organized by Mimura), Third Int. Conf. on Free Boundaries and Applications, Oct., 1999, Japan
- Dynamics of patterns, June., 1999, Crete, Greece
- Principal Speaker at AGM of HK Math. Soc., June 1999, HK.
- Minisymposium on Invariant Manifolds, SIAM Dynamical System Conf., May, 1999, Snowbird, USA
- UAB-GIT Int. Conf. on Math. Physics, PDE Section (organized by Y.Y. Li), March. 1999, Alabama, USA

- 3rd Young Scientists Meeting, Chinese Academic of Science, Aug. 19-23, 1998, Beijing
- Satellite Conference of International Congress of Mathematicians Meeting on Nonlinear PDEs: Theory and Numerics, Aug. 10 -16, 1998, Prague.
- Conference on Interface and Free Boundaries, June 19-23, 1998, Hangzhou.
- First Pacific Rim Conference On Mathematics-Special Session on Applied PDEs-Pulse, Jan. 19-24, 1998.
- Canadian Mathematical Conference (Winter)- Special Session on Partial Differential Equations, Vancouver, Dec. 1997
- AMS Meeting- Special Session on Concentration Phenomena in Nonlinear Elliptic Equations, Milwaukee, Nov., 1997
- Nonlinear PDE and Microlocal Analysis, Wuhan, Sept., 1997.
- US-Chinese Conference on Differential Equations And Their Applications, Hangzhou, June 1996

Postgraduate Students under Wei

1. Li Kin Kuen completed Master of Phil. in 1998
2. Xiaosong Kang completed Master of Phil. in 2000
(continued PhD at UBC, now an associate Professor at Wuhan University)
3. Tso Man Kit completed Master of Phil. in 1999
4. Hwang Cheuk Man completed Master of Phil. in 2000
5. Ai Jun completed PhD in 2001
(now a Professor at Zhongshan University)
6. Chan Sit Kin completed Master of Phil. in 2002
7. Yeung Wai-Kong completed Master of Phil. in 2003
8. Chiu Ho Man completed Master of Phil. in 2005
9. Wang Yi completed Master of Phil. in 2005

(continuing PhD at Princeton Univ.;now postdoc at Stanford Univ.)

10. Yeung Sik Ming completed Master of Phil. in 2005

11. Yang Jun completed PhD in 2007

(now an associate Professor at Shenzhen University)

12. Wang Liping completed Ph.D in 2008; started 2005

(now an associate Professor at East China Normal University)

13. Tse Hung Wang completed Master of Phil. in 2009

(continue PhD at UBC)

14. Yao Wei Ph.D 2011; completed Master of Phil in 2008

(now postdoc at Univ. Chile)

15. Ao Weiwei PhD: 2012

(postdoc at National Taiwan Univ, 2012-2013; postdoc at UBC, 2014-2016)

16. Wen Yang PhD: 2015

(postdoc at National Taiwan Univ 2015-2017)

17. Hardy Chan, MSC, PhD: started in 2013

18. Duan Xiaoyu MSC, UBC: started in 2014

19. Zhou Yifu, PhD: started in Jan. 2017

20. Daniel Gomez, PhD: started in Sept. 2016 (co-supervising)

21. Masomeh Jamshid Nejad, Master: started in Jan. 2017

22. Thomas Yang, PhD: started in Sept. 2017 (co-supervising)

PDFs under Wei

1. Senping Luo, 2017-2019

2. Ali Hyder, 2017-2018

3. Justin Tzou, 2015-2017

4. Weiwei Ao, 2014-2016
5. Snajiban Santra, 2010-2012
6. Chunyi Zhao, 2009-2011
7. Oscar Agudeno, 2011-2013