CURRICULUM VITAE (Yihong Du, 2019)

1 Personal Information

- Name: **Yihong DU**
- Citizenship: **Australian**
- Date and Place of Birth: **Oct. 29, 1962, Shandong, China**.
- Webpage: **http://turing.une.edu.au/∼ydu**

2 Address and Contact Information

School of Science and Technology,
University of New England,
Armidale, NSW 2351, Australia

Phone: (02) 6773 3066 (Office) 0421659129 (Mobile)
Email: ydu@une.edu.au

3 Qualifications

- **PhD**, 1988, Shandong University, China
- **Master of Science**, 1985, Shandong University, China.
- **Bachelor of Science**, 1982, Shandong University, China.

4 Employment History

- Jan. 2008–Present: **Professor**, University of New England.
- Jan. 2004–Dec. 2007: **Associate Professor**, University of New England.
- Jan., 1999–Dec. 2003: **Senior Lecturer**, University of New England.
- Jan., 1993–Dec., 1998: **Lecturer**, University of New England.
- Aug., 1991–Dec., 1992: **Postdoctoral Fellow**, University of New England.
- Sep., 1990-Aug., 1991: **Visiting Fellow**, Heriot-Watt Univ., UK.
- Aug., 1988– Sep., 1990: **Lecturer**, Shandong University, China.

Visiting Positions:

- Oct-Nov, 2012: Long-term Visitor, IMA, University of Minnesota.
- Mar.-April, 2007: Visiting Professor, National Center for Theoretical Sciences, Taiwan.
- Jan. 2006: Exchange Fellow of the Australian Academy of Science and JSPS (Japan) Univ. of Tokyo, and Waseda University.
- Nov. 2002-Jan. 2003: Visiting Professor, National Center for Theoretical Sci, Taiwan.
- May-June, 1996: The Royal Society Exchange Fellow, Heriot-Watt Univ., UK.

5 Teaching and Mentoring

- Undergraduate units taught at the University of New England (UNE) during 1993-2018 ranges from first year service units to fourth year honours units and Masters of Scientific Studies units.
- Have supervised 5 Master's degree theses and 4 PhD theses to successful completition at UNE.
- Have mentored 4 postdoctoral fellows at UNE, and 12 long-term visitors (6-24 months) from China, Japan and South Korea. Currently mentoring 1 postdoctoral fellow and 3 long-term visitors and supervising 3 PhD students.

6 Academic and Research Leadership

- Member of the Australian Research Council's College of Experts during 2013-2017.
- Chair of Research Committee of the School of Science and Technology at UNE during 2007-2010.
- Member of Research Committee of the Falculty of Science at UNE during 2003-2007.
- Convinor of Mathematics at UNE during 2001-2005.
- Served on the Scientific/Organizing Committee for 9 national and international conferences (see details in the next section).
- Group leader of the "Mathematical Analysis and Modeling" research group at UNE since 2010.
- Publications have attracted 2806 citations from 899 different authors according to MathSciNet of the American Mathematical Society (4184 citations with h-index 37 according Google Scholar) as at Jan 31, 2018.

7 Professional Activities

Editorial Board and Committees:

- Associate Editor, "Journal of Mathematical Analysis and Applications", from 2013.
- Member of Editorial Board, "Discrete and Continuous Dynamical Systems-Series S", 2008-2013.
- Member of Australian Research Council's College of Experts, 2013-2017.
- Chair of Research Committee, School of Science and Technology, Univ. of New England, 2007-2010.
- Member of Scientific Committee, the 60th annual meeting of the Australian Mathematical Society, Dec. 2016, Canberra, Australia.
- Member of Scientific Committee, international conference on Nonlinear Phenomena in Biology, Physics and Mechanics, March 3-7, 2014, Helmholtz Zentrum München, Munich, Germany.

- Member of Scientific Committee, international conference on recent development of nonlinear PDEs, Nov., 2013, Australian National Univ., Canberra.
- Member of Scientific Committee, the 55th annual meeting of the Australian Mathematical Society, Sept, 2011, Wollongong, Australia.
- Member of Scientific Committee, the 2nd international conference on reaction-diffusion systems and viscosity solutions, July 13-18, 2009, Taichung, Taiwan.

Conference Organization:

- (With Daniel Hauer, Angela Pistoia) International Workshop "Recent Trends on Nonlinear PDEs of Elliptic and Parabolic Type", MATRIX program, Nov. 5-16, 2018, Creswick, Victoria, Australia.
- (With Nils Ackerman, Jaeyoung Byeon, Monica Musso) PRIMA Third Congress, Special session on "Nonlinear Elliptic PDE and Systems", Aug. 14-15, 2017, Oaxaca, Mexico.
- (With Ben Andrews, F. Cirstea, J. Grotowski and N.S. Trudinger) China-Australia PDE conference, May 1-5, 2017, Mission Beach, Australia.
- (With Zhaoli Liu, Xiyu Liu, Yansheng Liu, Baoqiang Yan) International Workshop on PDE and Nonlinear Analysis, April 21-24, 2017, Shandong Normal Univ., Jinan, China.
- (Co-chair of organizing committee) International conference on nonlinear partial differential equations–A celebration of Professor Norman Dancer's 70th birthday, Nov. 21-25, 2016, Armidale, Australia.
- (With Rui Peng and Lei Wei) Workshop on reaction-diffusion equations and applications, Sept. 23-25, 2016, Xuzhou, China.
- (With Dadielle Hilhorst) 9th European Conference on Elliptic and Parabolic Problems, Special session on "Qualitative properties of nonlinear elliptic and parabolic equations", May 23-27, 2016, Gaeta, Italy.
- (With Rui Peng, Junping Shi and Xiao-Qiang Zhao) Workshop on recent advances in reaction-diffusion equations and applications, May 21-24, 2015, Jiangsu Normal Univ, Xuzhou, China.
- (With Ben Andrews, Haizhong Li and James McCoy) Geometric Analysis and Nonlinear Partial Differential Equations, July 6-10, 2015, Tsinghua Sanya International Mathematics Forum, Sanya, China.
- (Chair of organizing committee) International conference on recent development of nonlinear PDEs, Nov. 25-29, 2013, Australian National Univ., Canberra.
- (Co-chair of organizing committee) International Conference on Variational Methods and Nonlinear Partial Differential Equations, April 16-19, 2012, Academy of Mathematics and Systems Science, the Chinese Academy of Sciences, Beijing.
- (With Ben Andrews) The 55th Australian Mathematical Society Annual Meeting, special session on Calculus of Variations and PDEs, Sept. 26-29, 2011, Wollongong, Australia.
- (With James McCoy) The 54th Australian Mathematical Society Annual Meeting, special session on Calculus of Variations and PDE, Sept. 27-30, 2010, Brisbane, Australia.

- (With Daniel Daners and Tom ter Elst) The 7th Australia-New Zealand Mathematics Convention, special session on PDE, December 8-12, 2008, Christchurch, New Zealand.
- (With E.N. Dancer, K. Mischaikow, P. Polacik and X.Q. Zhao) Recent Progress on Nonlinear Elliptic and Parabolic Problems and Related Abstract Methods, 7-12 October, 2007, Banff International Research Station, Canada.
- (With D. Daners, C. Radford and S. Yan) Recent Advances in Nonlinear Partial Differential Equations: A celebration of Norman Dancer's 60th birthday, 16-21 July, 2006, University of New England (Armidale), Australia.
- (With L. Liu and Z. Liu) International Conference on Nonlinear Partial Differential Equations, 11-16 July, 2005, Qufu Normal Univ., China.
- (With M.C. Hong and C. Radford) International Conference on Nonlinear Partial Differential Equations and Their Applications, 8-12 December, 2003, Univ. of New England, Armidale, Australia.

Assessment/Review Experiences:

- Assessed over 300 Australian ARC grant applications (covering Discovery, Future Fellowship and Linkage grants).
- Assessed 6 PhD theses from other Australian universities including the Univ of Sydney, Univ of Queensland, Curtin Univ of Sci and Tech.
- Assessed more than 10 nationally competitive grants from Chile, The Netherland and Taiwan.
- Served as overseas assessor for numerous national awards in mathematics for Taiwan.
- Regularly reviewing papers for international research journals, including Journal of the Amer. Math. Soc., Journal of the European Math. Soc., Archive for Rational Mech and Anal., Journal of Functional Anal.

8 Research grants

- Y. Du, Propagation via nonlinear partial differential equations, ARC discovery grant, 2019-2021, $464,000.
- S. Yan, E.N. Dancer, Y. Du and C.S. Lin, Nonlinear partial differential equations: bubbles, layers and stability, ARC discovery grant, 2017-2019. $345,000.
- Y. Du, Propagation described by partial differential equations with free boundary, ARC discovery grant, 2015-2018, $415,000.
- S. Yan, E.N. Dancer and Y. Du, Singularity, degeneracy and related problems in nonlinear partial differential equations, ARC discovery grant, 2013-2015, $300,000.
- Y. Du, Propagation and free boundary problems in nonlinear partial differential equations, ARC discovery grant, 2012-2014, $255,000.
- Y. Du, E.N. Dancer and S. Yan, Transitions and singular behavior in nonlinear partial differential equations, ARC discovery grant, 2010-2012, $306,000.

- Y. Du, E.N. Dancer and S. Yan, Sharp Transitions in Partial Differential Equations and Related Problems, ARC discovery grant, 2007-2009, $240,000.
- Y. Du and E.N. Dancer, Free Boundary Problems in Partial Differential Equations and Related Topics, Australian Research Council (ARC) discovery grant, 2003-2005, $158,000.

9 Honors and Awards

- Clarivate (Web of Science) Highly Cited Researcher, 2018.
- University Distinguished Speaker, University of Alabama in Huntsville, Jan. 2018.
- Member of Australian Research Council's College of Experts, 2013-2017.
- Vice-Chancellor's Award for Excellence in Research, Univ. of New England, 2007.
- Australian Academy of Science and JSPS (Japan) Exchange Fellow, 2006.
- Australian Academy of Science and Academia Sinica Exchange Fellow, 1999, 2002.
- Australian Academy of Science and the Royal Society Exchange Fellow, 1996.
- Sino-British Friendship Scholarship, 1990-91.
- First Prize for Best Undergraduate Research Article, Shandong Univ., 1981.

10 Selected Recent Conference Talks

- **Plenary talks**

  1. Dec. 12-15, 2017, The 61st Annual Meeting of the Australian Mathematical Society, Sydney.
  2. May 26-28, 2017, International Conference on Nonlinear Analysis, Kunming, China.
  3. July 18-20, 2016, The 8th Meeting of the Chinese BioMath Society, Yangzhou, China.
  4. May 26-29, 2016, International Conference on Reaction-Diffusion Equations and their Applications to the Life, Social and Physical Sciences, Beijing, China.
  5. May 23-27, 2016, The 9th European Conference on Elliptic and Parabolic Problems, Gaeta, Italy.
  6. June 1-5, 2015, International Conference on Asymptotic Problems: Elliptic and Parabolic Issues, Vilnius, Lithuania.
  7. Jan. 11-12, 2014, The 22nd Annual Workshop on Differential Equations, Hsinchu, Taiwan.
  8. July 14-16, 2013, International Conference on Nonlinear Analysis and the 18th National Conference on Nonlinear Functional Analysis, Harbin, China.

- **Invited talks**

  1. June 1-4, 2018, International Workshop on Nonlinear Partial Differential Equations and Applications in Geometry and Biology, Shaanxi Normal Univ., Xi'an, China.
  2. May 14-18, 2018, International Conference on Variational Methods, Chern Institute of Mathematics, Tianjin, China

3. May 21-23, 2018, Special Workshop on Nonlinear Analysis–Juliusz Schauder Medal Awarding Ceremony, Torun, Poland.
4. May 28-June 1, 2018, NCTS Workshop on Mathematical Biology, National Center for Theoretical Sciences, National Tsinghua Univ., Hsinchu, Taiwan.
5. Jan. 15-19, 2018, 2nd Italian-Chilean Workshop in PDE's, Rome, Italy.
6. July 24-28, 2017, Equadiff 2017, Bratislava, Slovakia.
7. June 3-5, 2017, International Workshop on Nonlinear Analysis and Reaction-Diffusion Equations, Zhenjiang, China.
8. March 7-10, 2017, International Conference on PDEs, Geometric Analysis and Functional Inequalities, Univ of Sydney.
9. June 27-July 1, 2016, The 7th Pacific RIM Conference on Mathematics, Seoul National Univ., Korea.
10. July 1-5, 2016, The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, Florida, USA.
11. Dec 14-18, 2015, The 6th Trilateral Meeting on Partial Differential Equations and Applications, Parma, Italy.
12. Aug 31-Sept 4, 2015, New Trends in Nonlinear Elliptic Equations, Banff International Research Station, Canada.
13. Aug 4-7, 2015, International Sympotium on Application of Nonlinear Partial Differential Equations in Life Science, Chern Institute of Mathematics, China
14. May 28, 2015, Arbeitsgemeinschaft Analysis: Closing workshop, Univ of Zurich.
15. Dec. 19-21, 2014, Workshop on Mathematical Biology and Nonlinear Analysis, Univ of Miami, Florida, USA.
16. Nov. 24-26, 2014, Workshop on Singularities Arising in Nonlinear Problems, Kansei Seminar House, Kyoto, Japan.
17. June 23-27, 2014, International Conference on Free Boundary Problems: Theory and Applications, Newton Institute, Cambridge, UK.
18. May 28-30, 2014, International Conference on Nonlinear Dynamics with Applications to Biology, National Center for Theoretical Sciences, Hsinchu, Taiwan.
19. May 24-28, 2014, International Symposium on Mathematical Biology, Guangzhou, China.
20. March 3-7, 2014, International Conference on Nonlinear Phenomena in Biology, Physics and Mechanics, Helmholz Center Munich, Germany.

11 Publications

Scholarly Books:

1. Y. Du, H. Ishii and W.Y. Lin (eds.) Recent Progress in Nonlinear Partial Differential Equations and Viscosity Solutions, *World Scientific Publishing*, 2009. (372 pages. ISBN: 981-283-473-7)

2. Y. Du, Order structure and topological methods in nonlinear partial differential equations. Vol. 1. Maximum principles and applications. Series in Partial Differential Equations and Applications, 2. World Scientific Publishing Co. Pte. Ltd., Hackensack, NJ, 2006. (x+190 pages. ISBN: 981-256-624-4)

Scholarly Book Chapters:

3. Y. Du and Messoud Efendiev, Existence and exact multiplicity for quasilinear elliptic equations in quarter-spaces, In: Gurevich P., Hell J., Sandstede B., Scheel A. (eds) "Patterns of Dynamics", pp. 128-137. Springer Proceedings in Mathematics & Statistics, vol 205. Springer, 2016.

4. Y. Du, Establishment or vanishing: fate of an invasive species based on mathematical models, in "The Balance of Nature and Human Impact", edited by Klaus Rohde, Cambradge Univ Press, 2013, pp 231-238.

5. Y. Du, Change of environment in model ecosystems: effect of a protection zone in diffusive population models, in "Recent Progress in Nonlinear Partial Differential Equations and Viscosity Solutions", Eds. Y. Du, H. Ishii and W.Y. Lin, World Scientific Publishing, 2009, pp 49-73.

6. Y. Du and J. Shi, Some recent results on diffusive predator-prey models in spatially heterogeneous environment, in "Nonlinear Dynamics and Evolution Equations", Eds. Hermann Brunner, Xiao-Qiang Zhao and Xingfu Zou, Fields Institute Communications Vol. 48, American Math. Soc., 2006, pp 95-135.

7. Y. Du, Bifurcation and related topics in elliptic problems, in "Handbook for Partial Differential Equations - Stationary Partial Differential Equations", Vol. 2, Eds. M. Chipot and P. Quittner, Elsevier, 2005, pp 127-209.

8. Y. Du, Boundary blow-up solutions and their applications, in "Topological Methods, Variational Methods, and Their Applications", Eds., H. Brezis, K.C. Chang, S. Li and P. Rabinowitz, World Scientific, 2003, pp. 89-97.

Refereed Journal Articles:

9. Weiwei Ding, Y. Du and Xing Liang, Spreading in space-time periodic media governed by a monostable equation with free boundaries, Part 2: Spreading speed, AIHP Analyse non Lineaire, to appear.

10. Y. Du and Chang-Hong Wu, Spreading with two speeds and mass segregation in a diffusive competition system with free boundaries, Cal. Var. PDEs, 57:52(2018), 36pages.

11. Wendi Bao, Y. Du, Zhigui Lin and Huaiping Zhu, Free boundary models for mosquito range movement driven by climate warming, J. Math. Biology, 76 (2018), 841-875.

12. Chengxia Lei, Hua Nie, Wei Dong and Y. Du, Spreading of two competing species governed by a free boundary model in a shifting environment, J. Math. Anal. Appl., 462(2018), 1254-1282.

13. Xuemei Zhang and Y. Du, Sharp conditions for the existence of boundary blow-up solutions to the Monge-Ampere equation, Cal. Var. PDEs, 57:30(2018), 24pages.

14. Weiwei Ding, Y. Du and Xing Liang, Spreading in space-time periodic media governed by a monostable equation with free boundaries, Part 1: Continuous initial functions, J. Diff. Eqns., 262(2017), 4988-5021.

15. Y. Du, Mingxin Wang and Maolin Zhou, Semi-wave and spreading speed for the diffusive competition model with a free boundary, J. Math. Pure Appl., 107(2017), 253-287.

16. L. Wei and Y. Du, Exact singular behavior of positive solutions to nonlinear elliptic equations with a Hardy potential, J. Diff. Eqns., 262(2017), 3864-3886.

17. Shangbing Ai, Y. Du and Rui Peng, Traveling waves for a generalized Holling-Tanner predator-prey model, J. Diff. Equations, 263(2017), 7782-7814.

18. C. Lei and Y. Du, Asymptotic profile of the solution to a free boundary problem arising in a shifting climate model, Discrete Cont. Dyn. Syst. B (special issue for Stephen Cantrell), 22(2017), 895-911.

19. Y. Du, Bendong Lou and Maolin Zhou, Spreading and vanishing for nonlinear Stefan problems in high space dimensions, J. Elliptic and Parabolic Equations, 2 (2016), 297-321.

20. Y. Du and Bendong Lou, Spreading and vanishing in nonlinear diffusion problems with free boundaries, J. Eur. Math. Soc., 17(2015), 2673-2724.

21. Y. Du, Hiroshi Matsuzawa and Maolin Zhou, Spreading speed and profile for nonlinear Stefan problems in high space dimensions, J. Math. Pures Appl., 103(2015), 741-787.

22. Y. Du and Xing Liang, Pulsating semi-waves in periodic media and spreading speed determined by a free boundary model, Ann. Inst. Henri Poincare Anal. Non Lineaire, 32(2015), 279-305.

23. Y. Du and Peter Polacik, Locally uniform convergence to an equilibrium for nonlinear parabolic equations on R^N, Indiana Univ. Math. J., 64(2015), 787-824.

24. Y. Du, Bendong Lou and Maolin Zhou, Nonlinear diffusion problems with free boundaries: Convergence, transition speed and zero number arguments, SIAM J. Math. Anal., 47(2015), 3555-3584.

25. Y. Du and L. Wei, Boundary behavior of positive solutions to nonlinear elliptic equations with Hardy potential, J. London Math. Soc., 91(2015), 731-749.

26. Y. Du and Zongming Guo, Finite Morse index solutions of weighted elliptic equations and the critical exponents, Calculus of Variations and PDEs, 54(2015), 3161-3181.

27. Y. Du, S.B. Hsu and Yuan Lou, Multiple steady-states in phytoplankton population induced by phytoinhibition, J. Diff. Eqns, 258(2015), 2408-2434.

28. P. Alvarez-Caudevilla, Y. Du and Rui Peng, Qualitative analysis of a cooperative reaction-diffusion system in spatiotemporally degenerate environment, SIAM J. Math. Anal., 46(2014), 499-531.

29. Y. Du, Zongming Guo and Kelei Wang, Monotonicity formula and epsilon-regularity of stable solutions to supercritical problems and applications to finite Morse index solutions, Calculus of Variations and PDEs, 50(2014), 615-638.

30. Y. Du and Zhigui Lin, The diffusive competition model with a free boundary: Invasion of a superior or inferior competitor, Discrete Cont. Dyn. Syst.-B, 19(2014), 3105-3132.

31. Y. Du, Hiroshi Matano and Kelei Wang, Regularity and asymptotic behavior of nonlinear Stefan problems, Arch. Rational Mech. Anal., 212(2014), 957-1010.

32. Y. Du, Hiroshi Matsuzawa and Maolin Zhou, Sharp estimate of the spreading speed determined by nonlinear free boundary problems, SIAM J. Math. Anal., 46(2014), 375-396.

33. Y. Du and R. Peng, Sharp spatiotemporal patterns in the diffusive time-periodic logistic equation, J. Diff. Eqns., 254 (2013), 3794-3816.

34. Y. Du and Z.M. Guo, Finite Morse index solutions and asymptotics of weighted nonlinear elliptic equations, Adv. Diff. Eqns., 18(2013), 737-768.

35. E.N. Dancer, Y. Du and M. Efendiev, Quasilinear elliptic equations on half- and quarter-spaces, Adv. Nonlinear Studies, 13 (2013), 115-136.

36. Y. Du, Zongming Guo and Rui Peng, A diffusive logistic model with a free boundary in time-periodic environment, J. Funct. Anal., 265 (2013), 2089-2142.

37. Y. Du, Spreading profile and nonlinear Stefan problems, Bull. Inst. Math. Academia Sinica (Special Issue for Neil Trudinger), 8(2013), 413-430.

38. Y. Du and Z.M. Guo, The Stefan problem for the Fisher-KPP equation, J. Diff. Eqns., 253(2012), 996-1035.

39. Y. Du and R. Peng, The periodic logistic equation with spatial and temporal degeneracies, Trans. Amer. Math. Soc., 364(2012), 6039-6070.

40. Y. Du and Li Ma, A Liouville theorem for conformal Gaussian curvature type equations in R^2, Calculus of Variations and PDEs, 43(2012), 485-505.

41. Y. Du, Rui Peng and Peter Polacik, The parabolic logistic equation with blow-up initial and boundary values, J. d'Analyse Math., 118 (2012), 297-316.

42. G. Bunting, Y. Du and K. Krakowski, Spreading speed revisited: Analysis of a free boundary model, Networks and Heterogeneous Media, 7 (2012), 583-603.

43. E.N. Dancer, Y. Du and Zongming Guo, Finite Morse index solutions of an elliptic equation with supercritical exponent, J. Diff. Eqns., 250(2011), 3281-3310.

44. Y. Du and Linfeng Mei, On a nonlocal reaction-diffusion-advection equation modeling phytoplankton, Nonlinearity, 24(2011), 319-349.

45. Y. Du and Zongming Guo, Spreading-vanishing dichotomy in the diffusive logistic model with a free boundary II, J. Diff. Eqns., 250(2011), 4336-4366.

46. F. Cirstea and Y. Du, Isolated singularities for weighted quasilinear elliptic equations, J. Functional Anal., 259(2010), 174-202.

47. Y. Du and Zhigui Lin, Spreading-vanishing dichotomy in the diffusive logistic model with a free boundary, SIAM J. Math. Anal., 42(2010), 377-405.

48. Y. Du and S.B. Hsu, On a nonlocal reaction-diffusion problem arising from the modeling of phytoplankton growth, SIAM J. Math. Anal., 42(2010), 1305-1333.

49. Y. Du and Hiroshi Matano, Convergence and sharp thresholds for propagation in nonlinear diffusion problems, J. European Math. Soc., 12(2010), 279-312.

50. Y. Du, Rui Peng and Mingxin Wang, Effect of a protection zone in the diffusive Leslie predator-prey model, J. Diff. Eqns., 246(2009), 3932-3956.

51. Y. Du and Yoshio Yamada, On the long-time limit of positive solutions to the degenerate logistic equation, Discrete and Continuous Dynamical Systems A, 25(2009), 123-132.

52. Y. Du and Z.M. Guo, Positive solutions of an elliptic equation with negative exponent: stability and critical power, J. Diff. Eqns., 246(2009), 2387-2414.

53. Y. Du and S.-B. Hsu, Concentration phenomena in a nonlocal quasiliear problem modelling phytoplankton I: Existence, SIAM J. Math. Anal. 40(2008), 1419-1440.

54. Y. Du and S.-B. Hsu, Concentration phenomena in a nonlocal quasiliear problem modelling phytoplankton II: Limiting profile, SIAM J. Math. Anal. 40(2008), 1441-1470.

55. Y. Du, P.Y.H. Pang and M. Wang, Qualitative analysis of a predator-prey model with stage structure for the predator, SIAM J. Appl. Math., 69(2008), 596-620.

56. Y. Du, Zhaoli Liu, Angela Pistoia and Shusen Yan, Sign changing solutions with clustered layers near the origin for singularly perturbed semilinear elliptic problems on a ball, Methods and Applications of Analysis, 15(2008), 137-148.

57. Y. Du and Xing Liang, A diffusive competition model with a protection zone, J. Diff. Eqns., 244(2008), 61-86.

58. Y. Du, The heterogeneous Allen-Cahn equation in a ball: solutions with layers and spikes, J. Diff. Eqns., 244(2008), 117-169.

59. F. Cirstea and Y. Du, Asymptotic behavior of solutions of semilinear elliptic equations near an isolated singularity, J. Functional Anal., 250(2007),317-346.

60. Y. Du and Kimie Nakashima, Morse index of layered solutions to the heterogeneous Allen-Cahn equation, J. Diff. Eqns., 238(2007), 87-117.

61. Y. Du and Junping Shi, Allee effect and bistability in a spatially heterogeneous predator-prey model, Trans. Amer. Math. Soc., 359(2007), 4557-4593.

62. F. Cirstea and Y. Du, Large solutions of elliptic equations with a weakly superlinear nonlinearity, J. d'Analyse Math., 103(2007), 261-277.

63. Y. Du, Z.M. Guo and F. Zhou, Boundary blow-up solutions with interior layers and spikes in a bistable problem, Discrete and Continuous Dynamical Systems, 19(2007), 271-298.

64. Y. Du and Junping Shi, A diffusive predator-prey model with a protection zone, J. Diff. Eqns., 229(2006), 63-91.

65. Y. Du and Lishan Liu, Remarks on the uniqueness problem of the logistic equation on the entire space, Bull. Australian Math. Soc., 73(2006), 129-137.

66. Y. Du and Z-M. Guo, The degenerate logistic model and a singularly mixed boundary blow-up problem, Discrete and Continuous Dynamical Systems, 14(2006),1-29.

67. Y. Du and M.X. Wang, Asymptotic behavior of positive steady-states to a predator-prey model, Proc. Roy. Soc. Edinburgh, 136A(2006), 759-778.

68. Y. Du and Z-M. Guo, The degenerate logistic model and a singularly mixed boundary blow-up problem, Discrete and Continuous Dynamical Systems, 14(2006), 1-29.

69. E.N. Dancer and Y. Du, A uniqueness theorem for a free boundary problem, Proc. Amer. Math. Soc., 134(2006), 3223-3230.

70. Y. Du and Z.M. Guo, Boundary layer and spike layer solutions for a bistable elliptic problem with generalized boundary conditions, J. Diff. Eqns., 221(2006), 102-133.

71. F. Cirstea and Y. Du, General uniqueness results and variation speed for blow-up solutions of elliptic equations, Proc. London Math. Soc., 91(2005), 459-482.

72. Y. Du and S.J. Li, Nonlinear Liouville theorems and a priori estimates for indefinite superlinear elliptic equations, Adv. Diff. Eqns., 10(2005), 841-860.

73. Y. Du and X.B. Pan, Multiple states and hysteresis for type I superconductors, J. Math. Physics, 46(2005), 073301(34pp).

74. Y. Du, Multiplicity of positive solutions for an indefinite superlinear elliptic problem in R^N, Ann. Inst. Henri Poincare Anal. Non Lineaire, 21(2004), 657-672.

75. Y. Du and S.B. Hsu, A diffusive predator-prey model in heterogeneous environment, J. Diff. Eqns., 203(2004), 331-364.

76. Y. Du and Z.M. Guo, Symmetry for elliptic equations in a half space without strong maximum principle, Proc. Roy. Soc. Edinburgh, 134A(2004), 259-269.

77. Y. Du, Spatial patterns for population models in a heterogeneous environment, (survey article), Taiwanese J. Math., 8(2004), 155-182.

78. Y. Du and Z.M. Guo, Uniqueness and layer analysis for boundary blow-up solutions, J. Math. Pures Appl., 83(2004), 739-763.

79. Y. Du and S. Yan, Boundary blow-up solutions with a spike layer, J. Diff. Eqns., 205(2004), 156-184.

80. Y. Du, Asymptotic behavior and uniqueness results for boundary blow-up solutions, Diff. Integral Eqns., 17(2004), 819-834.

81. Y. Du and Y. Guo, Mountain pass solutions and an indefinite superlinear elliptic problem on R^N, Topological Methods in Nonl. Anal., 22(2003), 69-92.

82. Y. Du, Realization of prescribed patterns in the competition model, J. Diff. Eqns., 193(2003), 147-179.

83. Y. Du and W. Dong, Unbounded principal eigenfunctions and the logistic equation on R^N, Bull. Australian Math. Soc., 67(2003), 413-427.

84. E.N. Dancer and Y. Du, On a free boundary problem arising from population biology, Indiana Univ. Math. J., 52 (2003), 51-68.

85. E.N. Dancer, Y. Du and L. Ma, Asymptotic behaviour of positive solutions of some elliptic problems, Pacific J. Math., 210(2003), 215-228.

86. Y. Du and L. Ma, Some remarks related to De Giorgi's conjecture, Proc. Amer Math Soc., 131(2003), 2415-2422.

87. Y. Du and Z.M. Guo, Boundary blow-up solutions and their applications in quasilinear elliptic problems, J. d'Analyse Math., 89(2003), 277-302.

88. E.N. Dancer and Y. Du, Some remarks on Liouville type results for quasilinear elliptic equations, Proc. Amer. Math. Soc.,131 (2003), 1891-1899.

89. Y. Du, Effects of a degeneracy in the competition model, part I: classical and generalized steady-state solutions, J. Diff. Eqns., 181(2002), 92-132.

90. Y. Du, Effects of a degeneracy in the competition model, part II: perturbation and dynamical behaviour, J. Diff. Eqns., 181(2002), 133-164.

91. Y. Du and Shujie Li, Positive solutions with prescribed patterns in some simple semilinear equations, Diff. Integral Eqns. 15(2002), 805-822.

92. Y. Du, Bifurcation from infinity in a class of nonlocal elliptic problems, Diff. Integral Eqns., 15(2002), 587-606.

93. Y. Du and Li Ma, Positive solutions of an elliptic partial differential equation on R^N, J. Math. Anal. Appl., 271(2002), 409-425.

94. E.N. Dancer and Y. Du, Effects of certain degeneracies in the predator-prey model, SIAM J Math. Anal., 34(2002), 292-314.

95. Y. Du and Z.M. Guo, Liouville type results and eventual flatness of positive solutions for p-Laplacian equations, Adv. Diff. Eqns., 7(2002), 1479-1512.

96. Y. Du and T. Ouyang, Bifurcation from infinity induced by a degeneracy in semilinear equations, Advanced Nonlinear Studies, 2(2002), 117-132.

97. Y. Du and Y. Lou, Proof of a conjecture for the perturbed Gelfand equation from combustion theory, J. Diff. Eqns. 173(2001), 213-230.

98. Y. Du and Li Ma, Logistic type equations on R^N by a squeezing method involving boundary blow-up solutions, J. London Math Soc., 64(2001), 107-124.

99. Y. Du and Yuan Lou, Qualitative behaviour of positive solutions of a predator-prey model: effects of saturation, Proc. Royal Soc. Edinburgh, 131A(2001), 321-349.

100. Y. Du, Exact multiplicity and S-shaped bifurcation curve for some semilinear elliptic problems from combustion theory, SIAM J. Math. Anal., 32(2000), 707-733.

101. Y. Du, On Dancer's fixed point index formulas, Diff. Integral Eqns., 13(2000), 145-158.

102. Y. Du, A degree theoretic approach to N-species periodic competition systems on the whole R^n, Proc. Roy. Soc. Edinburgh, 129A(1999), 295-318.

103. Y. Du and Q. Huang, Blow-up solutions for a class of semilinear elliptic and parabolic equations, SIAM J. Math. Anal., 31(1999), 1-18.

104. Y. Du and Y. Lou, S-shaped global bifurcation curve and Hopf bifurcation of positive solutions to a predator-prey model, J. Diff. Eqns., 144(1998), 390-440.

105. Y. Du and Y. Lou, Some uniqueness and exact multiplicity results for a predator-prey model, Trans. Amer. Math. Soc., 349(1997), 2443-2475.

106. E.N. Dancer and Y. Du, A note on multiple solutions of some semilinear elliptic problems, J. Math. Anal. Appl., 211(1997), 626-640.

107. Y. Du, Uniqueness, multiplicity and stability for positive solutions of a pair of reaction-diffusion equations, Proc. Roy. Soc. Edinburgh, 126A(1996), 777-809.

108. Y.Du, Positive periodic solutions of a competitor-competitor-mutualist model, Diff. Int. Eqns., 9(1996), 1043-1066.

109. Y. Du, Bifurcation from semitrivial solution bundles and applications to certain equation systems, Nonlinear Analysis, 27(1996), 1407-1435.

110. E.N. Dancer and Y. Du, The generalized Conley index and multiple solutions of semilinear elliptic problems, Abstract and Applied Analysis, 1(1996), 103-135.

111. E.N. Dancer and Y. Du, Positive solutions for a three species competition system with diffusion, Part I, General existence results, Nonlinear Anal., TMA., 24(1995), 337-357.

112. E.N. Dancer and Y. Du, Positive solutions for a three species competition system with diffusion, Part II, The case of equal birth rates, Nonlinear Anal., TMA., 24(1995), 359-373.

113. Y. Du, Uniqueness results for the gap equation in the theory of supperconductivity, Diff. and Integral Eqns., 8(1995), 309-324.

114. E.N. Dancer and Y. Du, Multiple solutions of some semilinear elliptic equations via the generalized Conley index, J. Math. Anal. Appl., 189(1995), 848-871.

115. E.N. Dancer and Y. Du, On sign-changing solutions of certain semilinear elliptic problems, Appl. Anal., 56(1995), 193-206.

116. Y. Du and K.J. Brown, Bifurcation and monotonicity in competition reaction-diffusion systems, Nonlinear Anal., TMA. 23(1994), 1-13.

117. E.N. Dancer and Y. Du, Competing species equations with diffusion, large interactions and jumping nonlinearities, J. Diff. Eqns., 114(1994), 434-475.

118. E.N. Dancer and Y. Du, Existence of changing sign solutions for some semilinear problems with jumping nonlinearities at zero, Proc. Roy. Soc. Edinburgh, 124A(1994), 1165-1176.

119. Y. Du, Critical point theorems with relaxed boundary condition and applications, Bull. Austr. math. Soc., 47(1993), 108-118.

120. Y. Du, The structure of the solution set of a class of nonlinear eigenvalue problems, J. Math. Anal. Appl., 170(1992), 567-580.

121. Y. Du, Nontrivial solutions of super-linear Sturm-Liouville problems, Acta Math. Sinica, 35(1992), 721-728.

122. Y. Du, A deformation lemma and some critical point theorems, Bull. Aust. Math. Soc., 43(1991), 161-168.

123. Y. Du, On the global structure of the positive solution set of a nonlinear operator, Acta Math. Sinica, 33(1990), 445-455.

124. Y. Du, Fixed points of increasing operators in ordered Banach spaces and applications, Appl. Anal., 38(1990), 1-20.

125. Y. Du, Nonzero solutions and eigenvectors of nonlinear equations, Acta Math. Sinica, 32(1989), 76-85.

126. Y. Du, Fixed points of a class of non-compact operators and applications, Acta Math. Sinica, 32(1989), 618-627.

127. Y. Du, Multiple solutions of eigenvalue problems with increasing operators, Acta Math. Sinica, 31(1988), 21-28.

128. Y. Du, A note on a theorem of H. Amann, Chinese Science Bull., 31(1986), 636.