CURRICULUM VITAE

DR Renjun DUAN

PERSONAL INFORMATION

Date of Birth:	October 17, 1979
Nationality:	China
Position:	Assistant Professor
Office:	Room 206, Lady Shaw Building
Address:	Department of Mathematics
	The Chinese University of Hong Kong
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EDUCATIONS

– Aug. 2008: Doctor of Philosophy, City University of Hong Kong, Hong Kong
Thesis title: Some Mathematical Theories on the Gas Motion Under the Influence of External Forcing (Advisor: Prof Tong Yang)

– Jun. 2005: Master of Science, Central China Normal University, China
Thesis title: Global Existence to Boltzmann Equation with External Force in Infinite Vacuum (Advisor: Prof Changjiang Zhu)

– Jun. 2002: Bachelor of Science, Central China Normal University, China

PROFESSIONAL POSITIONS

– Assistant Professor, The Chinese University of Hong Kong, Aug. 2 2012 to present

– Research Assistant Professor, The Chinese University of Hong Kong, Aug. 2 2010 to Aug. 1 2012

– Research Scientist (a postdoc position, Mentors: Prof Peter Markowich and Prof Massimo Fornasier), Johann Radon Institute for Computational and Applied Mathematics (RICAM), Austrian Academy of Sciences, Linz, Austria, Oct. 1 2008 to Jul. 31 2010

RESEARCH GRANTS

– Jan. 2018 – Dec. 2020: General Research Fund from RGC in Hong Kong (PI, Project no. 14302817), HK$708,430. Title: Global solutions of the Boltzmann equation with large-amplitude data.

– Jan. 2017 – Dec. 2019: General Research Fund from RGC in Hong Kong (PI, Project no. 14302716), HK$662,628. Title: On the Cauchy problem of Boltzmann equations in Besov spaces.

– Jan. 2016 – Dec. 2018: General Research Fund from RGC in Hong Kong (PI, Project no. 14301515), HK$870,612. Title: Stability of non-trivial profiles for the Boltzmann equation with self-consistent forces.

– Jan. 2014 – Dec. 2016: General Research Fund from RGC in Hong Kong (PI, Project no.: 409913), HK$710,223. Title: Well-posedness for the Boltzmann equation with dynamic screening.

– Jan. 2013 – Dec. 2015: General Research Fund from RGC in Hong Kong (PI, Project no.: 400912), HK$700,000. Title: Decay structure and stability of conservation laws with dissipation.

– Jul. 2011 – Jun. 2014: General Research Fund from RGC in Hong Kong (PI, Project no.: 400511), HK$483,000. Title: Asymptotic stability for general potentials in collisional kinetic theory.

HONORS AND AWARDS

– Zhong Jiaqing Mathematics Award, Chinese Mathematical Society (CMS), Nov. 2007

RESEARCH INTERESTS

Mathematical analysis of PDEs arising from kinetic and fluid dynamic equations. Main research topics include: Perturbation theory, rate of convergence, dissipative structure, Green's function, spectral analysis, hydrodynamic limit, boundary layers, wave patterns, and time-periodic solution.

PUBLICATIONS

Research papers accepted and published

1. With Xie Li and Zhaoyin Xiang: Global existence and large time behavior for a two-dimensional chemotaxis-Navier-Stokes system, accepted for publication in **Journal of Differential Equations** (2017), http://dx.doi.org/10.1016/j.jde.2017.07.015.

2. With Yoshihiro Ueda and Shuichi Kawashima: Decay structure of two hyperbolic relaxation models with regularity-loss, **Kyoto Journal of Mathematics**, 57 (2017), no. 2, 235–292.

3. With Hongjun Yu: The relativistic Boltzmann equation for soft potentials, **Advances in Mathematics**, 312 (2017), 315–373.

4. With Feimin Huang, Yong Wang and Tong Yang: Global well-posedness of the Boltzmann equation with large amplitude initial data, **Archive for Rational Mechanics and Analysis**, 225 (2017), no. 1, 375–424.

5. With Yuanjie Lei, Tong Yang, and Hui-Jiang Zhao: The Vlasov-Maxwell-Boltzmann system near Maxwellians in the whole space with very soft potentials, **Communications in Mathematical Physics**, 351 (2017), no. 1, 95–153.

6. With Yong Wang and Tong Yang: Global existence for the ellipsoidal BGK model with initial large oscillations (in Chinese), **Sci Sin Math**, 47 (2017), 1–12, doi: 10.1360/N012016-00150.

7. Large-time behavior for fluid and kinetic plasmas with collisions, **Bulletin of the Brazilian Mathematical Society. New Series.** 47 (2016), no. 1, 307–321.

8. With Shuangqian Liu and Jiang Xu: Global well-posedness in spatially critical Besov space for the Boltzmann equation, **Archive for Rational Mechanics and Analysis**, 220 (2016), no. 2, 711–745.

9. With Shuangqian Liu, Haiyan Yin and Changjiang Zhu: Stability of the rarefaction wave for a two-fluid plasma model with diffusion, **SCIENCE CHINA Mathematics**, 59 (2016), no. 1, 67–84.

10. With Shuangqian Liu: Stability of the rarefaction wave of the Vlasov-Poisson-Boltzmann system, **SIAM Journal on Mathematical Analysis**, 47 (2015), no. 5, 3585–3647.

11. With Qingqing Liu and Changjiang Zhu: Darcy's law and diffusion for a two-fluid Euler-Maxwell system with dissipation, **Mathematical Models and Methods in Applied Sciences**, 25 (2015), 2089–2151.

12. With Shuangqian Liu: Time-periodic solutions of the Vlasov-Poisson-Fokker-Planck system, **Acta Mathematica Scientia**, 35B(4) (2015), 876–886.

13. With Shuangqian Liu: Stability of rarefaction waves of the Navier-Stokes-Poisson system, **J. Differential Equations**, 258 (2015), no. 7, 2495–2530.

14. With Zhaoyin Xiang: On the Cauchy problem for the two-component Euler-Poincaré equations, **Journal of Functional Analysis**, (267) (2014), no. 8, 2698–2730.

15. Global smooth dynamics of a fully ionized plasma with long-range collisions, **Annales de l'Institut Henri Poincare -Analyse non lineaire**, (31) (2014), no. 4, 751–778.

16. With Shuangqian Liu: Cauchy problem on the Vlasov-Fokker-Planck equation coupled with the compressible Euler equations through the friction force, **Kinetic and Related Models**, 6 (2013), no. 4, 687–700.

17. With Shuangqian Liu: The Vlasov-Poisson-Boltzmann system without angular cutoff, **Communications in Mathematical Physics**, 324 (2013), no. 1, 1–45.

18. With Tong Yang and Hui-Jiang Zhao: The Vlasov-Poisson-Boltzmann system for soft potentials, **Mathematical Models and Methods in Applied Sciences**, 23 (2013), no. 6, 979–1028.

19. With Shuangqian Liu, Tong Yang and Hui-Jiang Zhao: Stability of the nonrelativistic Vlasov-Maxwell-Boltzmann system for angular non-cutoff potentials, **Kinetic and Related Models**, 6 (2013), no. 1, 159–204.

20. With Xiongfeng Yang: Stability of rarefaction wave and boundary layer for outflow problem on the two-fluid Navier-Stokes-Poisson equations, **Communications on Pure and Applied Analysis**, 12 (2013), no. 2, 985–1014.

21. With Zhaoyin Xiang: A note on global existence for the chemotaxis-Stokes model with nonlinear diffusion, **International Mathematics Research Notices** (2012). doi: 10.1093/imrn/rns270

22. With Wei-Xi Li: Hypocoercivity for the linear Boltzmann equation with confining forces, **Journal of Statistical Physics**, 148 (2012), no. 2, 306–324.

23. With Yoshihiro Ueda and Shuichi Kawashima: Decay structure for symmetric hyperbolic systems with non-symmetric relaxation and its application, **Archive for Rational Mechanics and Analysis**, 205 (2012), no. 1, 239–266.

24. With Lizhi Ruan and Changjiang Zhu: Optimal decay rates to conservation laws with diffusion-type terms of regularity-gain and regularity-loss, **Mathematical Models and Methods in Applied Sciences**, 22 (2012), no. 7, 1250012 (39 pages).

25. With Tong Yang and Hui-Jiang Zhao: The Vlasov-Poisson-Boltzmann system in the whole space: the hard potential case, **Journal of Differential Equations**, 252 (2012), no. 12, 6356–6386.

26. Green's function and large time behavior of the Navier-Stokes-Maxwell system, **Analysis and Applications**, 10 (2012), no. 2, 133–197.

27. With Qingqing Liu and Changjiang Zhu: The Cauchy problem on the compressible two-fluids Euler-Maxwell equations, **SIAM Journal on Mathematical Analysis**, 44 (2012), no. 1, 102–133.

28. Dissipative property of the Vlasov-Maxwell-Boltzmann system with a uniform ionic background, **SIAM Journal on Mathematical Analysis**, 43 (2011), no. 6, 2732–2757.

29. With Robert M. Strain: Optimal large-time behavior of the Vlasov-Maxwell-Boltzmann system in the whole space, **Communications on Pure and Applied Mathematics**, 64 (2011), no. 11, 1497–1546.

30. Hypocoercivity of the linearized dissipative kinetic equations, **Nonlinearity**, 24 (2011), no. 8, 2165–2189.

31. Global smooth flows for the compressible Euler-Maxwell system: Relaxation case, **Journal of Hyperbolic Differential Equations**, 8 (2011), no. 2, 375–413.

32. With José A. Carrillo and Ayman Moussa: Global classical solutions close to equilibrium to the Vlasov-Euler-Fokker-Planck system, **Kinetic and Related Models**, 4 (2011), no. 1, 227–258.

33. With Robert M. Strain: Optimal time decay of the Vlasov-Poisson-Boltzmann system in $\mathbb{R}^3$, **Archive for Rational Mechanics and Analysis**, 199 (2011), no. 1, 291–328.

34. With Alexander Lorz and Peter Markowich: Global solutions to the coupled chemotaxis-fluid equations, **Communications in Partial Differential Equations**, 35 (2010), no. 9, 1635–1673.

35. With Massimo Fornasier and Giuseppe Toscani: A kinetic flocking model with diffusions, **Communications in Mathematical Physics**, 300 (2010), no. 1, 95–145.

36. With Klemens Fellner and Changjiang Zhu: Energy method for multi-dimensional balance laws with non-local dissipation, **Journal Mathematiques Pures Appliquees**, 93 (2010), no. 6, 572–598.

37. With Tong Yang: Stability of the one-species Vlasov-Poisson-Boltzmann system, **SIAM Journal on Mathematical Analysis**, 41 (2010), no. 6, 2353–2387.

38. Stability of the Boltzmann equation with potential forces on torus, **Physica D: Nonlinear Phenomena**, 238 (2009), 1808–1820.

39. With Hongfang Ma: Global existence and convergence rates for the 3-D compressible Navier-Stokes equations without heat conductivity, **Indiana University Mathematics Journal**, 57 (2008), no. 5, 2299–2320.

40. With Meng-Rong Li and Tong Yang: Propagation of singularities in the solutions to the Boltzmann equation near equilibrium, **Mathematical Models and Methods in Applied Sciences**, 18 (2008), no. 7, 1093–1114.

41. On the Cauchy problem for the Boltzmann equation in the whole space: Global existence and uniform stability in $L^2_x(H^N_x)$, **Journal of Differential Equations**, 244 (2008), no. 12, 3204–3234.

42. With Seiji Ukai, Tong Yang and Huijiang Zhao: Optimal decay estimates on the linearized Boltzmann equation with time-dependent forces and their applications, **Communications in Mathematical Physics**, 277 (2008), no. 1, 189–236.

43. With Hongxia Liu, Seiji Ukai and Tong Yang: Optimal L^p-L^q Convergence rates for the Navier-Stokes equations with potential force, **Journal of Differential Equations**, 238 (2007), no. 1, 220–233.

44. With Seiji Ukai, Tong Yang and Huijiang Zhao: Optimal convergence rates for the compressible Navier-Stokes equations with potential forces, **Mathematical Models and Methods in Applied Sciences**, 17 (2007), No. 5, 737–758.

45. With Saipan Lin and Changjiang Zhu: Optimal $L^p(1 \leq p \leq \infty)$ rates of decay to linear diffusion waves for nonlinear evolution equations with ellipticity and dissipation, **Nonlinear Analysis: Theory, Methods** & **Applications**, 66 (2007), no. 11, 2335–2344.

46. With Tong Yang and Changjiang Zhu: Navier-Stokes equations with degenerate viscosity, vacuum and gravitational force, **Mathematical Methods in the Applied Sciences**, 30 (2007), no. 3, 347–374.

47. With Tong Yang and Changjiang Zhu: Existence of stationary solutions to the Vlasov-Poisson-Boltzmann system, **Journal of Mathematical Analysis and Applications**, 327 (2007), no. 1, 425–434.

48. With Shaoqiang Tang and Changjiang Zhu: Asymptotics in nonlinear evolution system with dissipation and ellipticity on quadrant, **Journal of Mathematical Analysis and Applications**, 323 (2006), no. 2, 1152–1170.

49. With Mei Zhang and Changjiang Zhu: L^1 stability for the Vlasov-Poisson-Boltzmann system around vacuum, **Mathematical Models and Methods in Applied Sciences**, 16 (2006), No. 9, 1505–1526.

50. With Tong Yang and Changjiang Zhu: L^1 and BV-type stability of the Botlzmann equation with external forces, **Journal of Differential Equations**, 227 (2006), no. 1, 1–28.

51. With Tong Yang and Changjiang Zhu: Boltzmann equation with external force and Vlasov-Poisson-Boltzmann system in infinite vacuum, **Discrete and Continuous Dynamical Systems**, 16 (2006), no. 1, 253–277.

52. With Tong Yang and Changjiang Zhu: Global existence to Boltzmann equation with external force in infinite vacuum, **Journal of Mathematical Physics**, 46 (2005), 053307, 13pp.

53. With Changjiang Zhu: Asymptotics of dissipative nonlinear evolution equations with ellipticity: different end states, **Journal of Mathematical Analysis and Applications**, 303 (2005), no. 1, 15–35.

54. With Changjiang Zhu: A note on semiconcave function, **Applicable Analysis**, 82 (2003), no. 9, 889–894.

55. With Changjiang Zhu: Existence and uniqueness of entropy solution to initial boundary value problem for the inviscid Burgers equation, **Journal of Physics. A.**, 36 (2003), no. 8, 2099–2107.

Conference papers and short surveys

56. With Shuichi Kawashima and Yoshihiro Ueda: Dissipative structure of the coupled kinetic-fluid models. Nonlinear dynamics in partial differential equations, 327–335, **Adv. Stud. Pure Math.**, 64, Math. Soc. Japan, Tokyo, 2015.

57. With Shuichi Kawashima and Yoshihiro Ueda: Large time behavior of solutions to symmetric hyperbolic systems with non-symmetric relaxation. Nonlinear dynamics in partial differential equations, 295–302, **Adv. Stud. Pure Math.**, 64, Math. Soc. Japan, Tokyo, 2015.

58. Asymptotic stability of kinetic plasmas for general collision potentials, **Hyperbolic Problems: Theory, Numerics, Applications**, F. Ancona, A. Bressan, P. Marcati and A. Marson (Editors), AIMS on Applied Mathematics **8** (2014), 533–540.

59. With Robert M. Strain: On the full dissipative property of the Vlasov-Poisson-Boltzmann system, Hyperbolic Problems: Theory, Numerics and Applications, **Series in Contemporary Applied Mathematics CAM** 18 (2012), no. 2, 398–405.

60. With Seiji Ukai and Tong Yang: A combination of energy method and spectral analysis for studies on systems for gas motions, **Frontiers of Mathematics in China**, 4 (2009), No. 2, 253–282.

61. The Boltzmann equation near equilibrium states in $\mathbb{R}^n$, **Methods and Applications of Analysis**, 14 (2007), No. 3, 227–250.

Unpublished papers

62. With Tong Yang and Hui-Jiang Zhao: Global solutions to the Vlasov-Poisson-Landau system, 2011, arXiv:1112.3261.

63. With Seiji Ukai, Tong Yang and Hui-Jiang Zhao: Optimal Convergence Rates to the Stationary Solutions for the Boltzmann Equation with Potential Force, 2006,

ACADEMIC VISITS

- AMSS, CAS, China (Aug. 21-25, 2017)
- Department of Mathematics, Imperial College London, United Kingdom (Apr. 30 to May 14, 2017)
- Department of Aeronautics and Astronautics, Graduate School of Engineering, Kyoto University, Japan (Dec. 25-31, 2016)
- University Paris Diderot (Paris 7), lab. IMJ-PRG, France (Dec. 12-18, 2016)
- Faculty of Mathematics, Kyushu University, Japan (May 31 to Jun. 4, 2016)
- Institute of Applied Mathematics, Academy of Mathematics and Systems Science, China (Jun. 8-19, 2016)
- Department of Mathematics, Imperial College London, United Kingdom (Dec. 1-26, 2015)
- Vienna University of Technology, Institute for Analysis and Scientific Computing, Austria (Jun. 13-30, 2015)
- Faculty of Mathematics, Kyushu University, Japan (Dec. 16-23, 2013)
- Department of Mathematics, Pohang University of Science and Technology, Korea (May 27 – June 9, 2013)
- Graduate School of Human and Environmental Studies, Kyoto University, Japan (Aug. 28-31 2012)

– Department of Mathematics, Universitat Autònoma de Barcelona, Spain (Oct. 19-24 2009, Apr. 26-30 2010)

– Department of Mathematics, University of Pavia, Italy (May 24-30 2009)

– Department of Applied Mathematics and Theoretical Physics, Centre for Mathematical Sciences, University of Cambridge, UK (Nov. 3-10 2008, Oct. 26 – Nov. 22 2009, Feb. 10-15 2010)

– Laboraoire de Mathématiques Raphaël Salem, UMR 6085 CNRS-Université de Rouen, France (Feb. 4-8 2008)

– Institut de Recherche de l'Ecole navale, French Naval Academy, France (Jan. 7 – Feb. 3 2008)

– Department of Mathematics, National Taiwan University, Taiwan (Jun. 15 – Jul. 15 2007)

PRESENTATIONS

Invited talks in conferences and workshops

1. International Conference on Nonlinear Analysis: Kinetic Theory, Gas Dynamics, and Related Fields, Oct. 28-30, 2017, Institute of Mathematics, Academia Sinica, Taipei, Taiwan. *(Scheduled)*

2. Workshop on Hypocoercivity and Sensitivity Analysis in Kinetic Equations and Uncertainty Quantification, Oct. 2-6, 2017, University of Wisconsin-Madison, USA. *(Scheduled)*

3. TIANFU International Conference on Partial Differential Equations, Jun. 16-18, 2017, Southwestern University of Finance and Economics, Chengdu, China.

4. Mini-Workshop on PDEs and Its Applications, Sichuan University, June 18-19, 2017, China.

5. Workshop on Kinetic Models: Theory, Numerics and Analysis, Capital Normal University, May 27-29, 2017, Beijing, China.

6. The Annual General Meeting 2017, Hong Kong Mathematical Society, May 20, 2017, HKUST, Hong Kong.

7. The 4th Youth Academic Forum on PDEs, Mar. 10-12, 2017, South China University of Technology, Guangzhou, China.

8. Conference on Applied Analysis, Feb. 24-25, 2017, Jinan University, Guangzhou, China.

9. 2016 Young Researchers Workshop on Nonlinear PDEs Arising in Fluid Dynamics and Related Fields, Dec. 2-4, 2016, South China University of Technology, China.

10. IMS PDE workshop, July 15-16, 2016, The Chinese University of Hong Kong.

11. NSFC-RGC Young Scholar Forum, Southern University of Science and Technology, July 7-8, 2016, Shenzhen, China.

12. The 7th Pacific RIM Conference on Mathematics 2016, Session on Kinetic and related models, June 27 - July 1, 2016, Seoul National University, Korea.

13. Workshop on the Boltzmann Equation, Microlocal Analysis and Related Topics, May 27-29, 2016, Kyoto University, Kyoto, Japan.

14. Workshop on PDEs, April 26-27, 2016, Nanjing University of Aeronautics and Astronautics, Nanjing, China.

15. Workshop on Nonlinear PDEs, January 11, 2016, City University of Hong Kong, Hong Kong.

16. The Workshop on Partial Differential Equations and Applications, October 8-10, 2015, Jinan University, Guangzhou, China.

17. Workshop on PDE Problems Arising From Biology and Related Area, August 18-19, 2015, The Hong Kong Polytechnic University, Hong Kong.

18. Workshop on Kinetic and Related Equations, July 5-10, 2015, The Casa Matemática Oaxaca (CMO), Oaxaca, Mexico.

19. The 4th International Conference on Nonlinear Evolutionary Partial Differential Equations — Theories and Applications, June 2-7, 2015, Shanghai Jiao Tong University, Shanghai, China.

20. The 8th International Conference on Nonlinear PDEs & Their Numerical Analysis, May 25-28, 2015, Hangzhou, China.

21. Workshop on Applied Analysis, Feb. 24-25, 2015, City University of Hong Kong, Hong Kong.

22. The International Conference on Applied Analysis, Jan. 9-10, 2015, Jinan University, Guangzhou, China.

23. Workshop on PDE, IP and IS, Jan. 1-3, 2015, Sun Yat-sen University, Guangzhou, China.

24. International Conference on Recent Advances in Hyperbolic Partial Differential Equations, Dec. 4-6, 2014, Hiroshima, Japan.

25. The Fourth Joint China-Australia Conference on Nonlinear Partial Differential Equations and Related Topics, Nov. 27-30, 2014, IMS, CUHK, Hong Kong.

26. XV International Conference on Hyperbolic Problems: Theory, Numerics and Applications (HYP2014), Jul. 28 – Aug. 1, 2014, IMPA, Rio de Janeiro, Brazil.

27. Yunnan MS-HKMS Joint Annual Meeting, July 19-20, 2014, Lijiang, China.

28. The International Conference on Nonlinear Evolutionary Partial Differential Equations -Theories and Applications, Jun. 3-8, 2014, Shanghai Jiao Tong University, China.

29. IMS Workshop on Nonlinear PDEs from Fluids and Related Topics, Mar. 24-26, 2014, CUHK, Hong Kong.

30. Workshop on the recent progress of the Boltzmann equation, Mar. 15-16, 2014, Tsinghua University, China.

31. The SJTU International Forum on Mathematics, Jan. 10-12, 2014, Shanghai Jiao Tong University, China.

32. Joint Workshop on Partial Differential Equations, Nov. 15-18, 2012, Shanghai Jiao Tong University, Shanghai, China.

33. Workshop on "PDE Problems in Mathematical Biology and Physics", Jun. 22-23, 2012, The Hong Kong Polytechnic University, Hong Kong.

34. Workshop on Kinetic and Related Models, Mar. 8-10, 2012, Jinan University, Guangzhou, China.

35. The ninth nonlinear PDE workshop, Jul. 29-30, 2011, Sun Yat-Sen University, Guangzhou, China.

36. Conference on Kinetic Theory and Related Fields, Jun. 22-24, 2011, Pohang University of Science and Technology, Pohang, Korea.

37. Workshop on Applied Mathematics, Jun. 5, 2011, Wuhan University, China.

38. Austrian-Chinese Workshop on Dissipative Systems: Kinetic Theory and Semiconductor Applications, Nov. 3-5, 2010, Vienna University of Technology, Austria.

39. Workshop on Kinetic and Related Models, Oct. 15-19, 2010, Northwest University, Xi'an, China.

40. The 6th Conference "Topics in Nonlinear Problem", Sep. 16-18, 2010, Yamaguchi University, Japan.

41. Concentration en vitesse et en espace dans les modèles cinétiques et diffusifs (chemotaxis, gravitation, swarming), Oct. 6-7, 2009, Institut Henri Poincaré and Ecole Normale Superieure, Paris, France.

42. Modern Topics in Nonlinear Kinetic Equations, Apr. 20-22, 2009, University of Cambridge, Cambridge, UK.

43. Kinetic modelling for socio-economic and related problems, Nov. 27-29, 2008, Vigevano, Italy.

44. Second Workshop on Nonlinear Partial Differential Equations: Analysis, Computation and Application, May 31 – Jun. 2, 2007, Seoul National University, Seoul, Korea.

45. International Conference on Conservation Laws & Kinetic equations, Dec. 7-12, 2006, Shanghai Jiao Tong University, Shanghai, China.

Talks in organized sessions

46. Session on "System of Conservation Laws and Related Models", The 8th international Congress on Industrial and Applied Mathematics, August 10-14, 2015, Beijing, China.

47. Session on "Qualitative behavior of PDEs in fluid mechanics and related topics", The 10th International Society for Analysis, its Applications and Computation, August 3-8, 2015, University of Macau, Macao.

48. The Hong Kong Mathematical Society Annual General Meeting 2014, Jun. 6, 2014, Hong Kong.

49. The 12th Annual Conference of China Society for Industrial and Applied Mathematics, Aug. 19-24, 2012, Hefei, China.

50. The 4th MSJ-SI (Mathematical Society of Japan, Seasonal Institute) Nonlinear Dynamics in Partial Differential Equations Sep. 12-21, 2011, Kyushu University, Fukuoka, Japan.

51. International Conference on Nonlinear Evolutionary Partial Differential Equations – Theories and Applications (NEPDE), Jan. 10-15, 2011, Shanghai Jiao Tong University, China.

52. Thirteenth International Conference on "Hyperbolic Problems: Theory, Numerics and Applications", HYP2010, Jun. 15-19, 2010, Beijing, China.

Contributed talks in conferences and workshops

53. The seventh International Congress of Chinese Mathematicians (ICCM), August 6-11, 2016, Beijing..

54. The Sixth International Congress of Chinese Mathematicians (ICCM), July 14-19, 2013, Taipei.

55. The Fourteenth International Conference on Hyperbolic Problems: Theory Numerics and Applications, Jun. 25-29, 2012, University of Padova, Italy.

56. The 8th East-Asia PDE Conference, Dec. 19-22, 2011, POSTECH, Korea.

57. Joint SIAM/RSME-SCM-SEMA Meeting "Emerging Topics in Dynamical Systems and Partial Differential Equations", DSPDEs'10, May 31 – Jun. 4, 2010, Barcelona, Spain.

58. Workshop "Theory and Numerics for Kinetic Equations", Nov. 16-18, 2009, Saarland University, Saarbrücken, Germany.

59. Workshop on "Kinetics and statistical methods for complex particle systems", July 20-24, 2009, Complexo Interdisciplinar da Universidade de Lisboa, Lisbon, Portugal.

60. Twelfth International Conference on "Hyperbolic Problems: Theory, Numerics, Applications", Jun. 9-13, 2008, University of Maryland, College Park, USA.

61. Fourth Pacific Rim Conference on Mathematics, Dec. 7-11, 2007, City University of Hong Kong, HK.

Talks in Colloquium and seminars

62. Wuhan University, China (Jun. 6, 2017)

63. Jian University, China (Jun. 2, 2017)

64. Imperial College London, United Kingdom (May. 2, 2017)

65. Kyoto University, Japan (Dec. 26, 2016)

66. Harbin Institute of Technology, China (Aug. 2, 2016)

67. Beijing University of Technology, China (Jun. 14, 2016)

68. Institute of Applied Mathematics, AMSS, CAS, China (Jun. 13, 2016)

69. South China Normal University, China (Jun. 6, 2016)

70. Kyushu University, Japan (Jun. 2, 2016)

71. Imperial College London, United Kingdom (Dec. 8, 2015)

72. Capital Normal University, China (Nov. 24, 2015)

73. Xiamen University, China (May 21, 2015)

74. Harbin Engineering University, China (Jan. 24, 2015)

75. Nanjing University, China (Dec. 26-28, 2014)

76. Kobe University, Japan (Dec. 8, 2014)

77. University of Electronic Science and Technology of China, China (Dec. 27, 2013)

78. Shanghai Normal University, China (Dec. 2&3, 2013)

79. City University of Hong Kong, HK (Nov. 19, 2013)

80. Kyoto University, Japan (Aug. 28&30, 2012)

81. University of Alberta, Canada (Jan. 11, 2010)

82. University of Cambridge, UK (Oct. 28, 2009)

83. Academic Sinica, Taiwan (Jul. 14, 2007)

84. National Taiwan University, Taiwan (Jun. 28, 2007)

Lecture series

85. *Dissipative structure of the Boltzmann equation*, Beijing University of Technology, July 21, 2013, Beijing, China.

86. *Decay structure of the Boltzmann equation*, Pohang University of Science and Technology, May 27 – June 9, 2013, Korea.

Conferences, workshops and schools as participants

87. 15th Conference of Nonlinear Partial Differential Equations, Aug. 1-4, 2017, Northwest University, Xian, China.

88. The International Conference on Partial Differential Equations and Variational Methods, May 22-25, 2014, Central China Normal University, Wuhan, China.

89. The 2nd PRIMA, June 24-28, 2013, Shanghai Jiao Tong Unviersity, Shanghai, China.

90. Workshop on nonlinear PDEs, Aug. 3-5, 2012, Nanjing Normal University, Nanjing, China.

91. CoLab Mathematics Summer School on "Kinetics and statistical methods for complex particle systems", Jul. 13-17, 2009, Complexo Interdisciplinar da Universidade de Lisboa, Lisbon, Portugal.

92. PIMS/Accelerate Canada Summer School in PDE: Topics in Kinetic Theory, Jun. 29 – Jul. 3, 2009, University of Victoria, Victoria, Canada.

93. International Conference on Kinetic and Related Models, Apr. 1-4, 2009, Wuhan University, Wuhan, China.

JOURNALS REVIEWED

Acta Applicandae Mathematicae
Acta Mathematica Scientia
AIMS Proceedings
Analysis and Applications
Annales de l'IHP-Analyse non lineaire
Applicable Analysis
Applied Mathematics and Computation
Bulletin of the Institute of Mathematics, Academia Sinica (New Series)
Bulletin of the Iranian Mathematical Society (BIMS)
Communications in Mathematical Physics
Communications in Mathematical Sciences
Communications on Pure and Applied Analysis
Discrete and Continuous Dynamical System-A
Discrete and Continuous Dynamical System-B
Frontiers of Mathematics in China
Journal of Differential Equations
Journal of Hyperbolic Differential Equations
Journal of Mathematical Analysis and Applications
Journal of Mathematical Physics
Journal of Nonlinear Science
Journal of Statistical Physics
Journal of the London Mathematical Society
Kinetic and Related Models
Methods and Applications of Analysis
Mathematical Methods in the Applied Sciences
Mathematical Models and Methods in Applied Sciences
Mathematische Nachrichten
Nonlinear Analysis Series A: Theory, Methods & Applications
Nonlinear Analysis Series B: Real World Applications
Nonlinearity
SCIENCE CHINA Mathematics
SIAM Journal on Mathematical Analysis

The IMA Journal of Applied Mathematics
Transactions of the American Mathematical Society
Zeitschrift für Angewandte Mathematik und Physik
Zeitschrift für Angewandte Mathematik und Mechanik

CONFERENCES ORGANIZED AND CO-ORGANIZED

1. Workshop on Analysis and Applications of PDEs, 7-8 April 2017, The Hong Kong Polytechnic University (Co-organizer). https://www.polyu.edu.hk/ama/files/WS_on_Analysis_and_Applications_of_PDEs_poster_14March2017.jpg

2. Workshop on Viscous Conservation Laws, 9-13 January 2017, The Chinese University of Hong Kong (Co-organizer). https://www.math.cuhk.edu.hk/conference/wvcl2017/

3. IMS Workshop on PDEs (I), 29-31 December 2016, The Chinese University of Hong Kong (Co-organizer). http://www.ims.cuhk.edu.hk/activities/conferences/workshop/29-31dec2016/poster_23dec2016.pdf

4. One-day Workshop on Kinetic Theory, 7 September 2016, The Chinese University of Hong Kong (Co-organizer). http://www.ims.cuhk.edu.hk/activities/conferences/workshop/7sep2016/

5. International Conference on nonlinear Partial Differential Equations: Theories, Numerics and Applications, 21-23 May 2016, Hong Kong (Co-organizer). http://www6.cityu.edu.hk/ma/icnonpde/about.htm

6. The Fourth Joint China-Australia Conference on Nonlinear Partial Differential Equations and Related Topics, 27-30 November 2014, IMS, Hong Kong (Co-organizer). http://www.ims.cuhk.edu.hk/activities/conferences/capde2014/

STUDENTS AND POST-DOC

Current

ZHANG, Zhu (PhD, Aug. 2016 to Jul. 2019)

YANG, Yiping (PhD, Aug. 2017 to Jul. 2020)

CHEN, Hongru (MPhil, Aug. 2016 to Jul. 2018)

WANG, Dixi (MPhil, Aug. 2017 to Jul. 2019)

CHEUNG, Hang (MPhil, Aug. 2017 to Jul. 2019)

Past

YANG, Yiping (MPhil, Aug. 2015 to Jul. 2017)

ZHANG, Zhu (MPhil, Aug. 2014 to Jul. 2016)

NIU, Xiaohui (MPhil, Aug. 2013 to Jul. 2015)

WANG, Shuaikun (Postdoc, Jul. 2016 to Jun. 2017)

WANG, Yong (Postdoc, Jul. 2016 to Jun. 2017)

LIU, Shuangqian (Postdoc, Aug. 2013 to Jul. 2014)

TEACHING EXPERIENCES

–Instructor, The Chinese University of Hong Kong
Semester B 2016-2017: MATH4240, MATH5022
Semester A 2016-2017: MATH2010A
Semester B 2015-2016: MATH4240, MATH5022
Semester B 2014-2015: MATH2020B, MATH4220
Semester A 2014-2015: MATH2010A
Semester B 2013-2014: MATH4220
Semester A 2013-2014: MATH2010A&B
Semester B 2012-2013: MATH1010F
Semester A 2012-2013: MATH2010C&D
Semester B 2011-2012: MATH3253
Semester A 2011-2012: Undergraduate Seminar
Semester B 2010-2011: MATH3253
Semester A 2010-2011: Undergraduate Seminar

–Tutor, City University of Hong Kong:
Semester A 2007-2008: MA2176
Semester B 2006-2007: MA3150
Semester A 2006-2007: MA2501