Curriculum Vitae — Dr. Jichen Yang

Personal data

Born on January 2, 1990 in Beijing, married to Chen Gai.

Contact

School of Mathematical Sciences
Harbin Engineering University
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Research interests

Dynamics of ordinary and partial differential equations, pattern formation, nonlinear waves, stability analysis, fractional calculus and differential equations, anomalous diffusion.

Employment

11/23 – now	Lecturer, School of Mathematical Sciences, Harbin Engineering University, Harbin, China.
12/20 – 11/23	Postdoctoral Fellow, School of Mathematics (Zhuhai), Sun Yat-sen University, Zhuhai, China.
06/20 – 09/20	Postdoctoral Fellow, Department of Mathematics, Jacobs University Bremen, Germany.

Education

10/15 – 03/20	Doctoral student in Mathematics. Faculty 3 Mathematics and Computer Science, University of Bremen, Germany. Doctor of Natural Sciences (Dr.rer.nat.). Grade: magna cum laude. Advisor: Prof. Jens Rademacher.
09/19 – 06/15	Postgraduate in Applied Mathematics. School of Mathematics and Physics, China University of Geosciences, China. Master of Science. Grade: 88/100. Advisor: Prof. Anping Liu.
09/08 – 06/12	Undergraduate in Information and Computing Science. School of Mathematics and Physics, China University of Geosciences, China. Bachelor of Science. Grade: 85/100. Thesis advisor: Prof. Anping Liu.

Grants, scholarships & awards

- Degree completion stipend, University of Bremen, Germany, 10/19 – 03/20.
- Impulse Grants Travel Expenses Allowances, CRDF University of Bremen, Germany, 2017.
- Outstanding Master's Degree Thesis in Hubei Province, China, 2016.
- PhD Scholarship, 48 months, China Scholarship Council, China, 10/15 – 09/19.
- National Scholarship, China, 2014.
- Outstanding Graduate Student, China, 2013 – 2014.
- Second Prize in National Post-Graduate Mathematic Contest in Modeling, China, 2013.
- Second Prize in China University of Geosciences Postgraduate Scientific Papers Report, China, 2013.
- Yuan Yu Mei Outstanding Graduate Student Scholarship, China, 2013.
- Graduate School Scholarship, China, 2012 – 2014.

- Outstanding Bachelor's Degree Thesis in Hubei Province, China, 2012.
- National Endeavor Fellowship, China, 2011.
- Academic Scholarship, China, 2009 – 2012.

Teaching

Spring 2025	Calculus II, course no. 1240021101
Autumn 2024	Calculus I, course no. 1240021001

Preprints

1. J. Yang, J.D.M. Rademacher, E. Siero. The impact of advection on the stability of stripes on lattices near planar Turing instabilities, *arXiv:2002.12579*, 2020.
2. J. Yang, J.D.M. Rademacher, E. Siero. The impact of advection on large-wavelength stability of stripes near planar Turing instabilities, *arXiv:1912.11294*, 2020.

Publications

1. S. Jing, L. Xue, J. Yang. Backward bifurcation arising from decline of immunity against emerging infectious diseases. *Applied Mathematics Letters*, 158:109241, 2024.
2. P. Holst, J.D.M. Rademacher, J. Yang. Rotating convection with horizontal kinetic energy backscatter. In: D. Henry (eds.), Nonlinear Dispersive Waves, Advances in Mathematical Fluid Mechanics, pp. 133-171, Birkhäuser, 2024.
3. J. Li, C. Liu, T. Long, J. Yang. The stability of smooth solitary waves for the b-family of Camassa-Holm equations. *Physica D*, 463:134182, 2024.
4. F. Achleitner, G. Akagi, C. Kuehn, J.M. Melenk, J.D.M. Rademacher, C. Soresina, J. Yang. Fractional Dissipative PDEs. In: P. G. Kevrekidis, J. Cuevas-Maraver (eds.), Fractional Dispersive Models and Applications, Nonlinear Systems and Complexity, vol. 37, pp. 53-122, Springer, 2024.
5. A. Prugger, J.D.M. Rademacher, J. Yang. Rotating shallow water equations with bottom drag: bifurcations and growth due to kinetic energy backscatter. *SIAM Journal on Applied Dynamical Systems*, 22(3):2490–2526, 2023.
6. A. Prugger, J.D.M. Rademacher, J. Yang. Geophysical fluid models with simple energy backscatter: explicit flows and unbounded exponential growth. *Geophysical & Astrophysical Fluid Dynamics*, 116(5–6):374–410, 2022.
7. J. Yang, J.D.M. Rademacher. Reaction-subdiffusion systems and memory: spectra, Turing instability and decay estimates. *IMA Journal of Applied Mathematics*, 86(2):27–73, 2021.
8. J. Yang, A. Liu, T. Liu. Forced oscillation of nonlinear fractional differential equations with damping term. *Advances in Difference Equations*, 2015(1):1–7, 2015.
9. J. Yang, M. Wang, X. Zhang, A. Liu. Oscillation of nonlinear impulsive hyperbolic equations of neutral type (Chinese). *Journal of Biomathematics* 29(4):1–5, 2014.
10. L. Xiao, J. Yang, G. Liu, A. Liu. Oscillation of neutral type nonlinear impulsive hyperbolic equations with several delays. *Applied Mechanics and Materials* 275–277:843–847, 2013.
11. J. Yang, A. Liu, G. Liu. Oscillation of solutions to neutral nonlinear impulsive hyperbolic equations with several delays. *Electronic Journal of Differential Equations* 2013(27):1–10, 2013.

Theses

- Diffusion, Advection and Pattern Formation. PhD Thesis, University of Bremen, 2020, https://doi.org/10.26092/elib/21.
- Oscillation of Differential Equations. Master Thesis, China University of Geosciences, 2015.

Co-organised conferences

- The 10th Annual Conference of Biomathematics Committee of Chinese Mathematical Society, Harbin, China, July 15–19, 2024
- The Fourth International Symposium on Modeling, Analysis and Applications in Biomathematics, Harbin, China, June 14–16, 2024

Co-organised mini-symposium

- "Nonlinear Waves and Patterns", SIAM Conference on Applications of Dynamical Systems, 2019.

Invited talks

07/16/25	Bifurcations in shallow water equations with horizontal kinetic energy backscatter and bottom drags. Special session talk at the 30th International Conference on Difference Equations and Applications, Guangzhou, China, July 15 – 19, 2025.
07/11/21	The role of advection on long-wavelength stability of stripes near Turing bifurcation. Zhuhai Conference on Ordinary Differential Equations and Dynamical Systems, Zhuhai, China, November 5–7, 2021
18/05/21	Spectra,Turing instability and decay estimates for reaction-subdiffusion systems. Hangzhou Normal University, Hangzhou, China.
28/11/20	Spectra,Turing instability and decay estimates for reaction-subdiffusion systems. Mathematical Colloquium, China University of Geosciences, Wuhan, China.
14/05/20	The role of advection on the stability of stripes near planar Turing instabilities (online). Lehrstuhlseminar Analysis und Modellierung, University of Stuttgart, Germany.
29/04/20	The role of advection on the stability of stripes near planar Turing bifurcation (online). Angewandte Analysis Oberseminar, Martin Luther University Halle-Wittenberg, Germany.
13/01/20	The role of advection on the stability of stripes near planar Turing instabilities (online). Dynamical Systems Seminar, Boston University, USA.
03/12/19	Spectral analysis and decay estimates for reaction-subdiffusion equations. Computational Analysis Seminar, Jacobs University, Germany.
18/11/19	Spectral analysis and decay estimates for reaction-subdiffusion equations. Oberseminar Dynamics, Technical University of Munich, Germany, November 18–19, 2019.
21/05/19	The role of advection for patterns near Turing instabilities in planar reaction-diffusion systems. Minisymposium talk at SIAM Conference on Applications of Dynamical Systems, Snowbird, USA, May 19–23, 2019.
25/04/18	Spectra, stability and energy estimates for reaction subdiffusion equations. Dynamical Systems and Geometry Oberseminar, University of Bremen, Germany.

Contributed talks

01/06/24	Bifurcations in shallow water equations with horizontal kinetic energy backscatter and bottom drags. The 14th International Conference on Recent Advances in Applied Dynamical Systems, Xinyang, China, May 30 – June 2, 2024.
02/07/23	Bifurcations in shallow water equations with energy backscatter and bottom drags. The 10th National Conference on Qualitative Theory of Differential Equations, Wuhan, China, June 30 – July 2, 2023.
31/08/22	Bifurcations in shallow water equations with bottom drag and kinetic energy backscatter (online). SIAM Conference on Nonlinear Waves and Coherent Structures, Bremen, Germany, August 30 – September 2, 2022.

20/07/18 Spectra, stability and energy estimates for reaction subdiffusion equations. The 5th annual International Conference-School 'Dynamics, Bifurcations, and Chaos', Nizhny Novgorod, Russia, July 16–20, 2018.

29/05/18 Spectra, stability and energy estimates for reaction subdiffusion equations. Summer School on Fractional and Other Nonlocal Models, Basque Center for Applied Mathematics, Bilbao, Spain, May 28–31, 2018.

Posters

09/07/19 Spectral, stability and energy estimates for reaction sub-diffusion systems. Equadiff 2019, Leiden, Netherlands, July 8–12, 2019.

24/05/17 Spectrum and Turing instabilities for sub-diffusion reaction systems. SIAM Conference on Applications of Dynamical Systems, Snowbird, USA, May 21–25, 2017.

Conferences

- 2024 Zhuhai Conference on Ordinary Differential Equations and Dynamical Systems, Zhuhai, China, November 29 – December 2, 2024
- Hangzhou 8th International Conference on Differential Equations and Dynamical Systems, Hangzhou, China, November 8–10, 2024
- 2024 Annual Conference of Chinese Mathematical Society, October 31 – November 4, 2024
- The 19th Annual Conference of Singular Perturbation Committee of the Chinese Mathematical Society, Linyi, China, July 26–29, 2024
- The Tenth Shanghai International Symposium on Nonlinear Sciences and Applications, Xuzhou, China, July 22–27, 2024
- 2024 Tianyuan International Workshop on Dynamical Systems and Applications, Hangzhou, China, June 7–9, 2024
- The 5th International Symposium on Biological Mathematics and Medical Applications, Nanjing, China, May 24–26, 2024
- Zhuhai Conference on Ordinary Differential Equations and Dynamical Systems, Zhuhai, China, November 17–19, 2023
- Zhuhai Conference on Ordinary Differential Equations and Dynamical Systems, Zhuhai, China, October 28–30, 2022
- Conference on Mathematical Biology and Dynamical Systems, Sun Yat-sen University, Zhuhai, China, April 10, 2021
- The 7th Bremen Summer School and Symposium 'Dynamical systems - pure and applied', University of Bremen, Germany, August 5–9, 2019.
- The 6th Bremen Winter School and Symposium 'Dynamical systems and turbulence', University of Bremen, Germany, March 12–16, 2018.
- The 15th winter school in Dynamical Systems of the DANCE (Dinámica, Atractores y Nolinealidad: Caos y Estabilidad) Spanish network, Rtns 2018, University of La Rioja, Spain, January 22–26, 2018.
- Workshop 'Analysis and PDE', Leibniz University Hannover, Germany, October 4–6, 2017.
- The 5th Bremen Winter School and Symposium 'Dynamical systems and fluids', Universität of Bremen, Germany, March 27–31, 2017.
- The 14th winter school in Dynamical Systems of the DANCE (Dinámica, Atractores y Nolinealidad: Caos y Estabilidad) Spanish network, Rtns 2017, University of Vigo, Spain, January 23–26, 2017.
- Symposium 'Mathematics, waves and geophysical flow', University of Bremen, Germany, December 15–16, 2016.

- Short course ‘Numerical continuation with AUTO and PDE2PATH’, University of Bremen, Germany, September 20–21, 2016.
- Patterns of Dynamics, Free University of Berlin, Germany, July 25–29, 2016.
- The 4th Bremen Winter School and Symposium: Dynamics, Chaos and Applications, University of Bremen, Germany, March 14–18, 2016.

Teaching assistant

- Tutorials in Calculus, China University of Geosciences, First semester 2014 – 2015.
- Tutorials in Calculus, China University of Geosciences, Second semester 2013 – 2014.
- Tutorials in Partial Differential Equation, China University of Geosciences, First semester 2013 – 2014.
- Tutorials in Linear Algebra, China University of Geosciences, Second semester 2012 – 2013.

Language

Chinese, English.

Skills

Mathematica, Matlab.

Harbin, July 22, 2025