Gangwei Wang

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Education

2010.09-2013.07 **M.S.**, *School of Mathematics Sciences, Liaocheng University, Liaocheng, 252059, Shandong,*, PR China, (Supervisor: Xiqiang Liu).

2013.09-2017.06 **Ph.D. Candidate**, *School of Mathematics and Statistics, Beijing Institute of Technology, Beijing, 100081*, PR China, (Supervisor: Tianzhou Xu).

2014.09-2015.09 **Visiting Student**, *Department of Mathematics, University of British Columbia, Vancouver V6T 1Z2* , Canada, (Supervisor: George Bluman).

2015.12-2016.12 **Visiting Student**, *School of Mathematical and Statistical Sciences, University of Texas-Rio Grande Valley, Edinburg, TX 78539* , USA, (Supervisor: Zhijun Qiao).

2017.07-2021.10 **Assistant Professor**, *School of Mathematics and Statistics, Hebei University of Economics and Business, Shijiazhuang, 050061*, PR China.

2021.11-present **Associate Professor**, *School of Mathematics and Statistics, Hebei University of Economics and Business, Shijiazhuang, 050061*, PR China.

Awards

1. Excellent student award by Liaocheng University, Shandong, China.
2. Excellent graduate of Shandong Province, China.
3. Excellent master dissertation of Liaocheng University, China.
4. Excellent master dissertation of Shandong Province, China.
5. Graduate student science and technology innovation activities research project of Beijing Institute of Technology.
6. Excellent graduate of Beijing Institute of Technology during 2013 to 2014.
7. Awarded National Scholarship in 2014.
8. Awarded Xu Teli Scholarship in 2014-2015.
9. Outstanding Reviewer-In Elsevier 2016.

Research interests

- Nonlinear evolution equations in Mathematical Physics.
- Applications of Lie groups to nonlinear evolution equations.
- Theory of Solitons and Fractional differential equation.

Reviewing experience

- Chaos, Solitons and Fractals

- Physics Letters A
- Fractals
- Applied Mathematics Letters
- Applied Mathematical Modelling
- Applied Mathematics and Computation
- Communications in Theoretical Physics,
- Nonlinear Analysis: Modelling and Control
- Mathematical Methods in the Applied Sciences
- Nonlinear Dynamics
- Communications in Nonlinear Science and Numerical Simulation
- Waves in Random and Complex Media
- Modern Physics Letters B
- Physica Scripta
- Chinese Physics B
- International Journal of Nonlinear Sciences and Numerical Simulation
- Superlattices and Microstructures
- Zeitschrift für Naturforschung A
- Mathematical Communications
- Computers and Mathematics with Applications
- Journal of Applied Analysis and Computation
- ...

Research project

- Studies on fluid mechanics equation and particle transport equation solution of Manufactured Solutions, supported by National Natural Science Foundation of China and China Academy of Engineering Physics (NSAF:11076015).
- National Natural Science Foundation of China (NNSFC)(Grant No. 11171022).
- Graduate student science and technology innovation activities research project of Beijing Institute of Technology (2014cx10037).
- Research Project of China Scholarship Council (No. 201406030057).
- International Graduate Exchange Program of Beijing Institute of Technology (1320012341502).

Publications

1. **Gangwei Wang***, A. M. Wazwaz, A new (3+1)-dimensional KdV equation and mKdV equation with their corresponding fractional forms, Fractals 30 (2022) 2250081.
2. **Gangwei Wang***, A. M. Wazwaz, On the modified Gardner type equation and its time fractional form, Chaos, Solitons and Fractals. 155, (2022) 111694.
3. **Gangwei Wang***, et al., Highly dispersive optical solitons in polarization-preserving fibers with Kerr law nonlinearity by Lie symmetry, Physics Letters A, 421, (2022) 127768.
4. **Gangwei Wang***, A new (3 + 1)-dimensional Schrödinger equation: derivation, soliton solutions and conservation laws, Nonlinear Dynamics, 104, (2021) 1595-1602.
5. **Gangwei Wang***, A novel (3+1)-dimensional sine-Gorden and a sinh-Gorden equation: Derivation, symmetries and conservation laws, Applied Mathematics Letters, 113 (2021) 106768.
6. **Gangwei Wang***, Symmetry analysis, analytical solutions and conservation laws of a generalized KdV-Burgers-Kuramoto equation and its fractional version, Fractals, 29 (2021), 2150101.
7. **Gangwei Wang***, A. M. Wazwaz, Perturbation, symmetry analysis, Bäcklund and reciprocal transformation for the extended Boussinesq equation in fluid mechanics, Communications in Theoretical

Physics, 73 (2021), 045003.

8. **Gangwei Wang***, KaitongYang, HaichengGu, Fei Guan, A.H.Kara, A (2+1)-dimensional sine-Gordon and sinh-Gordon equations with symmetries and kink wave solutions, ***Nuclear Physics B*** 953 (2020) 114956.
9. **Gangwei Wang***, et al., Symmetry analysis for a seventh-order generalized KdV equation and itsfractional version in fluid mechanics, ***Fractals***, 28 (2020) 2050044.
10. **Gangwei Wang**, JoseVega-Guzman, Anjan Biswas, Abdullah Kamis Alzahrani, A.H.Kara, (2 +1)-dimensional Boiti-Leon-Pempinelli equation-Domain walls, invariance properties and conservation laws, ***Physics Letters A*** 384 (2020) 126255.
11. **Gangwei Wang**, Abdul-Majid Wazwaz, Symmetry and Painlevé analysis for the extended Sakovich equation, ***International Journal of Numerical Methods for Heat and Fluid Flow***, (2020) $https://doi.org/10.1108/HFF-04-2020-0235$.
12. **Gangwei Wang***, A. H. Kara, A (2+1)-dimensional KdV equation and mKdV equation: Symmetries, group invariant solutions and conservation laws, ***Physics Letters A*** 383 (2019) 728-731.
13. **Gangwei Wang***, A. H. Kara, Group analysis, fractional exact solution and conservation laws of the time fractional generalized Burgers equation, ***Communications in Theoretical Physics*** 69 (2018) 5-8.
14. **Gangwei Wang***, A. H. Kara, K. Fakhar, Nonlocal symmetry analysis and conservation laws to an third-order Burgers equation, ***Nonlinear Dynamics***. 83 (2016) 2281-2292. (SCI)
15. **Gangwei Wang***, Symmetry analysis and rogue wave solutions for the (2+1)-dimensional nonlinear Schrödinger equation with variable coefficients, ***Applied Mathematics Letters***. 56 (2016) 56-64.
16. **Gangwei Wang***, A. H. Kara, K. Fakhar, Symmetry analysis and conservation laws for the class of time-fractional nonlinear dispersive equation, ***Nonlinear Dynamics***. 82 (2015) 281-287.
17. **Gangwei Wang***, A. H. Kara, Nonlocal symmetry analysis, explicit solutions and conservation laws for the fourth-order Burgers' equation, ***Chaos, Solitons and Fractals***. 81 (2015) 290–298. (SCI)
18. **Gangwei Wang***, K. Fakhar, Lie symmetry analysis, nonlinear self-adjointness and conservation laws to an extended (2+1)-dimensional Zakharov-Kuznetsov-Burgers equation, ***Computers and Fluids***. 119 (2015) 143-148. (SCI)
19. **Gangwei Wang***, A. H. Kara, K. Fakhar, Symmetry analysis and conservation laws for the class of time fractional nonlinear dispersive equation, ***Nonlinear Dynamics***. 82 (2015) 281-287. (SCI)
20. **Gangwei Wang**, A. H. Kara, Conservation laws, multipliers, adjoint equations and Lagrangians for Jaulent-Miodek and some families of systems of KdV type equations, ***Nonlinear Dynamics***. 81 (2015) 753-763. (SCI)
21. **Gangwei Wang**, Tian-Zhou Xu, Ghodrat Ebadi, Stephen Johnson, Andre Strong and Anjan Biswas. Singular solitons, Shock waves and other solutions to potential KdV equation. ***Nonlinear Dynamics***. 76 (2014) 1059-1068. (SCI)
22. **Gangwei Wang***, Tian-Zhou Xu, Stephen Johnson and Anjan Biswas. Solitons and Lie group analysis to an extended quantum Zakharov-Kuzenetsov equation. ***Astrophysics and Space Science***. 349 (2014) 317-327. (SCI)
23. **Gangwei Wang**, Xi-qiang Liu, Ying-yuan Zhang. Lie symmetry analysis to the time fractional generalized fifth-order KdV equation. ***Communications in Nonlinear Science and Numerical Simulation***. 18 (2013) 2321-2326. (SCI)
24. **Gangwei Wang**, Xi-qiang Liu, Ying-yuan Zhang. Symmetry reduction, exact solutions and conservation laws of a new fifth-order nonlinear integrable equation. ***Communications in Nonlinear Science and Numerical Simulation***. 18 (2013) 2313-2320. (SCI)

25. Phidane T, Kara A H, **Gangwei Wang***. An analysis of the fourth-order PDEs- 'patterns' and 'di-block polymers', ***Mathematical Methods in the Applied Sciences***, 40 (2017), 5141-5146. (SCI)
26. Jiao Wang, Tianzhou Xu, **Gangwei Wang**. Numerical algorithm for time-fractional Sawada-Kotera equation and Ito equation with Bernstein polynomials, ***Applied Mathematics and Computation***. 338 (2018) 1-11. (SCI)
27. Ying-yuan Zhang, Xi-qiang Liu, **Gangwei Wang**. Symmetry reductions and exact solutions of the (2+1)-dimensional Jaulent-Miodek equation, ***Applied Mathematics and Computation***. 219 (2012) 911-916. (SCI)
28. Hongliang Liu, Haibo Chen, **Gangwei Wang**, Multiplicity for a 4-sublinear Schrödinger-Poisson system with sign-changing potential via Morse theory, ***Comptes Rendus Mathematique***, 354 (2016) 75-80. (SCI)