

PERSONAL:

Name: Hongli An
Department: Department of Mathematics, College of Sciences
Gender: Female
Degree: Ph.D.
Title: Associate Professor
Major: Applied Mathematics
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Research Field: Synthetic methodologies, Asymmetric catalysis, Metal catalysis, Synthesis and process of pharmaceuticals, Total synthesis of natural products and bioactive molecules
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HONORS AND AWARDS:

Zhongshan Scholar--Academic Young Researcher (2013)

ACADEMIC EXPERIENCE:

2015.06-- 2015.09	The HongKong Institute of Education	Senior research assistant
2015.02 -- 2015.02	The HongKong Institute of Education	Senior research assistant
2015.01 -- 2015.01	The HongKong Polytechnic University	Research Associate
2014.08 -- 2014.09	The HongKong Polytechnic University	Research Associate
2014.06 -- 2014.07	The HongKong Institute of Education	Senior research assistant
2013.12 -- 2014.02	The HongKong Institute of Education	Senior research assistant
2013.08 -- 2013.09	The HongKong Polytechnic University	Research Assistant
2013.07 -- 2013.08	The HongKong Institute of Education	Research Assistant
2013.01 -- 2013.02	The HongKong Institute of Education	Research Assistant
2012.08 -- 2012.12	The HongKong Polytechnic University	Research Assistant

RECENT RESEARCH GRANTS:

- (5) Principal Investigator: NSFC Grant, "Integrable Ermakov structures of nonlinear mathematical physics", 2014-2016
- (4) Principal Investigator: JSSFC Grant, "Ermakov systems and the applications in ordinary differential equations ", 2013-2016
- (3) Principal Investigator: Scientific research grant from Central Universities, "Ermakov systems and Hamilton structure ", 2016-2018
- (2) Principal Investigator: Scientific research grant to support oversea scholars, "The integrable Ermakov structure in Navier-Stokes equations", 2016
- (1) Principal Investigator: Scientific research grant from Central Universities, "Solutions of nonlinear equations with Ermakov structures and the achievement in mechanization ", 2013-2015

SELECTED PUBLICATIONS

- (16) **H. L. An**, M.K. Kwong & H.X. Zhu, On multi-component Ermakov systems in a two-layer

- fluid: integrable Hamiltonian structures and exact vortex solutions, *Stud. Appl. Math.* **2016**, *136*, 139-162.
- (15) **H. L. An**, E.G. Fan & M.W. Yuen, The Cartesian vector solutions for the N-dimensional compressible Euler equations, *Stud. Appl. Math.* **2015**, *134*, 101-119.
 - (14) **H. L. An**, E.G. Fan & H.X. Zhu, Elliptical vortex solutions, integrable Ermakov structure, and Lax pair formulation of the compressible Euler equations, *Phys. Review. E.* **2015**, *91*, 013204.
 - (13) **H. L. An**, J.J. Yang & M.W. Yuen, Nonlinear exact solutions of the 2-dimensional rotational Euler equations for the incompressible fluid, *Commun. Theor. Phys.* **2015**, *63*, 613-618.
 - (12) **H.L. An** & M.W. Yuen, Drifting solutions with elliptic symmetry for the compressible Navier-Stokes equations with density-dependent viscosity, *J. Math. Phys.* **2014**, *55*, 053506.
 - (11) H.X. Zhu, **H. L. An** & Y. Chen, A Laplace decomposition method for nonlinear partial differential equations with nonlinear term of any order, *Commun. Theor. Phys.* **2014**, *61*, 23-31.
 - (10) **H. L. An** & M.W. Yuen, Supplement to “Self-similar solutions with elliptic symmetry for the compressible Euler and Navier-Stokes equations in R^N ” [Commun. Nonlinear Sci. Numer. Simul. 17 (2012) 4524-4528], *Commun. Nonlinear Sci. Numer. Simul.* **2013**, *18*, 1558-1561.
 - (9) **H. L. An**, K.L. Cheung & M.W. Yuen, A class of blowup and global analytical solutions of the viscoelastic Burgers equations, *Phys. Lett. A.* **2013**, *377*, 2275-2279.
 - (8) W.K. Schief, **H. L. An** & C. Rogers, Universal and integrable aspects of an elliptic vortex representation in 2+1-dimensional magneto-gasdynamics, *Stud. Appl. Math.* **2013**, *130*, 49-79.
 - (7) **H. L. An** & C. Rogers, A 2+1-dimensional non-isothermal magnetogasdynamics system. Hamiltonian-Ermakov integrable reduction, *Symmetry Integrability & Geometry: Method and Applications (SIGMA)*, **2012**, *8*, 057.
 - (6) **H. L. An**, E.G. Fan & H.X. Zhu, On multi-component Ermakov systems in a two-layer fluid: a variational approach, *J. Phys. A: Math. Theor.* **2012**, *45*, 395206.
 - (5) C. Rogers, **H. L. An** & B. Malomed, Ermakov-Ray-Reid Reductions of variational approximations in nonlinear optics, *Stud. Appl. Math.* **2012**, *129*, 389-413.
 - (4) C. Rogers & **H. L. An**, On a 2+1-dimensional Madelung system with logarithmic and de Broglie-Bohm quantum potentials: Ermakov reduction, *Phys. Scripta.* **2011**, *84*, 045004.
 - (3) **H. L. An**, Numerical pulsodons of the 2+1- dimensional rotating shallow system, *Phys. Lett. A.* **2011**, *375*, 1921-1925.
 - (2) C. Rogers & **H. L. An**, Ermakov-Ray-Reid systems in 2+1-dimensional rotating shallow water theory, *Stud. Appl. Math.* **2010**, *125*, 275-299.
 - (1) C. Rogers, B. Malomed, K. Chow & **H. L. An**, Ermakov-Ray-Reid systems in nonlinear optics, *J. Phys. A: Math. Theor.* **2010**, *43*, 455214-29.