

Personal

Date of Birth: July 3, 1988.

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Research and Teaching experience

2017–2018, Research Associate at Department of Mathematics, University of Bath, UK.

2016–2017, LMS Fellow at Department of Mathematics, Imperial College London, UK.

2012–2016, PhD student at Department of Mathematics, University College London, UK.

Education

2012–2016 PhD in Mathematics, Department of Mathematics, University College London, UK.

Thesis: Nonlinear flexural-gravity free-surface flows and related gravity-capillary flows.

Supervisor: Prof. J.-M. Vanden-Broeck.

2010–2011 MSc in Mathematical Modelling, Department of Mathematics, University College London, UK.

Dissertation: Flows past sharp corners: the Brown-Michael Model. Supervisor: Prof. R. McDonald.

Final award: **Distinction**.

2009–2010 MSc in Applied Mathematics, Department of Mathematics, Imperial College London, UK.

Dissertation: Extreme eigenvalue problem of Laguerre Unitary Ensemble. Supervisor: Prof. Y. Chen.

Final award: **Distinction**.

2008–2009 BSc in Mathematics, Department of Mathematics, Université Pierre et Marie Curie, France.

Final award: **très bien** (equivalent to 1st honor degree).

2006–2008 Classe préparatoire aux grandes écoles dans les filières MP*, Lycée Camille Guérin, France.

Final award: **Bien**.

Awards and Grants

1. 2016, London Mathematical Society 150th Anniversary Postdoctoral Mobility Grant, UK.
2. 2016, A. V. Asimit, **T. Gao** & J. Hu, the Society of Actuaries' Committee on Knowledge and Extension Research (CKER) Grant by CKER and the Casualty Actuarial Society (CAS), US.
3. 2015, Monica Hulse Scholarship awarded by Department of Mathematics, University College London, UK.
4. 2014, JJ Sylvester, Edwin Power and Corte Scholarship awarded by Department of Mathematics, University College London, UK.
5. 2013, George Jessel Scholarship awarded by Department of Mathematics, University College London, UK.

Publications († for corresponding author)

1. **T. Gao**[†] & J.-M. Vanden-Broeck, 2014 Numerical studies of two-dimensional hydroelastic periodic and generalised solitary waves. *Phys. Fluids*, **26**, 087101.

2. **T. Gao**, Z. Wang & J.-M. Vanden-Broeck, 2016 New hydroelastic solitary waves in deep water and their dynamics. *J. Fluid Mech.*, **788**:469–491, **2**.
3. **T. Gao**, Z. Wang & J.-M. Vanden-Broeck, 2016 On asymmetric generalised solitary gravity-capillary waves of finite depth. *Proc. R. Soc. A*, vol. 472, no. 2194, p. 20160454. The Royal Society.
4. **T. Gao**, Z. Wang & J.-M. Vanden-Broeck, 2017 Investigation of symmetry breaking in periodic gravity-capillary waves. *J. Fluid Mech.*, **811**:622–641.
5. **T. Gao**[†], P. A. Milewski, D. T. Papageorgiou, J.-M. Vanden-Broeck, 2017 Dynamics of fully nonlinear capillary-gravity waves under normal electric fields. *J. Eng. Math.*, 1-16.
6. **T. Gao**, P. A. Milewski, D. T. Papageorgiou, J.-M. Vanden-Broeck, 2018 Steady grey solitary waves on a conducting fluid under the effects of vertical electric fields (*Preprint*).
7. **T. Gao**[†], P. A. Milewski, J.-M. Vanden-Broeck, 2018 Hydroelastic solitary waves with constant vorticity (*Wave Motion*) (submitted).
8. **T. Gao**, Z. Wang & J.-M. Vanden-Broeck, 2018 Numerical computations of flexural-gravity waves on water of arbitrary depth, *IMA J. Appl. Math.* (accepted).
9. **T. Gao**, Z. Wang & P. A. Milewski, 2018 Nonlinear hydroelastic waves on a linear shear current at finite depth, *J. Fluid Mech.* (submitted).
10. A. V. Asimit, **T. Gao**, J. Hu & E.-S. Kim 2018 Optimal Risk Transfer: A Numerical Optimisation Approach. *N. Am. Actuar. J.*, (*accepted*).

Conferences & Workshops

1. British Applied Mathematics Colloquium 2015–2017.
2. IMA Conference on nonlinearity and coherent structures, UEA, Norwich, June 2017.
3. IMA Conference on Numerical Methods for Simulation at Oxford, UK, September 2015.
4. Bifurcation and Instabilities in Fluid Dynamics at Paris, France, July 2015.
5. Workshop on Mathematics of sea ice phenomena at Isaac Newton Institute, University of Cambridge, September–October 2017.
6. Workshop on Nonlinear water waves - an interdisciplinary interface at ESI, University of Vienna, November–December 2017.

Language Knowledge

Chinese (native)

French (Proficient)

English (fluent)

Computational skills: Matlab, Mathematica, Python, Linux, Tex editing, Microsoft.

References are available on requests.