

David GERARD-VARET

PERSONAL DATA

DATE OF BIRTH: December 26, 1977
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WORK EXPERIENCE

2009- | Professor of Mathematics, Université Paris Diderot.
Member of *Institut de Mathématiques de Jussieu - Paris Rive Gauche*.

2017- | Part-time professor, Ecole Polytechnique

2004-2009 | Junior CNRS Researcher.
Member of *Département de Mathématiques et Applications, ENS*.

2006-2007 | Courant Instructor, Courant Institute of Mathematical Sciences, NYU.

EDUCATION

Nov. 2008 | Habilitation à diriger des recherches (accreditation to supervise research),
University Paris 6.

2000-2003 | PhD in Mathematics (supervisor E. Grenier), ENS Lyon.

1999-2000 | Agrégation de Mathématiques
(french national competition for teaching in high school).
Master degree in Numerical analysis and PDE, ENS Lyon.

1997-1999 | Undergraduate studies in Mathematics, ENS Lyon.

DISTINCTIONS

Junior member, Institut Universitaire de France, 2016-2021.
ANR grant SingFlows 2019.
Prix La Recherche 2009 (with D. Bresch, B. Desjardins, E. Dormy, E. Grenier).
ANR grant RUGO, January 2009-April 2012.
Bonus Quality Research from Ecole Normale Supérieure, 2005.
Recipient of PhD and Research Supervising Bonus
(Prime d'encadrement doctoral et de recherche) since October 2010.

PUBLICATIONS

50 papers in peer-reviewed journals, 20 over the last 5 years (complete list available [here](#)).
10 proceedings.

Current research themes : hydrodynamic stability, boundary layers, mathematical analysis of
fluid/particle systems.

Selected publications:

- On the Ill-posedness of Prandtl Equations (with E. Dormy),
J. Amer. Math. Soc., 23, 591-609 (2010).
- Homogenization and Boundary Layers (with N. Masmoudi),
Acta Math., 209, 133-178 (2012).

- Nonlinear Boundary Layers for Rotating Fluids (with A.-L. Dalibard), *Analysis & PDE*, 10, 1-42 (2017).
- Landau damping to partially locked states in the Kuramoto model (with H. Dietert and B. Fernandez), *Comm. Pure Appl. Math.* 71, 953-993 (2018).
- Gevrey stability of Prandtl expansions for 2d Navier-Stokes flows (with Y. Maekawa and N. Masmoudi), *Duke Math. J.* 167, 2531-2631 (2018).

CONFERENCES

Invited to 35 international conferences or workshops since 2012.

Co-organizer of 10 conferences or mini-symposia.

SUPERVISION

PHD

Marco Prestipino, 2013-2018. Now Highschool Teacher.

Christophe Prange, 2010-2013. Now CNRS Junior Researcher in University of Bordeaux.

Ismaël Bouya, 2009-2013 (supervised with E. Dormy). Now Programmer in an Internet firm.

POSTDOCS

Amina Mecherbet, ongoing.

Helge Dietert, 2016-2018. Now junior CNRS researcher.

Aneta Wroblewska-Kaminska, 2013-2014. Now Assistant Pr., Polish Academy of Sciences.

Chao Wang, 2012- 2013. Now Assistant Pr., PKU.

DUTIES

EDITORIAL BOARDS

Member of the editorial boards of *Asymptotic Analysis*, *ESAIM Proc.*, *Journal de l'Institut de Mathématiques de Jussieu*, and *Journal of Mathematical Fluid Mechanics*.

MAIN UNIVERSITY DUTIES

Coordinator of the Master *Mathématiques et Applications*, Paris Diderot (from Dec. 2015).

Coordinator of Master 2 *Mathématiques Générales*, Paris Diderot (2011-2015).

Full member of the Scientific Board of the Maths Department of Paris Diderot (2010- 2014).

Alternate member since September 2014.

President of two hiring committees, for full professors and assistant professor positions in Paris Diderot (2012 and 2015).

SCIENCE POPULARIZATION

Article *Mathématiques Marines* (with D. Bresch and B. Desjardins), Magazine La Recherche, March 2005.

Conference at the Palais de la Découverte: *Mathématiques, Asymptotique et Fluides Géophysiques*, February 2010.

Facettes Mathématiques de la Mécanique des Fluides, series of talks intended to Classes préparatoires (together with J.-Y. Chemin et I. Gallagher), June 2010.