

PIERRE GERMAIN

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French nationality
Born on Nov 24, 1979

EMPLOYMENT

- 2010 - New York University, Courant Institute: Assistant professor.
2009 - 2010 ETH (Swiss Federal Polytechnic Institute) Zurich: Postdoctoral fellow.
2006 - 2009 New York University, Courant Institute: Instructor.

EDUCATION

- 2008 University Paris 7: “Habilitation à diriger des recherches”
Thesis title: “Analysis of evolution partial differential equations arising in physics and differential geometry”
2005 - 2006 Princeton University: visitor at the Mathematics Department.
2003 - 2005 Ecole Polytechnique, Paris: PhD in Mathematics
Thesis title: “Weak and strong solutions of non-linear partial differential evolution equations”
Thesis advisor: Isabelle Gallagher.
2001 - 2003 Ecole Nationale Supérieure des Télécommunications, Paris: Master of Science (applied mathematics).
1998 - 2001 Ecole Polytechnique, Paris: Master of Science (pure and applied mathematics).

AWARDS

- 2011 - 2014 Recipient of the NSF Grant DMS-1101269
“Space-Time Resonances and Asymptotics; Stability of Self-Similar Solutions”.
2006 Ecole Polytechnique Mathematics Department Award for a PhD dissertation.

PUBLICATIONS

1. *Equations de Navier-Stokes en deux dimensions : existence et comportement asymptotique de solutions d'énergie infinie*, Bull. Sci. Math. 130 (2006), no.2, 123–151.
2. *Multipliers, Paramultipliers, and weak-strong uniqueness for the Navier-Stokes equations*, J. Differential Equations 226 (2006), no. 2, 373–428.
3. *Regularity of solutions to the Navier-Stokes equations evolving from small data in BMO-1*, with Natasa Pavlovic and Gigliola Staffilani, Int. Math. Res. Not. IMRN 2007, no. 21.

4. *Global infinite energy solutions of the critical semilinear wave equation*, Rev. Mat. Iberoam. 24 (2008), no. 2, 463–497.
5. *Strong solutions and weak-strong uniqueness for the nonhomogeneous Navier-Stokes equation*, J. Anal. Math. 105 (2008), 169–196.
6. *Besov spaces and self-similar solutions for the wave-map equation*, Comm. Partial Differential Equations 33 (2008), no. 7-9, 1571–1596.
7. *Finite energy scattering for the Lorentz-Maxwell equation*, Ann. Henri Poincaré 9 (2008), no. 5, 927–943.
8. *The second iterate for the Navier-Stokes equation*, J. Funct. Anal. 255 (2008), no. 9, 2248–2264.
9. *On the existence of smooth self-similar blow up profiles for the wave map equation*, Comm. Pure Appl. Math. 62 (2009), no. 5, 706–728.
10. *Global solutions for 3D quadratic Schrödinger equations*, with N. Masmoudi and J. Shatah, Int. Math. Res. Not. IMRN 2009, no. 3, 414–432.
11. *Self-similar solutions for the Schrödinger map equation*, with J. Shatah and C. Zeng, Math. Z. 264 (2010), no. 3, 697–707.
12. *Weak-strong uniqueness for the compressible isentropic Navier-Stokes equation*, J. Math. Fluid Mech. 13 (2011), no. 1, 137–146.
13. *Bilinear oscillatory integrals and boundedness for new bilinear multipliers*, with F. Bernicot, Adv. Math. 225 (2010), no. 4, 1739–1785.
14. *Global Solutions for the Gravity Water Waves Equation in Dimension 3*, with N. Masmoudi and J. Shatah, accepted by Ann. of Math.
15. *Global solutions for 2D quadratic Schrodinger equations*, with N. Masmoudi and J. Shatah, accepted by J. Math. Pures Appl.
16. *Global solutions for coupled Klein-Gordon equations with different speeds*, accepted by Annales de l’Institut Fourier.
17. *Self-similar expanders of the harmonic map flow*, with M. Rupflin, accepted by Ann. Inst. H. Poincaré Anal. Non Linéaire.
18. *Boundedness of bilinear multipliers whose symbols have a narrow support*, with Fred-eric Bernicot, submitted.
19. *Global existence for the Euler-Maxwell system*, with Nader Masmoudi, submitted.

INVITED TALKS AT CONFERENCES _____

Jul 5, 2005: Summer School "Dynamics of non linear PDEs", Institut Joseph Fourier, Grenoble.

Dec 8, 2005: Journées "Harmonic Analysis and non linear PDEs", Université Paris VI.

Jul 19, 2006: International conference on Hyperbolic equations "HYP 2006", Lyons.

Mar 26, 2009: Advances in Analysis Conference, Ecole Polytechnique Fédérale de Lau-sanne.

Jan 21, 2010: Conference on nonlinear wave phenomena, Schrödinger Institute, Vienna.
Jun 8, 2010: Journées EDP, Port d'Albret.
Jun 28, 2010: Meeting on nonlinear dispersive equations, CIRM Marseille.
Jul 12, 2010: Workshop on Nonlinear Partial Differential Equations, Chinese Academy of Sciences, Beijing.
Sep 15, 2010: Workshop on Nonlinear Waves and Partial Differential Equations, Oberwolfach.
May 19, 2011: Conference on Nonlinear Water Waves, Schrödinger Institute, Vienna.
Jun 9, 2011: Conference on Nonlinear Partial Differential Equations, ETH Zurich (organizer).

SEMINARS

Jan 20, 2006: PDE Seminar, McMaster University.
Feb 9, 2006: Analysis Seminar, Courant Institute, New York.
Apr 20, 2006: Analysis Seminar, Princeton University.
Jan 16, 2007: "XEDP" Seminar, Ecole polytechnique, Palaiseau.
Feb 9, 2007: Analysis Seminar, Courant Institute, New York.
Mar 2, 2007: PDE Seminar, Brown University.
Apr 23, 2007: Analysis Seminar, Cornell University.
May 10, 2007: PDE Seminar, MIT.
March 24, 2008: Analysis Seminar, Cornell University.
Apr 11, 2008: Analysis Seminar, University of Texas at Austin.
Oct 30, 2008: Analysis Seminar, Courant Institute, New York University.
Feb 2, 2009: Analysis Seminar, Princeton University.
Apr 29, 2009: PDE Seminar, University of Minnesota.
May 18, 2009: Calderon-Zygmund Seminar, University of Chicago.
Sep 14, 2009: Analysis Seminar, ETH Zurich.
Sep 30, 2011: Analysis Seminar, Courant Institute.
Oct 1, 2011: Analysis Seminar, Brown University.
Nov 8, 2011: Analysis Seminar, University of Pennsylvania.
Feb 28, 2011: Analysis Seminar, Cornell University.
Mar 11, 2011: Mathematics Colloquium, Rutgers University.
Apr 25, 2011: CAMS Colloquium, University of South California.

TEACHING EXPERIENCE

At NYU, as instructor: Fall 2006, Spring 2007, Fall 2007, Fall 2008: Calculus 1 and 2;
Spring 2008: PDE for undergrads;
Spring 2009: Special topics class on Wave Packet Analysis.

At ETH Zurich, as instructor: Fall 2009: Mathematics for engineers.
Spring 2010: Special topics class on Nonlinear Dispersive Equations.

At NYU, as Assistant Professor: Fall 2010: Special topics on Schrödinger Equations;
Spring 2011: Ordinary Differential Equations.