

Pierre Augier

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2nd May 1983

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Education

- 2008–2011 **Ecole Polytechnique (France, #1 french engineering school)**, *PhD candidate at the LadHyX laboratory, Instabilities and turbulence in stratified fluids.*
- 2004–2008 **Ecole Normale Supérieure de Lyon (ENS Lyon, France, prestigious institution of higher education and research)**, *Master (master's degree), Physics out of equilibrium.*
- 2007 **ENS Lyon**, *Concours de l'agrégation externe de sciences physiques (higher education teaching degree in physical sciences), option Physics.*
- 2003–2004 **ENS Lyon**, *Licence de sciences de la matière (three-year undergraduate degree in sciences of matter), option Physics.*
- 2001–2003 **University of La Rochelle**, *DEUG de sciences de la matière (two-year undergraduate degree in sciences of matter), option Physics.*

Research experiences

- 2011–2013 **Post-doc fellow at KTH, with Erik Lindborg**, *Department of Mechanics, Stockholm, Large-scale atmospheric turbulence and its simulation by global circulation models. Turbulent cascades in forced-dissipative shallow-water flows.*
- 2008–2011 **PhD under the supervision of Jean-Marc Chomaz and Paul Billant**, *LadHyX, Polytechnique, Instabilities and turbulence in stratified fluids.*
- 2006 **6-month internship under the supervision of Jean-Francois Pinton**, *ENS Lyon, Dynamo Bullard-von Kármán gallium, a fluid dynamo with uncontrained and turbulent flow.*
- 2005 **3-month internship under the supervision of Stephan Llewellyn Smith**, *University of California San Diego (UCSD), Conversion of the barotropic tide over a three dimensional steep ridge.*
- 2004 **2-month internship under the supervision of Anne Davaille**, *Institut de Physique du Globe de Paris (IPGP), Experimental study of the thermic convection with two layers in a viscous fluid.*

Languages

French	Mother tongue		
English	Working knowledge	Spanish	Proficiency

Computing

Programming	Fortran, C/C++, Python, MPI	Other	Linux, L ^A T _E X, Matlab...
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Publications

Articles

M. Bourgoïn, R. Volk, N. Plihon, **P. Augier**, P. Odier, and J.-F. Pinton. An experimental Bullard-von Kármán dynamo. *New J. Phys.* 8, 12 :329, 2006.

P. Augier and P. Billant. Onset of secondary instabilities on the zigzag instability in stratified fluids. *J. Fluid Mech.*, 662 :120–131, 2011.

P. Augier, J.-M. Chomaz, and P. Billant. Spectral analysis of the transition to turbulence from a dipole in stratified fluids. *J. Fluid Mech.*, 713 :86–108, 2012.

P. Augier, S. Galtier, and P. Billant. Kolmogorov laws for stratified turbulence. *J. Fluid Mech.*, 709 :659–670, 2012.

P. Augier, P. Billant, and J.-M. Chomaz. Stratified turbulence forced with columnar dipoles. Part 2. Numerical study. *Submitted to J. Fluid Mech.*, 2013.

P. Augier, P. Billant, M. E. Negretti, and J.-M. Chomaz. Stratified turbulence forced with columnar dipoles. Part 1. Experimental study. *Submitted to J. Fluid Mech.*, 2013.

P. Augier and E. Lindborg. A new formulation of the spectral energy budget of the atmosphere, with application to two high-resolution general circulation models. *J. Atmos. Sci.*, 70(7) :2293–2308, 2013.

Articles in preparation

P. Augier, P. Billant, and J.-M. Chomaz. Vertical decorrelation in stratified flows forced with columnar dipoles, effects of the chaotic decorrelation and of the zigzag instability.

E. Deusebio, **P. Augier**, and E. Lindborg. Third order structure functions in strongly stratified and rotating turbulence.

P. Augier and E. Lindborg. Wave energy cascade in forced-dissipative one-layer shallow water flows.

Proceedings

P. Augier, P. Billant, M.E. Negretti, and J.-M. Chomaz. Experimental study of forced stratified turbulence. In *Advances in Turbulence XII : Proceedings of the 12th Euromech European Turbulence Conference*, volume 132, pages 397–400, ETC12 (Marburg, Germany), 7-10 sept. 2009.

P. Augier and P. Billant. Onset of secondary instabilities on the zigzag instability in stratified fluids. In *book of abstracts*, volume 2, page 206, EFMC8 (Bad Reichenhall, Germany), 13-16 sept. 2010.

A. Davaille and **P. Augier**. Morphology and evolution of density heterogeneities in a convecting mantle. In *EGU General Assembly Conference Abstracts*, volume 12, page 8328, may 2010.

P. Augier, P. Billant, and J.-M. Chomaz. Experimental and numerical studies of forced stratified turbulence. In *Proceedings of the VII International Symposium on Stratified Flows*, ISSF2011 (Rome), 22-26 August 2011.

P. Augier and E. Lindborg. Spectral budget of energy and potential enstrophy in high resolution general circulation models. In A. Abbasi and N. Giesen, editors, *EGU General Assembly Conference Abstracts*, volume 14 of *EGU General Assembly Conference Abstracts*, page 12186, April 2012.

Other activities

2010 Co-organiser of the 4th European Postgraduate Fluid Dynamics Conference, EPFDC 2010

References on request.