Paul Cupillard

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CURRICULUM VITAE

Personal Data

Date of birth	March 12, 1981
Place of birth	Besançon, France
Nationality	French

Appointments

2012 - present	**Associate professor, GeoRessources laboratory, University of Lorraine, France**
2011 - 2012	Postdoctoral scholar, Institut de Physique du Globe de Paris, France
2008 - 2010	Postdoctoral scholar, UC Berkeley Seismological Laboratory, California, USA

Education

2005 - 2008	**PhD, Institut de Physique du Globe de Paris, France** *Spectral element simulation of Green's functions obtained by correlation of ambient seismic noise* Advisors : Jean-Paul Montagner and Yann Capdeville
2001 - 2004	MSc in Geophysics, Louis Pasteur University, Strasbourg, France

Skills

Research	– **Seismology** – Numerical simulation and scientific computing – Signal processing – Inverse problem
Teaching	– **Geophysics (postgraduate level)** – Finite Element Methods (postgraduate level) – Geomodelling (postgraduate level) – Maple programming (undergraduate level)
Computing	– Operating systems : Linux, Mac OS X, Windows – Programming languages : Fortran 90, C, C++, MPI, OpenMP, MatLab, Maple – Word processors : LaTeX, Microsoft Office – Softwares : Gocad, ParaView, GMT, Grace
Languages	– French : mother tongue – English : fluent

Main publications

2016 Zunino, A., A. Khan, P. Cupillard and K. Mosegaard
Constitution and Structure of Earth's Mantle : Insights from Mineral Physics and Seismology
In *Integrated Imaging of the Earth : Theory and Applications*, AGU Monograph Series, p. 219-243, 10.1002/9781118929063

2015 Saade, M., J.-P. Montagner, P. Roux, P. Cupillard, S. Durand and F. Brenguier
Influence of seismic anisotropy on the cross-correlation tensor : numerical investigations
Geophys. J. Int., vol. 201, p. 595-604, 10.1093/gji/ggu470

Capdeville, Y., M. Zhao and P. Cupillard
Fast Fourier homogenization for elastic wave propagation in complex media
Wave Motion, vol. 54, p. 170-186, 10.1016/j.wavemoti.2014.12.006

2014 Yuan, H., S. French, P. Cupillard and B. Romanowicz
Lithospheric expression of geological units in central and eastern North America from full waveform tomography
Earth Planet. Sci. Lett., vol. 402, p. 176-186, 10.1016/j.epsl.2013.11.057

2013 Masson, Y., P. Cupillard. Y. Capdeville and B. Romanowicz
On the numerical implementation of time-reversal mirrors
Geophys. J. Int., vol. 196, p. 1580-1599, 10.1093/gji/ggt459

Fichtner, A., J. Trampert, P. Cupillard, E. Saygin, T. Taymaz, Y. Capdeville and A. Villasenor
Multi-scale full waveform inversion
Geophys. J. Int., vol. 194, p. 534-556, 10.1093/gji/ggt118

Fichtner, A., E. Saygin, T. Taymaz, P. Cupillard, Y. Capdeville and J. Trampert
The deep structure of the North Anatolian Fault Zone
Earth Planet. Sci. Lett., vol. 373, p. 109-117, 10.1016/j.epsl.2013.04.027

2012 Cupillard, P., E. Delavaud, G. Burgos, G. Festa, J.-P. Vilotte, Y. Capdeville and J.-P. Montagner
RegSEM : a versatile code based on the spectral element method to compute seismic wave propagation at the regional scale
Geophys. J. Int., vol. 188, p. 1203-1220, 10.1111/j.1365-246X.2011.05311.x

2011 Stehly, L., P. Cupillard and B. Romanowicz
Towards improving ambient noise tomography using simultaneously curvelet denoising filters and SEM simulations of seismic ambient noise
C. R. Geoscience, vol. 343, p. 591-599, 10.1016/j.crte.2011.03.005

Cupillard, P., L. Stehly and B. Romanowicz
The one-bit noise correlation : a theory based on the concepts of coherent and incoherent noise
Geophys. J. Int., vol. 183, p. 1397-1414, 10.1111/j.1365-246X.2010.04923.x

2010 Cupillard, P. and Y. Capdeville
On the amplitude of surface waves obtained by noise correlation and the capability to recover the attenuation : a numerical approach
Geophys. J. Int., vol. 181, p. 1687-1700, 10.1111/j.1365-246X.2010.04586.x

2009 Ritsema, J., P. Cupillard, B. Tauzin, W. Xu, L. Stixrude and C. Lithgow-Bertelloni
Joint mineral physics and seismic wave traveltime analysis of upper mantle temperature
Geology, vol. 37, p. 363-366

International conference presentations (as first author)

2015 SEG Annual Meeting, New Orleans, USA, October 18-23
Talk : *Homogenization of 3D geological models for seismic wave propagation*

2014 AGU Fall Meeting, San Francisco, USA, December 15-19
Talk : *Numerical homogenization for seismic wave propagation in 3D geological media*

34^{th} Gocad Meeting, Nancy, France, September 16-19
Talk : *Efficient implementation of the 3D homogenization for the seismic wave equation*

2013 33^{th} Gocad Meeting, Nancy, France, September 17-20
Talk : *Upscaling 3D complex geological media for the elastic wave equation*

SIAM Conference on Mathematical and Computational Issues in the Geosciences, Padua, Italy, June 17-20
Talk : *Upscaling 3D complex geological media for the elastic wave equation*

2012 QUEST 3^{rd} Workshop, Tatranska-Lomnica, Slovakia, May 20-26
Talk : *Heterogeneities and Anisotropy in the Earth*

EGU General Assembly, Vienna, Austria, April 22-27
Poster : *Upscaling small heterogeneities for seismic wave propagation in 3D complex media*

Subsurface Uncertainty & Inverse Problem(s) Workshop, Nancy, France, April 4-5
Talk : *Upscaling small heterogeneities for the seismic wave equation : theory, examples and implications for the inverse problem*

2011 AGU Fall Meeting, San Francisco, USA, December 5-9
Poster : *Implementation of the homogenization technique for wave propagation in 3D elastic media*

QUEST 2^{nd} Workshop, Hveragerdi, Iceland, July 12-19
Poster : *Upscaling complex elastic media for wave propagation*

2010 AGU Fall Meeting, San Francisco, USA, December 13-17
Poster : *RegSEM, a versatile spectral element code : application to continental scale problems*

2009 AGU Fall Meeting, San Francisco, USA, December 14-18
Talk : *Spectral element simulation of waveforms obtained by correlation of ambient seismic noise*

CIDER '09 Community Workshop, Marconi Center, USA, May 17-20
Poster : *Recovering the attenuation of surface waves from noise correlation : synthetic tests in a spherically symmetric Earth*

2008 AGU Fall Meeting, San Francisco, USA, December 15-19
Poster : *Recovering the attenuation of surface waves from noise correlation : synthetic tests in a spherically symmetric Earth*

2006 AGU Fall Meeting, San Francisco, USA, December 11-15
Poster : *Spectral element simulation of Green's functions obtained by correlation of ambient seismic noise*