

Rafael Abreu

Personal Information	Place of birth: Caracas, Venezuela Marital status: single	abreusolorzano@gmail.com rabreu@funvisis.gob.ve
Education	University of Granada , Granada, Spain <i>PhD. in Earth Sciences (Cum laude)</i> March 2011 - January 2014 <ul style="list-style-type: none">Thesis: Complex Steps Finite Differences: with applications to geophysical problems.Supervisors: PhD. Daniel Stich and PhD. José Morales University of Granada , Granada, Spain <i>Msc. in Geophysics and Meteorology</i> October 2009 - February 2011 <ul style="list-style-type: none">Thesis: Generalization of the Complex Step Method: with applications to geophysical problems.Supervisors: PhD. Daniel Stich and PhD. José Morales Central University of Venezuela , Caracas, Venezuela <i>Msc. in Stochastic Models (with honors)</i> October 2006 - December 2008 <ul style="list-style-type: none">Thesis: 2D Seismic Response of the Cumaná and Barquisimeto Cities using the Spectral Element method and Stochastic Techniques.Supervisor: PhD. Michael Schmitz Central University of Venezuela , Caracas, Venezuela <i>BS. in Petroleum Engineering</i> March 1999 - December 2005 <ul style="list-style-type: none">Thesis: Procedures Manual of an Integrated Petroleum Reservoir Study under the ISO 9000-2000 Norm.Supervisors: PhD. Adafel Rincón and Ing. Jesus Padilla	
Awards	FPI Scholarship awarded by the Spanish Government for PhD. studies at the Andalusian Institute of Geophysics, University of Granada. October 2009 - October 2013. Research Scholarship awarded by the Venezuelan Foundation of Seismological Research - FUNVISIS. October 2007 - December 2008.	
Papers published	Rafael Abreu , Daniel Stich and José Morales. (2014). The Complex-Step-Finite-Difference Method Applied to the Acoustic Wave Equation. <i>Geophysical Journal International</i> . Accepted. Rafael Abreu , Daniel Stich and José Morales. (2013). On the generalization of the complex step method. <i>Journal of Computational and Applied Mathematics</i> , 241(0):84 - 102. Rafael Abreu and Michael Slawinski (2011). Review for A student's Guide to Geophysical Equations. <i>The Leading Edge</i> , December. 1421. Carlos Reinoza, Cecilio Morales, Victor Rocabado, Kenny García, Christian Sanchez, Javier Sanchez, Rafael Abreu and Michael Schmitz (2011). Espesores de sedimentos a partir de la integración de datos geofísicos en Barquisimeto y Cabudare, Venezuela. <i>Revista de la Facultad de Ingeniería de la Universidad Central de Venezuela</i> . 26(2):67-76.	
Papers in preparation	Rafael Abreu , Daniel Stich and José Morales. (2013). The Complex Step Finite Difference Method Applied to the 1D Elastic Wave Equation: stability and dispersion analysis. <i>Geophysical Journal International</i> . To be submitted. Rafael Abreu , Jeroen Tromp, Daniel Stich and José Morales. (2013). Micro-continuum forward and adjoint equations and noise cross-correlation sensitivity kernels: Theory. <i>Geophysical Journal International</i> . To be submitted.	

Rafael Abreu, Jeroen Tromp, Hom-Nath Gharti, Daniel Stich and José Morales. (2013). Micro-continuum forward and adjoint equations and noise cross-correlation sensitivity kernels: Applications. *Geophysical Journal International*. To be submitted.

Rafael Abreu, Daniel Stich and José Morales. (2013). Spectral element simulations of wave propagation in viscoelastic media with fractional derivatives. *Geophysical Journal International*. To be submitted.

Professional
Experience

Andalusian Institute of Geophysics - IAG, Granada, Spain

PhD. student

October 2009 - January 2014

Venezuelan Foundation for Seismological Research - FUNVISIS, Caracas, Venezuela

Geophysicist in unpaid permission for PhD. studies

October 2009 - present

Princeton University, Princeton, NJ US

Visiting Student Research Collaborator

August 2012 - December 2012

Princeton University, Princeton, NJ US

Visiting Student Research Collaborator

September 2011 - December 2011

Venezuelan Foundation for Seismological Research - FUNVISIS, Caracas, Venezuela

Geophysicist

September 2008 - September 2009.

Institut de Physique du Globe de Paris - IGP, Paris, France

Research scientist

October 2007 - November 2007.

Venezuelan Foundation for Seismological Research - FUNVISIS, Caracas, Venezuela

Geophysicist assistant

October 2007 - September 2008.

Central University of Venezuela - UCV, Caracas, Venezuela

Full time master student. Faculty of Mathematics UCV

October 2006 - October 2007.

Tecnosinergia Engineering, Caracas, Venezuela

Petroleum engineer assistant

October 2004 - October 2005.

Languages

Spanish: Mother tongue.

English: Full professional proficiency.

Personal
References

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