Germán A. Prieto

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Education

Ph.D. in Earth Sciences. University of California San Diego. 2002 - 2007

M.S. in Earth Sciences. University of California San Diego. 2002 - 2004

B.S. in Geosciences. Universidad Nacional de Colombia 1997 - 2002

Honors and Awards

Keiiti Aki Young Scientist Award, AGU - Seismology Section 2010

Thompson Postdoctoral Fellowship, Stanford University 2007 - 2009

Research Experience

Assistant Profesor 2009 - Present
Physics Department, Universidad de los Andes Bogotá, Colombia

Postdoctoral Scholar 2007 - 2009
Ground motion prediction with ambient field; Non-volcanic tremor. Advisor: Greg Beroza, Department of Geophysics, Stanford University, Stanford, CA

Graduate Student Researcher 2002 - 2007
Improving earthquake source spectrum estimation using multitaper techniques. Institute of Geophysics and Planetary Physics, University of California San Diego, La Jolla, CA

Research Interests

Earthquake source physics
Eartquake Hazards
Subduction zone earthquakes
Wave propagation and Scattering
Engineering Seismology
Time series analysis

Teaching Experience

Universidad de los Andes, Physics Department

Introduction to Geophysics	2010-02
Natural Disasters	2009 – 2010
Computational Physics	2009 – 2010

Teaching Assistant - University of California San Diego Fall 2005/2006
Natural Disasters
Earth Sciences Department

Guest Lecturer - UC San Diego

Natural Disasters: Volcanoes Lecture	Fall 2006
Introduction to Computing: Latex lecture	Winter 2007

Guest Lecturer - Stanford University

Inverse Theory	Fall 2008

Teaching Interests

Seismology
Natural Hazards (Undergraduate level)
Earth's Interior
Inverse Theory
Data and time series analysis

Academic Service

Peer Reviewer for: National Science Foundation, Journal of Geophysical Research, Bulletin Seismological Society, Geophysical Journal International, Seismological Research Letters, and Digital Signal Procesing

I Int. Workshop on Rotational Seismology and Engineering Applications
Participated in the development of the Proceedings DVD, including bibliography, references and literature related to the workshop

Professional Societies

American Geophysical Union (AGU)
European Geosciences Union (EGU)
Seismological Society of America (SSA)

Publications

Review Lawrence, J. F., **G. A. Prieto** *Attenuation tomography of the western United States from Ambient Seismic Noise.* Under review at *J. Geophys. Res.*

Prieto, G. A.. M. Denolle, J. F. Lawrence, G. C. Beroza., On amplitude information carried by the ambient seismic field. Under review at *Comptes rendus geoscience. Thematic Issue: Imaging and Monitoring with Seismic Noise.*

Kane, D. L., **G. A. Prieto**, F. L. Vernon, P. M. Shearer (2010) Quantifying Seismic Sourse Parameter Uncertainties. Under review at *Bull. Seism. Soc. Am.*

Baltay, A., S. Ide, **G. A. Prieto**, G. C. Beroza (2011) Energetic and Enervated Earthquakes. Under review at *Geophys. Res. Lett.*

2010 **Prieto, G. A.**, , J. F. Lawrence, A. I. Chung, M. D. Kohler. *Impulse Response of Civil Structures from Ambient Noise Analysis. Bull. Seism. Soc. Am.*, 100 (5A), pp. 2322-2328, doi:10.1785/0120090285

Elipot, S., R. Lumpkin, **G. A. Prieto**, *Inertial Oscillation modification by mesoscale vorticity, J. Geophys. Res.*, 115, C09010, doi:10.1029/2009JC005679.

Baltay, A., **G. A. Prieto**, G. C. Beroza *Radiated Sesimic Energy from coda measurements indicates no scaling in apparent stress with seismic moment. J. Geophys. Res.*, 15, B08314, doi:10.1029/2009JB006736.

2009 **Prieto, G. A.**, , J. F. Lawrence, G. C. Beroza *Anelastic Earth Structure from the Coherency of the Ambient Seismic Field. J. Geophys. Res.*. 114. B07303, doi: 10.1029/2008JB006067

Prieto, G. A., , R. L. Parker, F. L. Vernon., *A Fortran 90 library for multitaper spectrum analysis*, *Computers and Geosciences*, 35, pp. 1701-1710. doi:10.1016/ j.cageo.2008.06.007

2008 **Prieto, G. A.**, G. C. Beroza *Earthquake Ground Motion Prediction Using the Ambient Seismic Field. Geophys. Res. Lett.*. 35. L14304, doi: 10.1029/2008GL034428

Ma, S., **G. A. Prieto**, and G. C. Beroza, *Testing community velocity models of southern California using ambient seismic noise*, *Bull. Seismol. Soc. Am.*, 98, (6), pp. 2694-2714, doi:10.1785/0120080947

2007 **Prieto, G. A.**, R. L. Parker, D. J. Thomson, F. L. Vernon. R. L. Graham *Reducing the bias of multitaper spectrum estimates. Geophys. J. Int.*, 171, 1269-1281, doi: 10.1111/j.1365-246X.2007.03592.x.

Prieto, G. A., D. J. Thomson, F. L. Vernon, P. M. Shearer and R. L. Parker. *Confidence intervals of earthquake source parameters. Geophys. J. Int.*, 168, 1227-1234, doi:10.1111/j.1365-246X.2006.03257.x

2006 **Prieto, G. A.**, R. L. Parker, F. L. Vernon, P. M. Shearer and D. J. Thomson. Uncertainties in earthquake source spectrum estimation using empirical Green functions. *Earthquakes: Radiated Energy and the Physics of Faulting.* Abercrombie, McGarr, Kanamori, and di Toro eds. *AGU Geophys. Monograph* 170. pp 69-74.

Shearer, P. M., **G. A. Prieto**, E. Hauksson. *Comprehensive Analysis of Earthquake Source Spectra in Southern California.* J. Geophys. Res. 111, B06303, doi:10.1029/2005JB003979.

2005 **Prieto, G. A.**, F. L. Vernon, T. G. Masters, and D. J. Thomson. *Multitaper Wigner-Ville Spectrum for Detecting Dispersive Signals from Earthquake Records.* Proceedings of the Thirty-Ninth Asilomar Conference on Signals, Systems, and Computers, pp 938-941, Pacific Grove, CA.

2004 **Prieto, G. A.**, P. M. Shearer, F. L. Vernon, and D. Kilb. *Earthquake source scaling and self-similarity estimation from stacking P and S spectra.* J. Geophys. Res., 109, B08310, doi:10.1029/2004JB003084.

Poster and Presentations

2010 AGU Fall Meeting - San Francisco, CA

Prieto, G. A., V. Dionicio, G. C. Beroza, J. R. Brown *Location of and repeating intermediate depth earthquakes in the Bucaramanga Nest.*

Lopez, G. A., **G. A. Prieto** *Source scaling of intermediate-depth earthquakes in the Bucaramanga Nest.*

Baltay, A. S., **G. A. Prieto**, T. C. Hanks, S. Ide, G. C. Beroza *Another Look at Strong Ground Motion Accelerations and Stress Drop.*

Denolle, M., **G. A. Prieto**, J. F. Lawrence, G. C. Beroza, N. Hirata, S. Nakagawa, H. Miyake, K. Kasahara, S. Sakai, T. Aketagawa, H. Kimura. *Amplification and Attenuation in the Los Angeles and Kanto Sedimentary Basins using the Ambient Seismic Field.*

Seats, K., J. F. Lawrence, **G. A. Prieto** *Towards more stable time varying ambient noise empirical Greens functions.*

2009 AGU Fall Meeting - San Francisco, CA

Prieto, G. A., Lawrence, J. F., M. Denolle, G. C. Beroza *Earths Attenuation Structure from the Ambient Seismic Field (Invited).*

Prieto, G. A., J. F. Lawrence, A. I. Chung, M. D: Kohler *Predicting Earthquake Response of Civil Structures from Ambient Noise.*

Lawrence, J. F., **G. A. Prieto** *Body wave and Ambient Seismic Field Attenuation Tomography Using USArray.*

Baltay, A., **G. A. Prieto**, S. Ide, G. C. Beroza *Scaled Seismic Energy in Japan and the US by Empirical Greens Function Analysis.*

Denolle, M., **G. A. Prieto**, J. F. Lawrence, G. C. Beroza *Amplification and Attenuation in Southern California Basins Empirically Calculated from the Ambient Seismic Field.*

SSA Meeting - Monterey, CA

Prieto, G. A., J. F. Lawrence, G. C. Beroza *Amplification and attenuation of ground motions using the ambient seismic field.*

Baltay, A. S., **G. A. Prieto**, G. C. Beroza *Estimation of scaled seismic energy by empirical Green's function analysis.*

Kane, D., **G. A. Prieto**, F. L. Vernon, P. M. Shearer *Quantifying various effects on uncertainties in source parameter estimates.*

2008 AGU Fall Meeting - San Francisco, CA

Prieto, G. A., Lawrence, J. F., G. C. Beroza *Anelastic Earth Structure from the Coherency of the Ambient Seismic Field.*

de Ridder, S. **Prieto, G. A.** *Seismic Interferometry and the Spatial Auto-Correlation Method on the Regional Coda of the Non-Proliferation Experiment.*

Kane, D., **G. A. Prieto**, F. L. Vernon, P. M. Shearer *Estimating Seismic Source Parameters: Inversions for Source Time Functions.*

Baltay, A., **G. A. Prieto**, G. C. Beroza *Estimation of Scaled Seismic Energy, Apparent Stress and Acceleration.*

Sanchez-Sesma, F., et al. *The two Faces of Equipartition*

Rodriguez, M., et al. *Equipartition Assessment Using one Station.*

SSA Meeting - Santa Fe, NM
Prieto, G. A., G. C. Beroza *Earthquake Ground Motion Prediction Using the Ambient Seismic Field.*

Baltay, A. S., **G. A. Prieto**, G. C. Beroza *Revisiting Energy Estimates Using the Seismic Coda and Empirical Green's Function Corrections.*

Ma, S., **G. A. Prieto**, G. C. Beroza *Testing Community Velocity Models of Southern California Using Ambient Seismic Noise.*

Kane, D. L., **G. A. Prieto**, F. L. Vernon, P. M. Shearer *Source Parameter Estimates: Using a Small Aperture Array to Determine Error.*

2007 AGU Fall Meeting - San Francisco, CA
Prieto, G. A., G. C. Beroza *Earthquake Ground Motion Prediction Using the Ambient Seismic Field.*

Baltay, A. S., **G. A. Prieto**, G. C. Beroza *Revisiting Energy Estimates Using the Seismic Coda.*

Ma, S., **G. A. Prieto**, G. C. Beroza *Testing Community Velocity Models of Southern California Using Ambient Seismic Noise.*

Kane, D. L., **G. A. Prieto**, F. L. Vernon, P. M. Shearer *Estimating source parameters and uncertainties using a small aperture array.*

SSA Meeting - Hilo, Hawai'i
Prieto, G. A., D. L. Kane, F. L. Vernon, and P. M. Shearer *Quantifying the uncertainties and resolving power of surface stations for earthquake source parameter estimation using a small aperture array.*

2006 AGU Fall Meeting - San Francisco, CA
Prieto, G. A., R. L. Parker, D. J. Thomson, F. L. Vernon, and P. M. Shearer *Unbiased Spectrum Estimation: Improved Multiple Taper Spectral Analysis.*

SSA Meeting - San Francisco, CA
Prieto, G. A., D. J. Thomson, F. L. Vernon, P. M. Shearer. *How much does P-wave coda bias S-wave spectral estimates?.*

2005 AGU Fall Meeting - San Francisco, CA
Prieto, G. A., D. J. Thomson, F. L. Vernon. *Time derivatives of the spectrum: Relaxing the stationarity assumption.*

Chapman Conference on Radiated Energy and the Physics of Earthquakes - Portland, MN
Prieto, G. A., F. L. Vernon, and P. M. Shearer. *Estimating Radiated Energy and its Uncertainties for M = 5 Earthquakes in Southern California*

2004 AGU Fall Meeting - San Francisco, CA
Prieto, G. A., F. L. Vernon, and R. L. Parker. *Time-Frequency analysis of seismic signals using the Wigner-Ville Spectrum.*

Shearer, P. M., E. Hauksson, and **G.A. Prieto** *Earthquake source properties in southern California from stacking P-wave spectra.*

SSA Meeting - Palm Springs, CA
Prieto, G. A., P. M. Shearer, F. L. Vernon, and D. Kilb. *Source scaling and self-similarity estimation by stacking P and S spectra.*