

Esteban F. Díaz Pantin

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Exploration geophysicist focused in seismic data processing, depth imaging, and wave equation velocity analysis.

Education

- Aug. 2013–May 2016 (expected) **PhD in Geophysics**, *Colorado School of Mines*, Golden, CO, USA.
GPA 3.78/4
- Aug. 2011–Jan. 2014 **M.Sc. in Geophysics**, *Colorado School of Mines*, Golden, CO, USA.
Thesis title: RTM backscattering, noise or signal? GPA 3.76/4
- Oct. 2002–Dec. 2007 **Geophysical Engineering**, *Universidad Simón Bolívar*, Caracas, Venezuela.
GPA 3.94/5

Experience

- May 2014– Aug. 2014 **Summer intern**, *Imagerie Sismique, Total*, Pau, France.
Constrained optimization applied to Full Waveform Inversion (FWI). His tasks involved the development, implementation, and testing of the optimization approach in the production code.
- May 2013– Aug. 2013 **Summer intern**, *Subsurface Technology, BP*, Houston, USA.
Data preconditioning for full waveform inversion. His tasks included a successful test with a 3D field dataset.
- Aug. 2011– Present **Research Assistant**, Center for Wave Phenomena, Colorado School of Mines.
Wave equation migration velocity analysis using two-way operators. Esteban also maintains cluster and inversion tools within Madagascar users at CWP.
- Aug. 2009–Jul. 2011 **Geophysicist**, *GeoImaging Soluções Tecnológicas LTDA*, Rio de Janeiro, Brazil.
Participated in several projects including Full Waveform Inversion R&D, depth imaging, velocity model building under salt environments, and time processing.
- Jan. 2009–Aug. 2009 **Geophysicist**, *Stratageo Soluções LTDA*, Rio de Janeiro, Brazil.
Time processing, depth imaging and velocity model building. Seismic data from Brazil (onshore and offshore) and West Africa basins (offshore). Developed software to automatically process P1/90 navigation data.
- Mar. 2008–Dec. 2008 **Junior Geophysicist**, *3DGeo South America*, Buenos Aires, Argentina & Rio de Janeiro, Brazil.
Seismic data processing from Argentinian basins. Geometry QC and coordinates processing. Near Surface model building.
- Jan. 2007–Dec. 2007 **Research undergraduate project**.
“Joint inversion of gravimetric and travel time in 3D in the northwestern region of Venezuela”. Implemented a stochastic framework to jointly invert gravimetric and tele-seismic data.

Languages

- Spanish **Native**
- English **Full professional proficiency**
- Portuguese **Professional working proficiency**
- French **Elementary proficiency**

Computational Skills

- Contributor to the Madagascar open-source project: www.ahay.org
- Programming: Fortran90, C, Python, Java, bash, Matlab, among others.

–Developing experience within SEPlib, MinesJTK, and Madagascar environments.

Scientific Interests

–Migration Velocity Analysis (MVA) –Inverse problems
–Imaging –Noise reduction in seismic data

Publications

Esteban Díaz and Antoine Guitton. Fast full waveform inversion with random shot decimation. *SEG Technical Program Expanded Abstracts*, 30(1):2804–2808, 2011.

Antoine Guitton, Gboyega Ayeni, and **Esteban Díaz**. Constrained full-waveform inversion by model reparameterization. *Geophysics*, 77(2):R117–R127, 2012.

Antoine Guitton and **Díaz, Esteban**. Attenuating crosstalk noise with simultaneous source full waveform inversion. *Geophysical Prospecting*, 60(4):759–768, 2012.

Díaz, E., P. Sava, and T. Yang. Data-domain and image-domain wavefield tomography. *The Leading Edge*, 32(9):1064–1072, 2013.

Díaz, Esteban, Yuting Duan, Gerhard Pratt, Paul Sava, et al. Image-domain and data-domain waveform tomography: a case study. In *2014 SEG Annual Meeting*. Society of Exploration Geophysicists, 2014.

Díaz, Esteban and Paul Sava. Wavefield tomography using reverse time migration backscattering. *Geophysics*, 80(1):R57–R69, 2014.

Díaz, Esteban and Paul Sava. Understanding the reverse time migration backscattering: noise or signal? *Geophysical Prospecting*, *IN PRESS*, 2015.

Esteban Díaz and Antoine Guitton. Reducing Artifacts in Encoded-Shots Full Waveform Inversion Using Preconditioning. *73rd EAGE Conference & Exhibition*, P361, 2011.

Esteban Díaz and Paul C. Sava. Wavefield tomography using RTM backscattering. *SEG Technical Program Expanded Abstracts*, 2013.

Esteban Díaz Pantin; Miguel Bosch; Vincenzo Costanzo and Johnny Merchan. Joint inversion of gravity and tele-seismic travel time data for the estimation of the lithosphere earth structure in the north-western region of Venezuela (in spanish). *IX Congreso Venezolano de Geofísica*, 2008.

Pantin, EF Díaz and PC Sava. Optimizing the input model for waveform inversion using image-domain wavefield tomography with illumination compensation. In *77th EAGE Conference and Exhibition-Workshops*, 2015.