

VICTOR MARTINS GOMES

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EDUCATION

Federal Fluminense University – **Master in Geophysics.** (2015 – 2017)

Federal Fluminense University – **Bachelor in Geophysics.** (2010 – 2014)

EXPERIENCE

Research position on land seismic processing – Processing of land seismic data from Volta Redonda basin, a continental rift of southeastern Brazil. (2018)

Master`s project – Analysis of the Curvelet transform in post-stack seismic data denoising focusing on conditioning for acoustic inversion. Three methodologies were compared, the simpler one involving magnitude-wise truncation (hard thresholding) of coefficients in the Curvelet domain, while the other two considered the spatial context of neighbor coefficients, by computing their joint probability distribution, in a Bayesian rule for thresholding. Moreover, the last two assigned a Laplacian *prior* to the coefficients in each Curvelet sub-band of seismic data. Besides empirically proving the validity of the *prior* to seismic data, one of the methodologies is a novelty and showed good performance for both white and band-limited (correlated) noise.

Bachelor`s final project – A study of three algorithms of seismic acoustic inversion (seismic trace inversion) and consequently seismic deconvolution and their sensibilities to wavelets estimated using a couple of seismic wavelet estimation methods. The study involved implementing algorithms of seismic inversion, deconvolution and seismic wavelet estimation and then, to analyze the behavior of the first in relation to the wavelets estimated.

President of the Geoscientific Student Society (GSS) of UFF, including SEG, EAGE and AAPG student chapters – Organization of lectures sponsored by SEG and courses, exchange of knowledge and experiences among students of geophysics, encouraging teamwork and helping to organize events and projects at the university. More recently, organized the third LAGSC (Latin American Geosciences Student Conference), held between July, 27 and August, 1 of 2015. (2012 – 2015)

PIBIC Research Project/Internship – 3D Seismic data Compression using the Wavelet Transform (Continuation) - Learning in the area of advanced signal processing, processing and image compression in the wavelet transform domain. Implementation of MATLAB functions and later implementation of compression algorithms using FORTRAN 90 language for the compression of seismic signals, 2D and 3D, pre and post-stack. Study of codification and quantization techniques in order to achieve even better compression rates in the wavelet domain, as the SPIHT (Set partitioning in hierarchical trees). (2012 – 2014)

Research Project/Internship – Stratigraphic, Sedimentological and Geochemical Characterization of the lagoons: Vermelha and Salgada and the Espinho's marsh (Part 1) – Acquisition and processing of seismic, GPR and GPS data, geologic and stratigraphic study of coastal environments related to the genesis of the lagoons Vermelha and Salgada and the Espinho's marsh. (2011 – 2013)

PUBLICATIONS

Gomes, V. M., Santos, M. A. C., Burgos, R. B., Filho, D. M. S., 2016. *Evaluation of the sensitivity of seismic inversion algorithms to different statistically estimated wavelets.* Int. Journal of Engineering Research and Applications **6** (11), 59-73.

EXTENDED ABSTRACTS

Gomes, V. M., Santos, H. B., Schleicher, J., Novais, A., Santos, M. A. C., Rocha, M. S. Q., 2017. *Seismic data inversion with curvelet denoising preconditioning.* 15th International Congress of the Brazilian Geophysical Society & EXPOGEF.

Gomes, V. M., Santos, H. B., Schleicher, J., Novais, A., Santos, M. A. C., Rocha, M. S. Q., 2017. *2D Poststack Seismic Data Inversion with Curvelet Denoising Preconditioning.* 79th EAGE Conference and Exhibition.

Gomes, V. M., Santos, M. A. C., Burgos, R. B., 2016. *Analysis of seismic data compression using SPIHT in seismic inversion.* Proceedings of the 7th Brazilian Geophysical Symposium.

Gomes, V. M., Santos, M. A. C., Silva, D. L. F., Burgos, R. B., Filho, D. M. S., 2014.
Compressão Wavelet com truncamento global para dados sísmicos. Proceedings of the 6th
Brazilian Geophysical Symposium.

LECTURES

Introduction to Acoustic Inversion and Applications – Lectured during Seminário
de Geologia e Geofísica no Processo Exploratório de O&G – COPPE. (2016)

GRANTS AND FELLOWSHIPS

PACE Travel Grant – 79th EAGE Conference and Exhibition. (2017)

CAPES (Brazilian Ministry of Higher Education) scholarship. (2016 –2017)

SLS Travel Grant – SEG/Chevron Student Leadership Symposium. (2015)

RELEVANT INFORMATION

Experience with Digital Signal Processing.

Base level knowledge of Linux.

Programming Languages – FORTRAN, Python and C.

Software Knowledge – MATLAB, Petrel (Basic Knowledge gained during SPOC),
JASON, RADAN 7, OpendTect, Microsoft Office Package, Surfer 11, Grapher 8, ARCGIS,
Oasis Montaj - Geosoft , HampsonRussell, Seismic Unix.

LANGUAGES

English – Advanced;

Spanish – Beginner;

Portuguese – Native language.

COURSES

SEG Distinguished Instructor Short-Course – Geophysical Eletromagnetics:
Fundamentals and Applications, Doug Oldenburg. (2017)

SEG/Chevron Student Leadership Symposium – Symposium on leadership,
teamwork and communication skills. (2015)

EAGE Education Tour Course – Seismic Fracture Characterization: Concepts and
Practical Applications, Enru Liu. (2014)

Academic week of Geophysics, Federal Fluminense University – Introduction to Modeling and Seismic Migration with Finite Difference Method, Leandro Di Bartolo and Cleberson Dors. (2012)

Academic week of Geophysics, Federal Fluminense University – Chemical Stratigraphy, Basic Concepts, Leonardo Ribeiro Tedeschi. (2012)

Short-Course – Reservoir Seismic Characterization, Fabien Allo. (2012)

EVENTS

Congress – 15th International Congress of the Brazilian Geophysical Society & EXPOGEF. (2017)

Congress – 79th EAGE Conference and Exhibition. (2017)

Symposium – 7th Brazilian Geophysical Symposium. (2016)

Congress – 14th International Congress of the Brazilian Geophysical Society. (2015)

Congress – SEG International Exposition and 85th Annual Meeting. (2015)

Symposium – 6th Brazilian Geophysical Symposium. (2014)

SPOC – Schlumberger-Petrobras Ocean Contest. (2012)

Congress – 12th International Congress of the Brazilian Geophysical Society. (2011)

PROFESSIONAL MEMBERSHIP

SBGF (Brazilian Geophysical Society);

SEG (Society of Exploration Geophysicists);

EAGE (European Association of Geoscientists and Engineers).