

Higor Henrique Aranda Cotta

Address and contact:

Universidade Federal do Espírito Santo (UFES)	Phone: (+33) 07 81 04 89 77
Federal University of Espírito Santo	(+55) 27 4009-2900
Department of Statistics	Email: cotta.higor@gmail.com
Vitória, Espírito Santo, Brazil	higor.cotta@l2s.centralesupelec.fr

Lattes CV(in Portuguese):

<http://lattes.cnpq.br/2488791027245465>

Education

- 2016-2019 **Doctorate student** - Sciences et Technologies de l'Information et de la Communication (Traitement du signal et des images) CentraleSupélec, France
- 2016-2019 **Doctorate student** - Environmental Engineering (Air pollution - Stochastic Modelling) UFES, Brazil
- 2012-2014 **Master** - Environmental Engineering (Air pollution - Stochastic Modelling), UFES, Brazil
- 2008-2014 **Bachelor** - Statistics, UFES, Brazil
- 2005-2010 **Technologist** - Computer Network, Federal Institute of Science and Education of Espírito Santo (IFES), Brazil

Publications

Articles in peer-reviewed journals

Reisen, V. A., Sgrancio, A. M., Lévy-Leduc, C., Bondon, P., Monte, E. Z., Cotta, H. H. A., and Ziegelmann, F. A. (2019). Robust factor modelling for high-dimensional time series: An application to air pollution data. *Applied Mathematics and Computation*, 346:842–852

Cotta, H. H. A., Reisen, V. A., Bondon, P., and Prezotti, P. R. (2019). Management of an air quality monitoring network using robust principal component analysis. *submitted to Environmental Monitoring and Assessment*

Machado, M., Reisen, V. A., Santos, J. M., Reis, N. C., Frere, S., Bondon, P., Ispány, M., and Cotta, H. (2019). A new methodology using multivariate time series techniques to estimate the impact of particulate matter on the perceived annoyance. *submitted to Atmospheric Environment*

Zamprogno, B., Reisen, V., Bondon, P., Reis, N. C., and Cotta, H. H. A. (2019). Principal component analysis in the time domain and its implications with autocorrelated data. *Submitted*

Cotta, H. H. A., Correa, W. d. S. C., and de Almeida Albuquerque, T. T. (2016). Aplicação da distribuição de gumbel para valores extremos de precipitação no município de vitória-es (gumbel distribution application for values of extreme precipitation in municipality of vitória-es). *Revista Brasileira de Climatologia*, 19

Bookchapters

Reisen, V. A., Levy-Leduc, C., and Cotta, H. H. A. (2018). An overview of robust spectral estimators. In press

Ispány, M., Reisen, V. A., Franco, G. C., Bondon, P., Cotta, H. H. A., Filho, P. R. P., and Serpa, F. S. (2018). On generalized additive models with dependent time series covariates. In Rojas, I., Pomares, H., and Valenzuela, O., editors, *Time Series Analysis and Forecasting*, pages 289–308, Cham. Springer International Publishing

Reisen, V. A., Levy-Leduc, C., Cotta, H. H. A., Albuquerque, T. T. A., and Stummer, W. (2017). Long-memory model under outliers: An application to air pollution levels. In Kumar, P., Gurjar, B. R., and Govil, J., editors, *Environmental Science and Engineering: Air and Noise Pollution*, pages 211–243. Studium Press LLC, USA

Full papers in conferences

Cotta, H. H. A., Reisen, V. A., Bondon, P., and Lévy-Leduc, C. (2018b). Robust autocovariance estimation from the frequency domain. In *International Work-Conference on Time Series*, pages 42–53, Granada, Spain

Cotta, H., A. Reisen, V., Bondon, P., and stummer, w. (2017c). Robust estimation of covariance and correlation functions of a stationary multivariate process. In *International Work-Conference on Time Series*, pages 47–58, Granada, Spain

Machado, M., Santos, J. M., Reis, N. C., Reisen, V. A., Mavroidis, I., and Cotta, H. H. A. (2016). Correlation between annoyance and the combined effect of particulate matter. In *10th International Conference on Air Quality - Science and Application Hatfield: Published by the University of Hertfordshire*.

Reisen, V. A., Cotta, H. H. A., and Monte, E. Z. (2015). Principal component analysis with outliers and time series data. In *60th World Statistics Congress - ISI2015*, Rio de Janeiro, Brazil.

Zaganelli, F. L., Brito, G. M., Morguetti, M. J. and Cotta, H., Santos, A. S., and Sossai, J. A. (2015). Mãe adolescente: Geração nem-nem. In *37º Brazilian Symposium of Pediatrics*, Rio de Janeiro, Brazil.

Cotta, H. H. A., Correa, W. d. S. C., and Albuquerque, T. T. d. A. (2013). Análise estatística das precipitações intensas no município de vitória (es). In *XV Brazilian Symposium of Applied Geography*, pages 701–709, Vitória, Brazil.

Cotta, H. H. A. and Nascimento, E. L. d. (2008). Algoritmo 3D das equações de navier-stokes utilizando processamento paralelo em maquinas de memoria compartilhada. In *XXIX CIL-AMCE - Iberian Latin American Congress on Computational Methods in Engineering*, Maceió, Brazil.

Expanded abstracts

Cotta, H. H. A., Reisen, V. A., Bondon, P., and Lévy-Leduc, C. (2018a). A robust alternative for the estimation of autocovariance from the frequency domain for multivariate processes. In *International Work-Conference on Time Series*, pages 1011–1012, Granada, Spain

Cotta, H., A. Reisen, V., and Bondon, P. (2017a). Robust autocovariance estimation from the frequency domain. In *International Work-Conference on Time Series*, pages 1073–1074, Granada, Spain

dos Santos Giuberti, C., Nascimento, G. C., da Costa, P. M., Cotta, H. H. A., and Zandonade, E. (2016). Unlicensed and off-label use of medicines in an university hospital. In *III Congress of the Brazilian association of pharmaceutical sciences.*, Porto Alegre, Brazil.

Cotta, H., Bertolde, A. I., Machado, H. F., and Silva, G. A. (2014a). Análise de padrões de esquistossomose no estado do espírito santo em 2010. In *IX Brazilian Congress of Epidemiology, Vitória.*, pages 1072–1076., Vitória, Brazil.

Cotta, H. H. A. and Reisen, V. A. (2014). Análise de componentes principais robusta. In *21º Brazilian Symposium of Probability and Statistics.*, Natal, Brazil.

Cotta, H. H. A., Pereira, W. B., Bertolde, A. I., and Silva, G. A. d. (2014b). Análise de padrões de esquistossomose no estado do espírito santo em 2010. In *21º Brazilian Symposium of Probability and Statistics.*, Natal, Brazil.

Cotta, H. H. A. and Reisen, V. A. (2012). Estimação da função de autocorrelação em processos com observações faltantes. In *20º Brazilian Symposium of Probability and Statistics.*, Natal, Brazil.

Zamprogno, B., Cotta, H. H. A., Reisen, V. A., and Junior, N. C. R. (2012). Efeito da aplicação de pca em dados de séries temporais. um enfoque em dados de poluição do ar. In *20º Brazilian Symposium of Probability and Statistics.*, João Pessoa, Brazil.

Patrício, S. C., Cotta, H. H. A., and Reisen, V. A. (2012). Estimação do modelo arfima através método paramétricos e testes de raízes unitárias baseados em ranks. In *20º Brazilian Symposium of Probability and Statistics.*, João Pessoa, Brazil.

Pereira, W. B., Cotta, H. H. A., and Reisen, V. A. (2012). Estudo de criminalidade do município de cariacica-es através do processo inar(1). In *20º Brazilian Symposium of Probability and Statistics.*, João Pessoa, Brazil.

Research positions

August, 2014 - Dec, 2015: **Assistant Researcher.**

Robust Methods in Time Series.

Advisor: Prof. PhD Valdério A. Reisen.

August, 2013 - July, 2014: **Undergraduate Researcher.**

Cointegration in INAR models.

Advisor: Prof. PhD Valdério A. Reisen.

August, 2010 - July, 2011: **Undergraduate Researcher.**

Estimation of autocorrelation function in time series with long memory and missing data.

Advisor: Prof. PhD Valdério A. Reisen.

August, 2009 - July, 2010: **Undergraduate Researcher.**

Parametric methods for ARFIMA model estimation and rank unit root tests.

Advisor: Prof. PhD Valdério A. Reisen.

August, 2007 - July, 2009: **Undergraduate Researcher.**

Parallel Simulation of Navier-Stokes equations.

Advisor: Prof. Dr Edilson Luiz do Nascimento.

Software

Cotta, H., A. Reisen, V., Bondon, P., and Lévy-Leduc, C. (2017b). tsqn: Applications of the Qn Estimator to Time Series (Univariate and Multivariate). R Package version 1.0.0