Jessica Pavani

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My current research focuses on Bayesian statistics, particularly spatial-temporal and product partition models, statistical modeling/methods in public health and computational methods, particularly Markov Chain Monte Carlo (MCMC) and Integrated Nested Laplace Approximation (INLA).

Education

Current **Ph.D.(c) in Statistics**, Pontificia Universidad Católica de Chile, Chile.
Title: *A flexible approach for spatio-temporal modeling of mosquito-borne diseases.*

2017 **M.Sc. in Biostatistics**, University of València, Spain.
Title: *Gaussian state-space models for estimating population counts with MCMC and INLA methods.*

2015 **B.Sc. in Statistics**, University of São Paulo, Brazil.
Title 1: *Application of mixed models with cross-over effects in experiments with animals.*
Title 2: *Determination of the laser-induced fluorescence spectrum descriptors for the classification of citrus Huanglongbing disease.*

Experience

Instructor

2020 **Machine Learning**, Data Science specialization at Pontificia Universidad Católica de Chile, Chile.

2019 **Bayesian Methods**, Statistics undergraduate at Pontificia Universidad Católica de Chile, Chile.

Positions

2016 **Intern**, Identia Institute, Spain.
Application of statistical techniques for different datasets in agronomic scenario from Bayesian and frequentist perspectives.

2015 **Trainee**, Estatcamp Statistical Consulting, Brazil.
Working with the responsible group for basic statistics, statistical inference, SPC (statistical process control), process capability, DOE (design of experiments) and regression analysis. Assistant training in company, preparation of related linear mixed models methodology and consulting content.

2013 **Intern**, Brazilian Agricultural Research Corporation, Brazil.
Application of statistical techniques in laser spectroscopy for Greening classification in citrus.

Peer-Reviewed Journal Articles

[7] **Pavani, J.**; Moraga, P.: A Bayesian joint spatio-temporal model for multiple mosquito-borne diseases. *New Frontiers in Bayesian Statistics: BAYSM 2021, Springer Proceedings in Mathematics & Statistics*, 405, 69-77, 2022.

[6] **Pavani, J.**; Cerda, J.; Gutiérrez, L.; Varas, I.; Gutiérrez, I.; Jofré, L.; Ortiz, O.; Arriagada, G.: Factors associated to the duration of COVID-19 lockdowns in Chile. *Scientific Reports*, 12(9516), 1-7, 2022.

[5] Oliveira, C.M.; **Pavani, J.**; Liu, C.; Balcells-Camps, M.; Capasso, R.; Alvim, R.O.; Mourão-Junior, C.A.; Krieger, J.E.; Pereira, A.C.: Comparing different metabolic indexes to predict type 2 diabetes mellitus in a five years follow-up cohort: The Baependi Heart Study. *PLoS One*, 17(6):e026772, 2022.

[4] Oliveira, C.M.; Rosa, F.F.; Alvim, R.O.; Mourão-Junior, C.A.; Balcells-Camps, M.; Liu, C.; **Pavani, J.**; Capasso, R.; Dias, F.A.L.; Krieger, J.E.; Pereira, A.C.: Body mass index is superior to other body adiposity indexes in predicting incident hypertension in a highly admixed sample after 10-year follow-up: The Baependi Heart Study. *The Journal of Clinical Hypertension*, 24(6), 731-737, 2022.

[3] Oliveira, C.M.; **Pavani, J.**; Krieger, J.E.; Alvim, R.O.; Balcells-Camps, M.; Mourão-Junior, C.A.; Pereira, A.C.; Liu, C.: Triglyceride glucose index as a tool to motivate early lifestyle modification in young adults at diabetes risk: The Baependi Heart Study. *Preventive Medicine Reportss*, 20, 1-4, 2020.

[2] **Pavani, J.**; Alvares, D.: Statistically validating patient self-reporting questionnaires in medicine, *SAGE Research Methods: Medicine & Health Cases*, 1-19, 2020.

[1] Oliveira, C.M.; **Pavani, J.**; Krieger, J.E.; Alvim, R.O.; Mourão-Junior, C.A.; Pereira, A.C.: Body adiposity index accessing the type 2 diabetes mellitus development risk: The Baependi Heart Study. *Diabetology & Metabolic Syndrome*, 11(76), 76-80, 2019.

Conference and Workshop

[8] **Pavani, J.**; Quintana, F.: A flexible Bayesian approach for spatio-temporal epidemiology. In: International Conference on Bayesian Nonparametrics, Puerto Varas (Chile), October 24 - 28, 2022.

[7] **Pavani, J.**; Moraga, P.: Modeling multiple mosquito-borne diseases: a spatio-temporal approach. In: Workshop de Estadística: Contribuciones de Posgrado (Virtual), December 15 - 17, 2021.

[6] **Pavani, J.**; Bastos, L; Moraga, P.: Spatial modelling for mosquito-borne diseases: a joint approach. In: Meeting of the Royal Statistical Society of Belgium, October 21 - 22, 2021.

[5] **Pavani, J.**; Bastos, L; Moraga, P.: A joint spatial modeling for mosquito-borne diseases in Brazil. In: Congreso Latinoamericano de Sociedades de Estadística (Virtual), October 18 - 21, 2021.

[4] **Pavani, J.**; Moraga, P.: A Bayesian joint spatio-temporal model for multiple mosquito-borne diseases. In: BAyesian Young Statisticians Meeting (Virtual), September 1 - 3, 2021.

[3] **Pavani, J.**; Armero, C.; Conesa, D.: Different Bayesian computational methods for Gaussian state-space models. In: Meeting of the Chilean Society of Statistics, Puerto Varas, Chile, October 21 - 25, 2019.

[2] **Pavani, J.** and Alvares, D.: Bayesian classifier as support for an intelligent tutoring system. In: València International Bayesian Analysis Summer School, Burjassot, Spain, July 16 - 20, 2018.

[1] **Pavani, J.**; Armero, C.; Conesa, D.: Dealing with MCMC and INLA approaches in Gaussian state-space models for dynamic populations. In: València International Bayesian Analysis Summer School, Burjassot, Spain, July 17 - 21, 2017.

Invited Talks

Jun. 2017 *Exploring Bayesian approaches to Gaussian state-space models for dynamic populations.* In: Seminari PREDOC - University of València, Burjassot, Spain.

Nov. 2013 *Determinação de descritores do espectro de fluorescência induzida por laser para classificação da doença Huanglongbing de citros.* In: II Statistics Workshop - Institute of Mathematics and Computer Science - University of São Paulo, São Carlos, Brazil.