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## AIMS

The Chilean Journal of Statistics (ChJS) is an official publication of the Chilean Statistical Society ([www.soche.cl](http://www.soche.cl)). The ChJS takes the place of *Revista de la Sociedad Chilena de Estadística*, which was published from 1984 to 2000.

The ChJS covers a broad range of topics in statistics, as well as in artificial intelligence, big data, data science, and machine learning, focused mainly on research articles. However, review, survey, and teaching papers, as well as material for statistical discussion, could be also published exceptionally. Each paper published in the ChJS must consider, in addition to its theoretical and/or methodological novelty, simulations for validating its novel theoretical and/or methodological proposal, as well as an illustration/application with real data.

The ChJS editorial board plans to publish one volume per year, with two issues in each volume. On some occasions, certain events or topics may be published in one or more special issues prepared by a guest editor.

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# Chilean Journal of Statistics

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TWELFTH VOLUME – FIRST NUMBER  
EDITORIAL PAPER

## Chilean Journal of Statistics: A forum for the Americas and the World in COVID-19 pandemic

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The first issue of the twelfth volume of the Chilean Journal of Statistics (ChJS) was published on 30 April 2021. The ChJS has more than a decade of life in its current version published in English and almost four decades from its origins in the *Revista de la Sociedad Chilena de Estadística*. We have published three issues in times of trial due to the COVID-19 pandemic. This pandemic has been very relevant for statistics because its use has allowed different governments to establish regulations to stop its spread. The World Health Organization declared a pandemic in March 2020. On 30 April 2021, more than 150 million cases have been confirmed, with more than 3.16 million deaths attributed to COVID-19, making it one of the deadliest pandemics in history. Medicine, science, statistics, and the generation of new knowledge have played a fundamental role, with scientific journals having a preponderant role in the publication of quality research. We believe that the world will overcome this situation, but we are sure that the new customs acquired during this period, such as interconnectivity, teleworking, teleconferencing, and virtuality, will remain with us forever. Although its development began long before this pandemic, the areas of big data, data science, machine learning, and statistics rose in prominence in 2020-2021. These areas play an important role in artificial intelligence, science, and engineering; indeed, in practically all areas of knowledge.

The scientific and editorial production of this volume would not have been achieved without the valuable contributions of many people. We are pleased to inform the international community that outstanding researchers, this time from the all America, have honored us by publishing their exciting work in our journal so the we acknowledge their relevant contributions. We are publishing articles written by colleagues from Argentina, Brazil, Chile, Ecuador, Mexico, Uruguay, Venezuela, and the United States (USA). We also thank all the anonymous reviewers who have contributed to maintaining ChJS' high-quality standards. Furthermore, we feel obliged and pleased to thank our prestigious editorial board, made up of colleagues from the five continents and listed in <http://chjs.mat.utfsm.cl/board.html>, who have collaborated from their positions to increase our visibility and quality of the works published by the ChJS. Of course, we must also thank the President and the Board of Directors of the Chilean Statistics Society (listed in <https://soche.cl/quienes-somos>) and the entire Chilean statistical community for placing on us, the Editors-In-Chief of The ChJS, their confidence in our work.

The first issue of the twelfth volume of the ChJS comprises seven articles written by, as mentioned, researchers from across the Americas. Details of these papers are as follows:

- (i) Our first paper is based on statistical process control and authored by Ruth Burkhalter and Yuhlong Lio from US, who designed control charts by using bootstrap methods for monitoring percentiles of the generalized Pareto distribution, and applied them to engineering data.
- (ii) In the second paper, considering non-parametric inference, Carlos López-Vázquez, Andrómaca Tasistro, and Esther Hochsztain, from Uruguay, presented exact tables for the Friedman rank test considering the case with ties, and applied them to geoportals navigation analysis, a web-based solution to provide open spatial data.
- (iii) The third paper is authored by Lucas de Oliveira Ferreira de Sales, André Luís Santos de Pinho, Francisco Moisés Cândido de Medeiros, and Marcelo Bourguignon, from Brazil, who introduced control charts used in the monitoring of the mean when the data are symmetrically distributed, and applied them to wine production data.
- (iv) Based on Bayesian survival analysis, Agatha S. Rodrigues, Vinicius F. Calsavara, Eduardo Bertolli, Stela V. Peres, and Vera L.D. Tomazella, also from Brazil, presented our fourth paper utilizing a Bayesian long-term survival model including a frailty term, which was applied to melanoma real data.
- (v) The fifth paper is authored by Abraão D.C. Nascimento, Kássio F. Silva, and Alejandro C. Frery, from Argentina and Brazil, who studied distance-based edge detection on synthetic aperture radar imagery.
- (vi) In the sixth paper, Malinda Coa and Ernesto Ponsot, from Venezuela, investigated alternatives to the logit model in the situation of factor levels aggregation in binomial distributed response variables.
- (vii) This issue of the ChJS closes with a paper authored by Francisco J. Ariza-Hernandez and Eduardo Gutiérrez-Peña, from Mexico, who performed a Bayesian analysis of an item response model with a link function based on the asymmetric exponential power distribution, and applied it to education data.

As the Chilean Statistics Society, we are proud because we continue to be an open-access journal, publishing works free of any article processing charges (APC). In addition, we are happy and pleased to be indexed to the Elsevier Scopus and Clarivate ISI WoS systems. We are very motivated because, at the beginning of 2021, we have already received 24 submissions from different countries.

Finally, we would like the international statistical and data-science communities, our editorial board, and our collaborators to champion the ChJS as a twelve-year, international, free of charges, and open-access journal, with fair and high-quality reviews, that cares about gender equality. Indeed, close to 50% of the papers published in this issue were authored by women, filling us with pride. We encourage the international scientific community to submit their works to the ChJS.

Carolina Marchant and Víctor Leiva  
Editors-in-Chief  
Chilean Journal of Statistics  
<http://soche.cl/chjs>

## INFORMATION FOR AUTHORS

The editorial board of the Chilean Journal of Statistics (ChJS) is seeking papers, which will be refereed. We encourage the authors to submit a PDF electronic version of the manuscript in a free format to the Editors-in-Chief of the ChJS (E-mail: [chilean.journal.of.statistics@gmail.com](mailto:chilean.journal.of.statistics@gmail.com)). Submitted manuscripts must be written in English and contain the name and affiliation of each author followed by a leading abstract and keywords. The authors must include a "cover letter" presenting their manuscript and mentioning: "We confirm that this manuscript has been read and approved by all named authors. In addition, we declare that the manuscript is original and it is not being published or submitted for publication elsewhere".

## PREPARATION OF ACCEPTED MANUSCRIPTS

Manuscripts accepted in the ChJS must be prepared in Latex using the ChJS format. The Latex template and ChJS class files for preparation of accepted manuscripts are available at <http://soche.cl/chjs/files/ChJS.zip>. Such as its submitted version, manuscripts accepted in the ChJS must be written in English and contain the name and affiliation of each author, followed by a leading abstract and keywords, but now mathematics subject classification (primary and secondary) are required. AMS classification is available at <http://www.ams.org/mathscinet/msc/>. Sections must be numbered 1, 2, etc., where Section 1 is the introduction part. References must be collected at the end of the manuscript in alphabetical order as in the following examples:

Arellano-Valle, R., 1994. Elliptical Distributions: Properties, Inference and Applications in Regression Models. Unpublished Ph.D. Thesis. Department of Statistics, University of São Paulo, Brazil.

Cook, R.D., 1997. Local influence. In Kotz, S., Read, C.B., and Banks, D.L. (Eds.), Encyclopedia of Statistical Sciences, Vol. 1., Wiley, New York, pp. 380-385.

Rukhin, A.L., 2009. Identities for negative moments of quadratic forms in normal variables. Statistics and Probability Letters, 79, 1004-1007.

Stein, M.L., 1999. Statistical Interpolation of Spatial Data: Some Theory for Kriging. Springer, New York.

Tsay, R.S., Peña, D., and Pankratz, A.E., 2000. Outliers in multivariate time series. Biometrika, 87, 789-804.

References in the text must be given by the author's name and year of publication, e.g., Gelfand and Smith (1990). In the case of more than two authors, the citation must be written as Tsay et al. (2000).

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