

EDITORIAL

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Dear readers and dear members of the statistical community:

It is a great pleasure for me to present Volume 5, 1, corresponding to the year 2023. This volume is made up of four articles: two invited articles, and two articles within the general statistics section.

The first article is entitled "Speech at the National Statistics Award 2022 Ceremony," authored by Enrique Castillo, winner of the third National Statistics Prize. The National Institute of Statistics has awarded the National Statistics Prize in its 2022 edition to Enrique Castillo, an honorary professor at the University of Castilla-La Mancha and previously a Professor of Applied Mathematics at the University of Cantabria, in recognition of his professional career and his contribution and work in the field of statistics. Professor Castillo is a member of the Royal Academy of Exact, Physical and Natural Sciences and a member of the Royal Academy of Engineering of Spain, as well as a member of the Higher Council of Statistics. He has also been awarded the Leonardo Torres Quevedo National Engineering Research Award in 2010 and named Doctor Honoris Causa by various Spanish and foreign universities.

The Award jury highlighted his contributions to the statistical theory of extreme values and its applications in the field of civil engineering, as well as the development of complex models from a probabilistic perspective. Professor Castillo has 50 years of teaching experience at three important Spanish universities, where he has held different positions of responsibility and played a relevant role in the launch of the Schools of Civil Engineering of Cantabria and Castilla La Mancha. He has led various research groups and doctoral programs and has collaborated in the doctoral programs of 12 universities, having directed a total of 42 doctoral theses, 40 percent of which were written by women. The jury recognized notable theoretical advances in a wide variety of fields of statistics, including extreme value theory, conditional specification of distributions, fatigue models, probabilistic risk and safety analysis, artificial intelligence, and machine learning. Likewise, he has worked on practical applications in different areas such as traffic safety on railway lines and highways, safety in nuclear power plants, material fatigue, and meteorological problems. He is considered one of the fathers of extreme value statistics and reliability analysis in civil infrastructures, applicable in the field of hydraulic engineering and in the reliability analysis of maritime works.

The article presents the speech given at the 2022 National Statistics Award ceremony, summarizing the main scientific contributions of the recipient. These contributions include significant advancements in the field of extreme value statistics, where he provides analytical and graphical methods for identifying tail types, conditional specification, Bayesian networks, addressing compatibility issues, sensitivity analyses in optimization problems with closed-form solutions, solving linear systems of inequalities, demonstrating that polytopes are the unique bounded solutions, fatigue models based on properties, especially the S-N and crack growth models, which provide the only models satisfy-

ing certain necessary compatibility conditions. Additionally, it covers probabilistic safety analyses of nuclear power plants, roads, and railways, allowing the assessment of risks using statistical models that include thousands of variables, as well as applications in artificial intelligence and Bayesian methods that expand the range of possible solutions by considering mixtures of much more limited distribution families. It is a pleasure to have this guest article by Prof. Castillo.

The second invited article is about official statistics and is titled "Audit sampling as a quality standard for multisource official statistics," authored by Professor Li-Chun Zhang from the University of Southampton, UK. Surveys designed using sampling or census are the standard approach to official statistics, where the objectives are descriptive summaries of a given population. Official statistics are also commonly produced by combining relevant administrative records. Consequently, reliable evaluation of official statistics from multiple sources is a fundamental issue in creating a new quality assurance standard. In this article, the author studies in detail the inference of audit sampling for this purpose.

The next two papers are presented in the general section. The third article has the title "Applying and Testing Benford's Law Are Not the Same," authored by William M. Goodman. The author studies various relevant aspects of Benford's law and details the process of applying this law to the case of fraud detection as a forensic and context-sensitive process, for which there is no established formula. The author details the sampling plan used to collect and analyze a quasi-random sample of data sets, based on criteria published in the literature. The study is completed through a simulation analysis.

The fourth paper is titled "A generalization of the transmuted Rayleigh distribution" by H.S. Salinas, G. Martínez-Flórez, Y.A. Iriarte, and A.J. Lemonte. The paper presents a new family of distributions for modeling positive data. The new distribution arises from the quotient of two independent random variables: Rayleigh transmuted in the numerator and beta in the denominator. The authors obtain various properties and present an application with real data.

Finally, I would like to thank all the authors of this volume for choosing our journal as a means of disseminating their research and work. I appreciate the work of the editors and reviewers, who contribute to maintaining a high standard of scientific quality.