

Evarist Giné - Masdéu, *1944 — †2015



Evarist Giné - Masdéu, or just Evarist Giné, passed away on the 13th of March in Hartford, Connecticut. He has been a main contributor and co-creator of several branches of modern probability theory that have been profoundly influential, in particular in statistics and learning theory. This includes the areas of *Probability in Banach spaces*, *empirical process theory*, the asymptotic theory of the *bootstrap* and of *U-statistics and processes*, as well as *nonparametric statistics*. He has written over 100 articles in leading scientific journals: 22 papers in the *Annals of Probability* alone, 10 in *Probability Theory and Related Fields*, and 8 papers in the *Annals of Statistics*. Moreover, he has written two influential books, one on the Central Limit Theorem in Banach spaces with Aloisio Araujo, and the other with Victor de la Pena on Decoupling. With Richard Nickl he completed his third book *Mathematical Foundations of Infinite-Dimensional Statistical Models* just a few weeks before he tragically passed away – it will appear with Cambridge University Press.

Evarist was made a fellow of the IMS in 1984, elected member of the ISI in 1991, became a corresponding member of the Institut d'Estudis Catalans in 1996, and gave a Medallion lecture at the 2004 world congress of the Bernoulli society in Barcelona. A conference was held on the occasion of Evarist's 70th birthday in June 2014 in Cambridge, UK, to honour his mathematical achievements. A photograph of Evarist at this conference, in full health and in his usual great spirits, is above – it was taken by Lucien Birgé. Evarist has always been an extremely modest person, and it was his usual sense of humour when he wrote in an email in July 2014 that this conference was 'totally undeserved, but enjoyed nonetheless'. In reality this conference has been a special event that highlighted the many areas within mathematics and statistics in which Evarist and his work have had the most substantial impact. The great respect and admiration for his mathematics and his great personality were shared by the many friends and colleagues present in Cambridge.

Evarist was born on the 31st of July 1944 in *Falset*, a small town in Catalonia, into a family that was mostly engaged in agriculture and wine-making. His prodigious mathematical talent showed early and his family could be convinced by a local teacher that Evarist should attend a secondary school that leads to entrance to university. Evarist succeeded with distinction and studied mathematics at the *Universitat de Barcelona*, obtaining the degree of *Llicenciat* (comparable to BSc.) in 1967. Evarist met and married his wife Rosalind Eastaway in that time.

Partly because of the Franco regime and partly because of their adventurous characters, they left Catalonia, and after some time teaching mathematics in Venezuela Evarist was accepted by the PhD program in mathematics at the *Massachusetts Institute of Technology (MIT)*. Evarist completed his PhD in 1973, under the supervision of Richard M. Dudley, his main work being on statistical tests for uniformity on Riemannian manifolds, published in the *Annals of Statistics*. This early work, highly cited in statistical literature in the following years, already showed one of the main features of Evarist's research: his deep interest in the problems motivated by mathematical statistics, where there was a need to develop both subtle and powerful mathematical tools. His prolific mathematical abilities produced 2 further papers during his PhD years, both published in the *Annals Probability*, that also started one of the main lines of his research, the study of limit theorems in infinite-dimensional Banach spaces.

Evarist then spent 1974-1975 in Berkeley as a lecturer, where he met Le Cam and the other greats of that Berkeley Golden Age in statistics. After some 'wandering years' that included a return to Venezuela, where Evarist was Head of the Mathematics Department, *Instituto Venezolano de Investigaciones Cientificas*, and extended visiting positions at the Universitat Autònoma de Barcelona, Evarist finally settled at Texas A&M University, becoming a professor there in 1983. Some of Evarist's most influential and original work was done in that time with Joel Zinn, a colleague and friend at Texas A&M. Their joint work resulted in the development of the most important tools of empirical processes theory, such as symmetrization inequalities, entropy bounds and random multiplier inequalities, that later penetrated many areas of mathematics, statistics and computer science (in particular, machine learning). After two years as a professor in New York at CUNY Evarist took up a professorship at the University of Connecticut in 1990, where he stayed until his death, ultimately as the head of the department of mathematics there. Evarist has had 8 PhD students, most notably Miguel Arcones, and had a substantial impact on a whole generation of probabilists and theoretical statisticians that had their formative academic years between 1990-2010.

That Evarist is gone leaves a great emptiness in the mathematical community. For those who knew him personally and worked with him, he will always remain a great friend with whom they spent endless hours talking mathematics at the board or in his warm and hospitable house. The loss is even greater for his family: he is survived by his wife Rosalind, his two daughters Núria and Roser, and his two grand-children Liam and Mireia. But his great enthusiasm, intellectual brilliance and profound original ideas will live on for many generations to come, through his mathematical writings, in our memories, and in his family.

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