## XLIV National Congress of the Italian Society for the History of Physics and Astronomy



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## The art of communicating: from the Theory of Information Transmission to the Shannon-Fano Code

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A sincere friendship began between the Italian-American Robert Fano and Claude Shannon around a common theory, which had as its object Information as a representation of thought and a measurable object of communication. Shannon published his A Mathematical Theory of Communication in 1948, while Fano published The Transmission of Information a few months later in 1949.

Fano and Shannon together conceived an advantageous technique for generating uniquely decodable codes to solve information transmission problems in noisy channels.

Around the concepts of information, entropy, noisy channel, transmission codes, a group of researchers led by Robert Fano was created at the Massachusetts Institute of Technology and laid the foundations for the establishment of the MIT Computer Science & Artificial Intelligence Laboratory.

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