Historical elements of functional data analysis

Gilbert Saporta (CNAM Paris)

J.O. Ramsay's presidential address to the Psychometric Society conference in 1982 is often considered to mark the start of the development of functional data analysis as a specific field of statistics. Fifteen years later, Ramsay and Silverman's book coined the expression "functional data analysis". The roots of functional data analysis are much older and sometimes little-known, such as Fisher's 1923 work on integral regression. By placing functional data analysis in relation to functional analysis, we will study the birth of the decomposition attributed to K.Karhunen and M.Loève, which gave rise to functional PCA developed by J.C. Deville in 1974.