

### **Brief description of achievements of Bernard Roy for the international community of operational research**



Professor Bernard Roy passed away on October 28, 2017. He was a pioneer of operational research in Europe and a world-wide recognised expert in the area of multiple criteria decision aiding (MCDA). He was a founder of the EURO Working Group on MCDA, and, more generally, a founder of the European School of MCDA. He was also a president of EURO and member of the editorial board of the *European Journal of Operational Research* since its conception.

Bernard Roy has made a very significant and innovative contribution to operational research. His major breakthrough works were first in graph theory and project scheduling, and then in MCDA. Among his many achievements, he is the father of the ‘activity on node’ project scheduling technique and of the famous ELECTRE methods. Through his research, teaching, consulting, and service to the community, he was one of the major promoters of OR techniques in Europe.

Bernard Roy was the founder (1974) and Honorary Director of LAMSADE (since 1999), a research group centred on decision aiding, and Président d’honneur of ROADEF (the French association of operational research and decision aiding). He founded in 1975 the EURO Working Group on ‘multiple criteria decision aiding’ which regularly held two annual meetings since then. He was a President of this EURO Working Group during 25 years, and in 2010 he became its Honorary Chairman. He was a President elect and President of EURO in years 1983–1986.

Bernard Roy held a PhD in Mathematics from the University of Paris (1961); he was a graduate of the Statistics Institute of Paris University (1957); and attended courses at Institut d’Etudes Politiques (1954–1956). Before joining the university, from 1957 to 1966, he was a Consultant at the Société d’Economie et de Mathématiques Appliquées (SEMA), applying operational research to real problems. From 1966 to 1972, he was a SEMA Scientific Director (METRA international). He joined University Paris-Dauphine in 1972 and created LAMSADE in 1976. From 1979 to 2009, he was a RATP (the Paris

mass transit authority) Scientific Advisor. Bernard Roy was a Doctor Honoris Causa of seven distinguished universities. He received the 'Prix HERMES de la recherche de la Faculté des Sciences de l'Administration de l'Université Laval' (Québec, Canada) in 1991, the EURO gold medal in 1992, and the MCDM gold medal granted by the International MCDM Society in 1995. In 2015, he was also decorated by the EURO Distinguished Service Medal Award. In September 2017, during the 86th meeting of the EURO Working Group on MCDA in Paris, Bernard Roy received the Medal of the Polish Academy of Sciences corresponding to the highest scientific distinction conferred on personalities exterior to the Academy. He is the author of several books and hundreds of research papers. Bernard Roy has been the advisor of numerous graduate and doctoral students.

Bernard Roy's main contributions focus on two broad themes:

- Graph theory with path-breaking contributions to the theory of flows in networks and project scheduling (with the invention of the activity on nodes method).
- MCDA with the invention of the family of ELECTRE methods and methodological contributions to decision aiding that have led to the creation of the European School of MCDA.

His recent research addressed two main topics:

- robustness in operational research and decision aiding
- multiple criteria tools for collective decision (called 'concertation' in French).

Despite his overwhelming scientific esteem, Professor Bernard Roy was a modest and considerate person. He radiated enthusiasm and kind encouragement for the young. We will keep a grateful memory of him alive.

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