

Brigitte Jumard



I am a Professor and Canada Research Chair in Telecommunications Research at the University of Montreal. My job involves research and teaching in operational research (optimization methods and mathematical programming) as applied to various disciplines, such as communication networks.

EDUCATION BACKGROUND

I received an engineering degree in 1983 and a DEA in 1984 (roughly equivalent to an M.Sc.) from the Université Paris VI in Artificial Intelligence. Then I was hired as a Research Engineer in the Department of Applied Mathematics at the Centre National d'Études des Télécommunications. I spent three years (1977-80) in preparatory study (Advanced Math, Special Math); special classes where the subjects taught are essentially math, physics, chemistry and IT, all in preparation for the "Grandes Écoles." I submitted my doctoral thesis in 1986, in computer science, at the École Nationale Supérieure des Télécommunications in Paris.

My studies have often involved courses that draw links between mathematics and other fields, such as computers, telecommunications, and more generally how to model a given problem as a mathematical program. My research has focused on resolving a variety of problems using the tools of operational research and modeling techniques, defining a solution, developing and efficiently implementing algorithms, and finally validating the model and method.

For me, mathematics is a working tool in the same way computers are; a tool that allows me to explore new domains that I don't necessarily know that much about, as long as the problem is posed in a relatively clear and understandable fashion. This approach has led me to my current work on a variety of problems in telecommunications (network optimization, frequency assignment, routing in satellite networks), in chemical engineering (control of pulp washers in the paper industry), artificial intelligence (reasoning under uncertainty), health management (diagnosis clustering systems, efficiency measurement), and more.