

## **SURPRISES: PROBLEMS AND THEORIES I HAD NOT EXPECTED TO BE SO BENEFICIAL FOR INDUSTRIAL MATHEMATICS**

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During my ca 40 years of industrial mathematics I encountered some industrial problems I did not believe to be interesting and creative for mathematics - but they were. A very good example was the problem of simulating a baby diaper. The lecture will show what has happened with this question, until today. And I saw theories I never expected to be useful for solving industrial problems - but they were. Here, Pareto Optimization and its application in Radiation therapy is a very good example - for surprising reasons. Finally, the search for patterns in clouds of data points appeared in the past, here and there; but I would never have expected, that Big Data become such a fashionable and exciting topic as it is today. The lecture will shortly discuss the topics mentioned above - as a "summa" of a rather long profession.