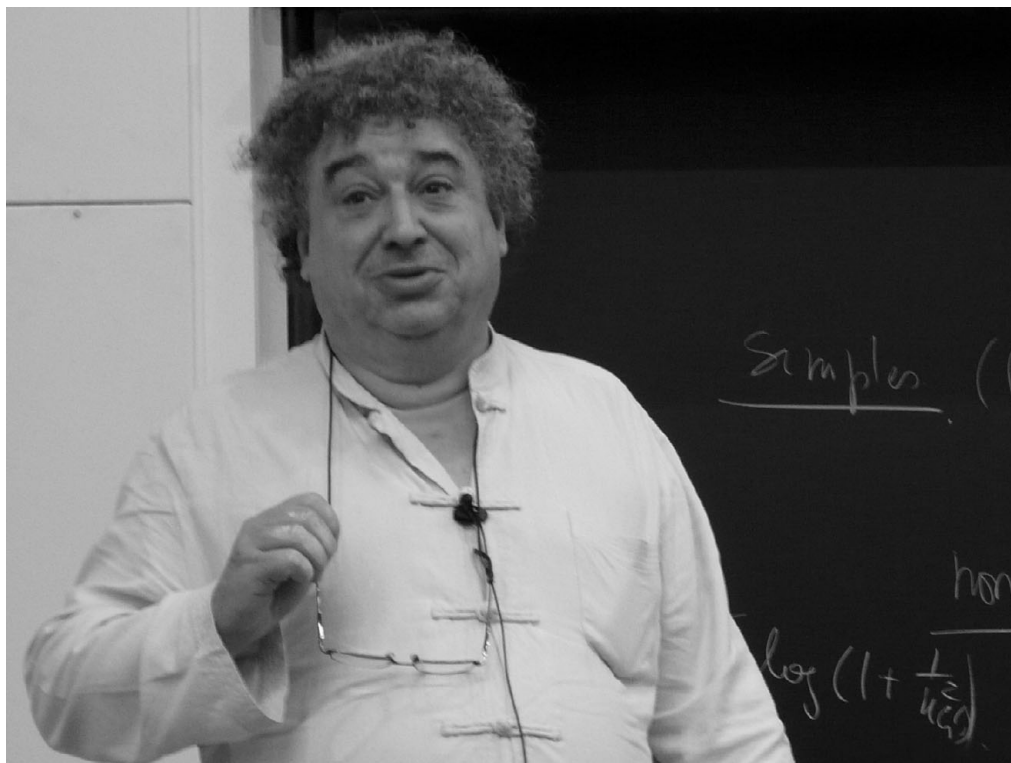


PHILIPPE FLAJOLET
1 December 1948 – 22 March 2011



Philippe Flajolet at the Institut Henri Poincaré in October 2010

Philippe Flajolet, mathematician and computer scientist extraordinaire, the father of analytic combinatorics, suddenly passed away on 22 March 2011, at the prime of his career. He is celebrated for opening new lines of research in the analysis of algorithms, developing powerful new methods, and solving difficult open problems. His research contributions will have an impact for generations, and his approach to research, based on curiosity, discriminating taste, broad knowledge and interests, intellectual integrity, and a genuine sense of camaraderie, will serve as an inspiration to those who knew him, for years to come.

The common theme of Philippe's extensive and far-reaching body of work is the scientific approach to the study of algorithms, including the development of the requisite mathematical and computational tools. During his forty years of research he contributed nearly 200 publications, including many fundamental contributions and representing uncommon breadth and depth. He is best known for his fundamental advances in mathematical methods for the analysis of algorithms, and his research also opened new

avenues in various domains of applied computer science, including streaming algorithms, communication protocols, database access methods, data mining, symbolic manipulation, text-processing algorithms, and random generation. He exulted in sharing his passion: he had more than a hundred different co-authors and he was a regular presence at scientific meetings all over the world.

His research laid the foundation of a subfield of mathematics now known as analytic combinatorics. His life's work, *Analytic Combinatorics* (Cambridge University Press 2009, co-authored with R. Sedgewick), is a prodigious achievement that now defines the field and is already recognized as an authoritative reference.

Analytic combinatorics is the modern basis for the quantitative study of combinatorial structures (such as words, trees, mappings, and graphs), with applications to the probabilistic study of algorithms that are based on these structures. It also strongly influences other scientific domains, such as statistical physics, computational biology, and information theory. With deep historic roots in classical analysis, the basis of the field lies in the work of Knuth, who put the study of algorithms on a firm scientific footing starting in the late 1960s with his classic series of books. Philippe's work takes the field forward by introducing original approaches in combinatorics based on two types of method: symbolic and analytic. The symbolic side is based on the automation of decision procedures in combinatorial enumeration to derive characterizations of generating functions. The analytic side treats those functions as functions in the complex plane and leads to precise characterization of limit distributions. In the last few years, Philippe was further extending and generalizing this theory into a meeting point between information theory, probability theory and dynamical systems.

Philippe Flajolet was born in Lyon on 1 December 1948. He graduated from the École Polytechnique in Paris in 1970, and was immediately recruited as a junior researcher at the Institut National de Recherche en Informatique et en Automatique (INRIA), where he spent his career. Attracted by linguistics and logic, he worked on formal languages and computability with Maurice Nivat, obtaining a PhD from the University of Paris 7 in 1973. Then, following Jean Vuillemin in the footsteps of Don Knuth, he turned to the emerging field of the analysis of algorithms and received a Doctorate in Sciences, both in mathematics and computer science, from the University of Paris at Orsay in 1979. At INRIA, he created and led the ALGO research group, which attracted visiting researchers from all over the world.

He held numerous visiting positions, at Waterloo, Stanford, Princeton, Vienna, Barcelona, IBM and Bell Laboratories. He received several prizes, including the Grand Science Prize of UAP in 1986, the Computer Science Prize of the French Academy of Sciences in 1994, and the Silver Medal of CNRS in 2004. He was elected a Corresponding Member of the French Academy of Sciences in 1994, and a Member in 2003; also in 1995 he was elected a Member of the Academia Europaea.

A brilliant, insightful 'honnête homme' with broad scientific interests, Philippe pursued new discoveries in computer science and mathematics and shared them with students and colleagues for over 40 years with enthusiasm, joy, generosity, and warmth. In France, he was the key figure at the interface between mathematics and computer science, and founded the 'Alea' meetings, which bring together combinatorialists, probabilists and

physicists to share problems and methods involving discrete randomness. More broadly, he was the leading figure in the development of the international 'AofA' community, dedicated to research on probabilistic, combinatorial, and asymptotic methods in the analysis of algorithms. The colleagues and students who are devoted to carrying on his work form the core of his primary legacy.

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BOB SEDGEWICK, Princeton University, New Jersey, USA

MICHELE SORIA, Université Pierre et Marie Curie, Paris, France

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