



Prof. Gian Paolo Beretta

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Gian Paolo Beretta, born in Monza (Milan, Italy) in 1956, father of Nicolò and Federica, is a professor emeritus of the Università degli Studi di Brescia since 2019.

Ex full professor of fluid and thermal sciences, Prof. Beretta education includes a Laurea in nuclear engineering in 1979 from the Politecnico di Milano, a Master of Science in mechanical engineering in 1980 and a Ph.D. in 1982 from MIT. In his 38 year long academic experience in mechanical engineering, he has supervised 86 students and published 72 papers in peer-reviewed international journals and 80 in the proceedings of international conferences. In Web of Science (Researcher ID C-5448-2008), he has 101 articles, 1521 citations, an h-index = 24, and 92 verified Publons reviews. In Scopus, he has 105 articles, 1762 citations, and an h-index = 25. In Google Scholar, he has 153 articles, 3406 citations, and an h-index = 31. He has been assistant professor at MIT (1981-1986), ricercatore at the Politecnico di Milano (1983-1986), associate professor (since 1987) and full professor (1994-2019) at the Università di Brescia (UniBS) where between 1999-2006 he acted as elected Coordinator of the Mechanical Engineering curriculum to lead a major national curricula reform (from 5 yr to 3+2 yr programs). He taught graduate and undergraduate thermodynamics, heat transfer, and fluid mechanics. Between 2012-2016 he headed the Doctoral Program in Mechanical and Industrial Engineering at UniBS. Major scholarly contributions include: a widely used fundamentally based description for flame propagation in spark-ignition engines; a number of studies on the conceptual, mathematical and axiomatic foundations of thermodynamics; a number of experimental studies in the heat transfer and fluid mechanics area; a number of studies on the foundations of quantum physics as related to thermodynamics; several contributions to the geometrization and the extension of the theory of irreversible nonequilibrium processes to the domain of chemical kinetics, quantum thermodynamics [review in [J. Maddox, Nature, Vol.316, p.11 \(1985\)](#)], and nonequilibrium dynamics by the introduction in 1984 of a general evolution equation implementing the principle of Steepest Entropy Ascent [see [The Fourth Law of Thermodynamics, Phil. Trans. Royal Soc. A, Vol. 378, 20190168 \(2020\)](#)]; and the coauthoring with MIT Professor E.P. Gyftopoulos of the authoritative reference textbook [Thermodynamics. Foundations and Applications, Dover 2005](#) (first edition, Macmillan 1991 edition; book reviews in P.T. Landsberg, Nature, Vol. 356, p. 28 (1992) and [M. Silvestri, Int. J. Theor. Appl. Mechanics, Vol. 28, 354 1993](#)). Since 2005 the textbook has been introduced in the prestigious Dover publications collection (635 Google Scholar citations). Prof Beretta has been an ASME member since 1986, elected ASME Fellow in 2006, life member since 2011, awarded the ASME Calvin W. Rice Award in 2011 and the ASME Edward F. Obert Award in 2017. He has been member of the Selection Committee for the [Ilya Prigogine Prize for Thermodynamics](#) since 2008 and its chair since 2017. In 2024 he published with [MIT-OCW the online textbook 2.43 Advanced Thermodynamics](#) (taught at MIT during the 2024 Spring term).

A full list of publications and lectures is available online at the personal scientific webpage: www.gianpaoloberetta.info

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