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Born in 1940, in Lugano, Switzerland

Alessandro Birolini is Professor Emeritus of Reliability Engineering at the Swiss Federal Institute of Technology Zurich (ETH). After his Dipl. Ing. HTL, Dipl. El.-Ing. ETH, Ph.D. (ETH), and 15 years of industrial experience (of which 4 years he was in charge of setting up the Swiss Test Lab. for VLSI ICs in Neuchâtel), from 1986 to 1998, he was Professor and head of the Reliability Laboratory at the ETH (Full Professor since 1992, Lecturer since 1975).

His research field includes fault tolerant systems with hardware and software, stochastic processes for reliability theory, test & screening strategies, and failure mechanisms. He has also been involved in an effective cooperation with 30 large and medium industries for over 10 years [*Quality Eng.* 8(1996)4 pp. 659-674].

He is author of more than 40 research & tutorial papers as well as of several monographs and books, among which the habilitation thesis *On the Use of Stochastic Processes in Modeling Reliability Problems* (Springer 1985) and the book *Reliability Engineering: Theory and Practice* (Springer, 2 sept. 2010 - 627 pages). This book shows how to build in, evaluate, and demonstrate reliability & availability of components, equipment, systems. It presents the state-of-the-art of reliability engineering, both in theory and practice, and is based on the author's 30 years experience in this field, half in industry and half as Professor of Reliability Engineering at the ETH, Zurich. The structure of the book allows rapid access to practical results. Besides extensions to cost models and approximate expressions, new in this edition are investigations on common cause failures, phased-mission systems, availability demonstration and estimation, confidence limits at system level, trend tests for early failures or wearout, as well as a review of maintenance strategies, an introduction to Petri nets and dynamic FTA, and a set of problems for home-work. Methods and tools are given in a way that they can be tailored to cover different reliability requirement levels and be used for safety analysis as well. This book is a textbook establishing a link between theory and practice, with a large number of tables, figures, and examples to support the practical aspects.

Achievements include a new approach to compute the transition probabilities for Markov, semi-Markov & semi-regenerative processes and the development of approximate expressions for the reliability and availability of complex fault tolerant systems.

Alessandro Birolini is a Life Member of the Swiss Academy of Engineering Sciences, Honorary Member of the Academy of Romanian Scientists, Senior Member of the IEEE, Recipient of the IEEE Third Millennium Medal, and was President of the Swiss Information Technology Society and Chairman of the IEEE Switzerland Section, as well as Founder and Chairman of the IEEE Switzerland Reliability Chapter.

Publications in *ETH E - Collection* (Institutional repository of ETH Zurich), *NEBIS* (Libraries and Information Centers in Switzerland), *ETH E - Citations* (Institutional bibliography of ETH Zurich).

References: <https://www.bi.id.ethz.ch/personensuche/detail.do?pid=12D7A&lang=EN>

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