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Expertise

Gerd Vandersteen was born in Belgium in 1968 and received the degree in electrical engineering from the Vrije Universiteit Brussel (VUB), Brussels, Belgium, in 1991. In 1997, Gerd received his PhD in electrical engineering, entitled "Identification of Linear and Nonlinear Systems in an Errors-in-Variables Least Squares and Total Least Squares Framework", from the VUB / dept. ELEC. During his PhD, he obtained the expertise in modeling and analyzing nonlinear systems.

From 1997-2008, Gerd worked at the microelectronic research institute imec, where he worked as Principal Scientist in the Wireless Group in the NES division with the focus on modelling, measurement, and simulation of electronic circuits in state-of-the-art silicon technologies. The wide variety of analogue design problems in which he was involved (RF-PA, RF-LNA, RF-receivers, 60GHz PLL design, sigma-delta modulators) enabled him to obtain theoretical and practical experience in analogue and RF design.

In parallel with working at imec, he collaborated with the dept. ELEC of the VUB on signal processing techniques that enable a simulation-based analysis of nonlinear systems. The developed techniques for nonlinear analysis are based on the so-called Best-Linear-Approximation, a technique that is well known in the identification, measurement, and control society.

He is currently part-time (30%) Director of the Doctoral School of Natural Science and (Bio)Engineering (NSE) at the VUB and is professor at the VUB / dept. ELEC within the context of measuring, modelling and analysis of complex linear and nonlinear systems. In this context, he combines his electronic design knowledge with his nonlinear analysis experience to obtain accurate nonlinear analyses within the practical limitations imposed by the design of analogue and RF circuits.

At the VUB, he teaches courses on the use of CAE-tools for electronic design, as well as microwave design and general telecommunication techniques. Additionally, he is one of the tutors in the international spring school that is organized at the VUB to teach starting PhD researchers the state-of-the-art system identification and modelling techniques.

Research outputs

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