

Biography of Jurriaan Schmitz

Jurriaan Schmitz was born in [Elst, The Netherlands](#) in 1967. He received his M.Sc. (1990, *cum laude*) and Ph.D. (1994) degrees in Experimental Physics at the [University of Amsterdam](#) on research carried out at the [Nikhef research institute](#). In 1990 he was a [CERN Summer Student](#). His research work was on new detectors for tracking and energy measurement of high-energy particles, the so-called MSGC and Spaghetti Calorimeter detectors. In this period he proposed the Micro Trench Gas Counter, employing constant-field rather than radial-field gas amplification, and the DME/CO₂ gas mixture for miniaturized gaseous detectors.



After his Ph.D. he joined [Philips Research](#) as a Senior Scientist (1994-2002), studying CMOS transistor scaling, characterization and reliability. He worked on CMOS transistors from the 0,25 μm to the 90-nm node, studying super-steep retrograde wells, halo (pocket) implants, shallow junctions, GeSi gates, and gate depletion. Later he concentrated on characterization and reliability of CMOS devices, and studied the measurement issues arising from excessive gate leakage. He proposed the RF-CV characterization technique. He patented several new transistor architectures as well as inventions related to embedded flash memories and CMOS-APS image sensors.

In 2002 he became full professor at the [University of Twente](#). He expanded his research interests to include above-IC technologies and light-from-silicon. With his coworkers and PhD students he worked on a variety of topics such as energy harvesting microchips, radiation imaging detectors on CMOS, and RF-CMOS and RF-MEMS reliability. He currently heads a research group of 25 people and supervises 10 Ph.D. students.

He is an executive committee member of the IEEE International Electron Device Meeting ([IEDM](#)), and subcommittee chairman of the European Solid-State Device Research Conference ([ESSDERC](#)). He acted as Technical Program Chair of the 2008 IEEE International Conference on Microelectronic Test Structures ([ICMTS](#)). He served as board member of the Dutch Physical Society ([NNV](#)) and heads the IEEE EDS chapter Benelux. He further heads the Department of Electrical Engineering at the University of Twente and leads Cluster 9 of the Materials Innovation Institute ([M2i](#)).

Prof. Schmitz authored or co-authored over 200 journal and conference papers, 18 patents, and three book chapters. He acts as Editor of IEEE Electron Device Letters.