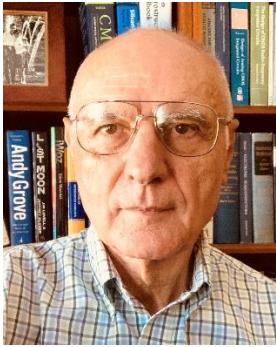


[The IEEE Electron Devices Society](#)

Constantin Bulucea - Distinguished Member of the Technical Staff



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Constantin Bulucea (S'69–M'70–SM'88–F'04– LF'13) was born in Râmnicu Vâlcea, Romania. In 1969, he got a one-year government scholarship at the University of California, Berkeley, where he received a M.S. degree in Electrical Engineering. In 1974, he received his Doctor degree in Electronics from the Polytechnic Institute of Bucharest with a thesis on hot-carrier injection in silicon. His original results were communicated at IEDM and published in the old (W. Crawford Dunlap's) Solid-State Electronics. In Romania, he created the Annual Conference on Semiconductors, now an international IEEE event. His best known contribution from that period is the explanation of Grove's breakdown voltage collapse in silicon gate-controlled devices as a breakdown-location switching phenomenon, as proven by 2-D computer calculations and measurements. Among his "firsts" from the same time is the direct proof, by DC recordings (rather than by capacitive inferences) of nA-range hot-carrier currents through silicon dioxide.

In 1886, Dr. Bulucea defected to the US, where he first developed a device/process architecture for rugged trench power DMOS transistors, while working for Siliconix (1987-1989). His inventive design became a world standard in the following years. Later on, at National Semiconductor (NS), he was a member of the Fairchild Research Center, then joined the company's process development group. There, he enjoyed the last years of Silicon Valley's "Happy Scaling" as the architect of several CMOS processes for high-performance analog and mixed-signal applications (2000-2010). In 2011, he became a Distinguished Member of the Technical Staff of Texas Instruments (TI), as a result of TI's acquisition of NSC. Throughout his tenure at NS and TI, he received three Patent of the Year awards, in recognition of the use of his inventions in high-volume manufacturing. He has published over 50 technical articles in major journals and has 70 issued US patents. In 2001, he was elected an Honorary Member of the Romanian Academy and in 2004 became an IEEE Fellow "for contributions to transistor engineering in the area of power electronics".

Dr. Bulucea has been a member of the Technical Committees of the Bipolar Circuits and Technology Meeting (BCTM) and of the VLSI Technology Symposium. Between 2004 and 2012 he was the editor of IEEE Electron Device Letters (EDL) for analog and mixed-signals technology. His IEEE responsibilities include membership in the IEEE/EDS Fellow Evaluation Committee (2018, 2019) and the IEEE/EDS Publications Committee (current).