

Mark Rodwell

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Education

University of Tennessee	(Electrical Engineering): IC design	B.S., 1980
Stanford University	(Electrical Engineering): signal processing	M.S., 1982
Stanford University	(Electrical Engineering): solid state	Ph.D., 1988

Professional Experience

1981-1984	Member of Technical Staff, AT&T Bell Laboratories
1987-1988	Postdoctoral Research Associate, Stanford University
1988-1992	Assistant Professor, University of California, Santa Barbara
1992-1996	Associate Professor, University of California, Santa Barbara
1996-present	Professor, University of California, Santa Barbara

Honors and Awards:

2022 SIA-SRC University Researcher Award: development of millimeter and sub-millimeter-wave InP HBTs and III-V MOSFETs. 2010 IEEE Sarnoff Award, 2009 IEEE IPRM Conference Award: development of InP-based bipolar IC technology, at device and circuit levels, for mm-wave and sub-mm-wave applications. 1997 IEEE Microwave Prize, 1998 European Microwave Conference Microwave Prize: Development of GaAs sampling ICs underlying many mm-wave commercial instruments. 2012 IEEE Marconi Prize Paper Award: mm-wave line-of-sight MIMO wireless technology. 1994, 1997, 1998, 2014, 2019, 2020, 2021 and 2023 UCSB Electrical Engineering teaching awards. IEEE Fellow. 1989 NSF Presidential Young Investigator Award.

Representative Publications (5 of ~680 total refereed journal and conference publications):

- M. Rodwell, M. Le, B. Brar, (2008). [InP Bipolar ICs: Scaling Roadmaps, Frequency Limits, Manufacturable Technologies](#), Invited Paper, IEEE Proceedings, February.
- M. Rodwell, *et al.* (2001). [Submicron Scaling of HBTs](#), Invited Paper, Special issue on the history and future directions of the bipolar transistor, IEEE Transactions on Electron Devices, Vol. 48, No. 11, p. 2606-2624.
- M. Rodwell, *et al.*, (2015). [50-500GHz Wireless Technologies: Transistors, ICs, and Systems](#), Plenary, 2015 Asia Pacific Microwave Conference, December, Nanjing.
- M. Urteaga, Z. Griffith, M. Seo, J. Hacker, M. J.W. Rodwell, (2017) "[InP HBT Technologies for THz Integrated Circuits](#)", Invited Paper, IEEE Proceedings, vol. 105, no. 6, pp. 1051-1067, June.
- M. Rodwell, *et al.* (2012). [THz Wireless Technologies: Systems, Circuits, Transistors](#), Plenary, European Microwave IC Symposium, October, Amsterdam.

Administrative positions

1997-2018: Director of the UCSB Nanofabrication Laboratory and of the UCSB node of the NSF National Nanofabrication Infrastructure Network (1997-2015). By 2018, the ~1,000-m² facility had a staff of 13, ~\$20 million capital, a \$5 million/year operating budget, and annually served ~275 UCSB researchers and 200 outside industrial users.

2006-2014: Director, SRC Nonclassical CMOS Research Center, developing 22 nm III-V MOS technology for VLSI.

2017-2022: Director, SRC/DARPA Center for Converged TeraHertz Communications and Sensing, a 5-year program involving 22 faculty, ~65 Ph.D. students, and a budget of c.a. \$32 million.