Dr Michael Schroter received his electrical engineering PhD in 1988 from the Ruhr-University Bochum, Germany. He was with Nortel, Ottawa, Canada, as Team Leader and Advisor until 1996 when he joined Rockwell (now Conexant), Newport Beach, California, where he managed the RF Device Modeling Group. Dr Schroter has been a Full Professor at the University of Technology at Dresden (UTD), Germany since 1999, and a Research Professor at UC San Diego, USA. For several years, he was on the Technical Advisory Board of RFMAGIC (now Entropic Inc.), a communication system design company in San Diego, California. Dr Schroter is a co-founder of XMOD Technologies in Bordeaux, France. He is the author of the industrial standard bipolar transistor compact model HICUM, the subject of this monograph. Since 2008, he has been the Technical Program Manager of DOTFIVE, a large European Research project on Half-THz SiGe HBT technology. He is presently on Leave of Absence from TUD to assume the position of Vice President of RF Engineering at RFNano, Newport Beach, California, where he is responsible for the device design of the first production carbon nanotube FET process technology.