

## **Laboratory for RFIC Design and Testing**

Dr. Dai's group does research on integrated circuits and their applications in various disciplines. These applications span a wide range from RF/millimeter-wave to low-frequency high-precision and cryogenic integrated circuits. His research group is involved in both the theoretical analysis as well as the practical implementations of wireless and radar systems in very large scale integrated circuits.

The laboratory for RFIC design and testing at Auburn University is equipped with precision circuit and device measurement required for RFIC and device researches. The laboratory has the major IC design software packages from various vendors such as Cadence, Agilent ADS, Mentor Graphics, Synopsys, and so on. It has over 10 dedicated workstations and high performance PCs for circuit designs. The RFIC team headed by Dr. Foster Dai has extensive experience in designing RFICs using SiGe BiCMOS and CMOS technologies with future size from 0.5 $\mu$ m to 90nm. Dr. Dai's group has the access to major semiconductor foundries such as IBM through Kansas City Plant and MOSIS.

The RFIC design and testing laboratory is located in newly built Shelby Engineering Center (room 2334) and ECE Broun Hall (room 351) with more than 1500 sq. feet space. The laboratory is equipped with Agilent vector network analyzers up to 50GHz (Agilent E8364B), Agilent PGS analog signal generators up to 40GHz (Agilent E8257D and Agilent E8257D), Agilent PSA spectrum analyzers up to 50GHz (Agilent E4446A and HP8563EC), Agilent 40Gs/s digital scope with 12 GHz input BW, Agilent noise figure analyzer up to 26GHz (Agilent N8975A), Cascade microtech RF wafer probe station, Agilent dc power supplies, and two 200sq-foot RF shielded rooms.

In addition, Auburn University has excellent research facilities for device modeling and testing (headed by Dr. Guofu Niu), IC packaging (headed by Dr. Wayne Johnson), VLSI testing (headed by Dr. Vishwani Agrawal, Dr. Charles Stroud and Dr. Adit Singh), MEMS design (headed by Dr. Robert Dean) and microelectronic fabrication (headed by Dr. Bogdan Wilamowski).

