

# RAM Research Overview

| Circuit Techniques   | Test Algorithms   | Error Correction   | Self Repair   | Compiler   |
|--|---|--|---|--|
| <ul style="list-style-type: none"> <li>• DFT for DRAM<br/><i>TC-89</i></li> <li>• DFT for CAM<br/><i>TCAD-88</i></li> <li>• DFT for random test<br/><i>JETTA-92</i></li> <li>• BIST for RAM<br/><i>TIE-89</i></li> <li>• ASIC for memory testing<br/><i>JSSC-91</i></li> </ul> | <ul style="list-style-type: none"> <li>• Parallel PSF<br/><i>DAC-87, ITC-87</i></li> <li>• Parallel parametric tests<br/><i>JSSC-89</i></li> <li>• Parallel stress tests<br/><i>JETTA-94</i></li> <li>• Tests for device-related faults<br/><i>TCAD-93</i></li> <li>• Board-level test<br/><i>JETTA-2000</i></li> </ul> | <ul style="list-style-type: none"> <li>• Double-bit ECC<br/><i>JSSC-92</i></li> <li>• Parallel signature analyzer based ECC<br/><i>JSSC-93</i></li> <li>• Projective geometric code<br/><i>TC-93</i></li> <li>• Radiation study</li> <li>• Reliability analysis</li> </ul> | <ul style="list-style-type: none"> <li>• Pseudo-analog adaptive circuits for self-repair<br/><i>TCAD-96</i></li> <li>• Digital adaptive circuits for self-repair<br/><i>TCAD-93</i></li> <li>• Generalized adaptive self-repair circuit techniques<br/><i>TCAD-92,93</i></li> </ul> | <ul style="list-style-type: none"> <li>• RAM compiler               <ul style="list-style-type: none"> <li>- Self-testing</li> <li>- Self-repair<br/><i>EDAC-99</i></li> </ul> </li> <li>• ROM compiler               <ul style="list-style-type: none"> <li>- Self-testing</li> <li>- Self-repair<br/><i>ICCD-99</i><br/><i>VLSIJ-99</i></li> </ul> </li> </ul> |

- Books written by P. Mazumder
  - ◆ Testing and Testable Design of High-Density RAM, 1996
  - ◆ Fault Tolerance of RAM, 2000
  - ◆ Circuit Techniques for DRAMs (under preparation)

