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Nanyang Technological University (NTU) will create an institute dedicated to resolving IC power, heat, and current leakage issues.

The Institute for Sustainable Nanoelectronics, a joint initiative with Houston-based Rice University, would focus on designing and developing "next generation" embedded chips that consume over 100 times less energy than current models, and will also be cheaper to conceptualize and produce. The institute will be directed by Rice University computer science professor Krishna Palem.

Houston's Rice University and Singapore's Nanyang Technological University announced on Sept. 4 an initiative dubbed, The Institute for Sustainable Nanoelectronics, a joint effort aimed at lowering the cost and power consumption of embedded microchips using nanoscale solutions. The centerpiece of the initiative is the probabilistic CMOS (complementary metal-oxide semiconductor) chip invented by Rice researcher Krishna Palem. PCMOS chips can tolerate nanoscale defects with a tunable numerical precision that trades off errors for lower power consumption.

ISNE will capitalize on the fact that, for small screens, today's graphics chips are over-engineered, and that the brain's ability to perceive less-than-perfect images enables PCMOS and similar nanoscale technologies to harness defects and reproduce indistinguishable results at lower cost and using less power.