• Microelectronics Packaging Research Center was Georgia Tech’s first NSF Engineering Research Center of Excellence.
  o Arrived on campus shortly after I did in the fall of 2004.
  o Wonderful thing for a new president to be able to brag about, but I was keenly aware that the center was attracted to GT through the hard work of others. Today we celebrate their foresight.

• Pioneered a fundamental new design concept: system-on-a-package (as opposed to industry standard of system-on-a-chip)
  o All around us we see cell phones with text messaging and photographic capabilities. We pull RIMs and Blackberries out of our pockets to send and receive e-mail wherever we are. We watch television on our computers and we get high-speed Internet access through our satellite dishes.
  o The rapid proliferation of mixed systems like these have system-on-a-chip folks questioning how far they will be able go in continuing to produce better, small, more cost-effective chips if they have to deal with mixed functions.
  o But traditional packaging of systems doesn’t offer a good solution. Its shortcomings: bulky, costly, unreliable, low performance.

• Goal of the PRC: Overcome both of these problems by creating smaller, more reliable, more cost-efficient computing, communications and consumer functions that are combined in a package no bigger than an Intel Pentium processor.

• PRC is global leader in establishing blueprint for next generation of electronics.
  o Working on leading edge of convergent, mixed-signal and heterogeneous systems on which new products that combine voice, data, video, and sensor capabilities will be based.
  o Features cutting-edge packaging research for:
    ▪ Digital systems
    ▪ Integrated RF/wireless systems
    ▪ Chip-to-chip optoelectronics
    ▪ Area-array wafer-level packaging
    ▪ 3-D electronics and nano-bio electronics

• The demand for this research and its broad interdisciplinary scope are reflected in the PRC:
  o 50 companies from around the world are involved
  o 7 academic units from GT are involved:
    ▪ 30 faculty
    ▪ 300 students
• Industry not only needs new technology from the PRC’s research, but also needs a workforce that understands it.
  o PRC offers group of undergraduate courses that enables students majoring in ECE, ChE, ME, or MSE to develop expertise in packaging. Also opportunities for undergraduate research.
  o PRC developed very first entrepreneurial, practice-oriented master’s program in microelectronics packaging at the master’s degree level.
    ▪ Response to industry needs, which are not met by traditional academic programs.
    ▪ Offers opportunity to do a minor in management and an internship in industry.

• Has been exciting for me to watch PRC grow over past 10 years, pave way for GT to attract other centers of excellence.
  o Thank Rao Tummala for his leadership
    ▪ Has not only grown the PRC into the world’s pre-eminent research and education center, but has also expanded the partnership to Singapore, where GT has an education and research platform in collaboration with the National University of Singapore. He leads joint program of Georgia Tech’s PRC, NUS, and Institute of Microelectronics of Singapore in nano wafer-level packaging.