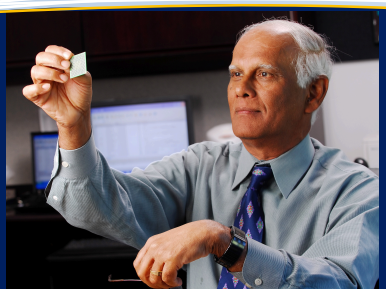
IMSI Special Seminar on Emerging Frontiers in Automotive Electronics and Advanced Manufacturing Science, March 3rd. 2017, The University of Tokyo



Prof. Rao R. Tummala
Pettit Chair Professor in ECE and MSE
Director, 3D Systems Scaling Research Center
Georgia Institute of Technology
Atlanta, GA, USA

About the Speaker

Prof. Rao Tummala is a Distinguished and Endowed Chair Professor in MSE and ECE, and Founding Director of PRC, an NSF ERC at Georgia Tech. He is well known as an industrial technologist, technology pioneer, and educator. Prior to joining Georgia Tech, he was an IBM Fellow, pioneering such major technologies as the industry's first plasma display and the first and next three generations of 100 chip multi-chip packaging. He is the father of LTCC and System-on-Package technologies. As an educator, Professor Tummala was instrumental in setting up the largest Academic Center in Electronics systems at Georgia Tech involving more than 200 PhD and MS students, 25 faculty from ECE, ME, MSE and CHE, and 50 companies from the US, Europe and Asia, all working together with an integrated approach to research, education and industry collaborations in ultraminiaturized and mega-functional System-on-Package technologies.

He received his BE in Metallurgy from Indian Institute of Science, Bangalore and his PhD from University of Illinois, USA.

Prof. Tummala has published more than 500 journal and conference technical papers, holds 90 US patents and inventions; authored and edited the first modern packaging reference book—*Microelectronics Packaging Handbook* (Van Nostrand, 1988), the first undergrad textbook—*Fundamentals of Microsystems Packaging* (McGraw Hill, 2001) and the first graduate textbook introducing System-On-Package technology, comparing and contrasting it with SOC, SIP and 3D ICs. He is a Fellow of IEEE, IMAPS, and the American Ceramic Society, and member of the National Academy of Engineering in US and in India. Prof. Tummala was the President of both IEEE-CPMT and the IMAPS Societies.

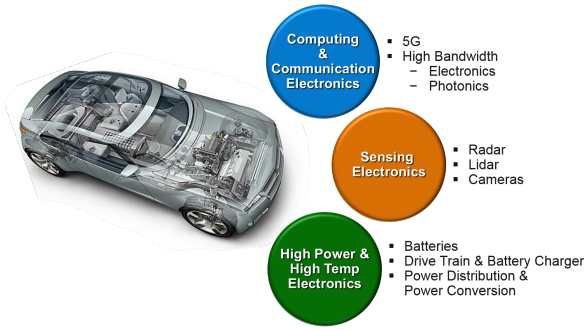
He has received more than 30 industry, academic and professional society awards including the highest faculty award from Georgia Tech, and Distinguished Alumni from University of Illinois and Indian Institute of Science; Bangalore, India and IEEEs David Sarnoff, Major Education and Field Awards.

Keynote speach

Large-scale Industry Consortium in Partnership with Global Companies in New Era of Automotive Electronics by Georgia Tech, USA

Overview

The new trends in automotive electronics such as autonomous driving, in-car smart-phone-like infotainment, privacy and security, and all-electric cars, present unparalelled research, development, manu-facturing, education and marketing opportunities. They require new paradigms in materials, tools, processes, substrates, packages, components and devices in R&D and in manufacturing. Georgia Tech sees unprecedented challenges and opportunities to address these challenges and proposes a systematic approach to system scaling, system integration, innovative 3D device and package architectures and heterogeneous integration of many functions with particular focus in electrical, mechanical and thermal designs and new digital, RF, radar, LiDAR, camera, millimeter wave, high-power and high-temp technologies.



NAE – The Next Big Electronics Market.

The Georgia Tech team proposes to explore transformative technologies, educate large number of highly-interdisciplinary students and involve global companies in R&D and manufacturing of materials, tools, processes, substrates, devices, components, assembly, and test to form a total global supply chain for manufacturing.

Georgia Tech is developing a large-scale industry consortium involving IDMs, OEMs, OSATs, Package Foundries as well as Package Materials and Tool companies.

This presentation describes the vision, strategy, team, facilities, technical and education programs and status of Georgia Tech's industry consortium.

Georgia Tech is looking for Japanese partners to collaborate in all the above areas.

Who Should Attend

Senior managers and executives of semiconductor, package materials, tool and consumer systems companies.

Georgia Tech