Distinguished Lecturer Program by IEEE CAS Society (CASS) SBC60981AG

Date: 08.04.2024

Time : 07.00PM to 08.00PM (IST) through gmeet link

Distinguished Lecturer Program -IEEE CAS Society
Monday, 8 April · 19:00 – 20:00
Time zone: Asia/Kolkata
Google Meet joining info
Video call link: https://meet.google.com/jwt-izhy-kse
Or dial: (US) +1 252-574-6333 PIN: 775 946 514#

Distinguished Lecturer: Prof.Emre Salman,
Professor and Industry Liason,
Department of Electrical and Computer Engineering,
Stony Brook University, New York, USA

Title: Thermal-Centric Design Methodologies for Monolithic 3D Integrated Circuits

The Distinguished Lecturer Program started with the Welcome Address and Introduction of the Resource Person by **Ms. S,Usha, Advisor, IEEE Circuits and Systems Society, Sri Sairam Engineering College.** Next, the session was taken over by Prof. Emre Salman. 90 participants attended this DLP.

Monolithic 3D integration represents a promising avenue for advancing integrated circuit (IC) technology, offering enhanced performance and functionality in a compact footprint. Thermal management is a critical aspect of Monolithic 3D IC design due to increased heat density resulting from vertical stacking of device layers. Design methodologies focusing on thermal-centric approaches aim to mitigate thermal challenges while optimizing performance and reliability. These methodologies encompass various techniques such as thermal-aware floorplanning, placement, and routing to ensure efficient heat dissipation and temperature uniformity across the 3D IC.Advanced thermal simulation tools and models play a crucial role in predicting and analyzing thermal behavior at different design stages. Thermal-aware design optimization algorithms are employed to balance trade-offs between thermal, electrical, and physical constraints, maximizing overall system performance. Integration of microfluidic cooling solutions and novel materials with high thermal conductivity further enhances thermal management in Monolithic 3D ICs. Collaborative efforts between design, packaging, and thermal experts are essential for developing holistic approaches to thermal-centric design in Monolithic 3D ICs.By prioritizing thermal considerations throughout the design process, thermal-centric methodologies pave the way for the development of next-generation Monolithic 3D integrated circuits with improved performance, reliability, and energy efficiency.

He also answered the queries asked by our students. The vote of thanks was proposed by Mr. Ramakrishnan Sriram, third year ECE student of our college.

We take this opportunity to thank our **CEO sir, Principal sir, Dean (Academics) and HOD-ECE Dr.J.Raja sir** for their support and guidance towards the successful completion of this Distinguished Lecturer Program.


Emre Salman (Presenting)
Types of Data Movement and Energy Cost
20mm
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1.3
Access 256 bit in 8kB SRAM
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Bill Dally, Keynote Talk at HiPEAC, 2015
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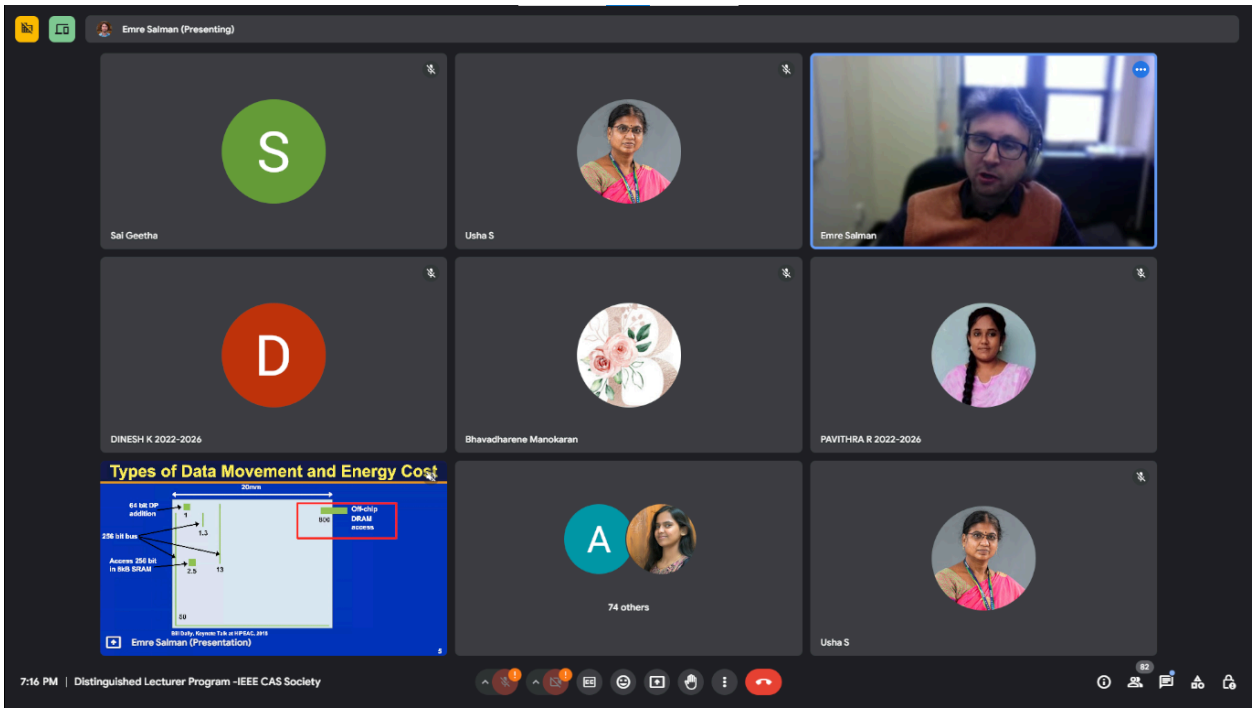
Emre Salman
Sai Geetha
Usha S
Sai Preetha
DINESH K 2022-2026
Bhavadharene Manoka...
PAVITHRA R 2022-2026
ANITHA R 2022-2026
70 others
Usha S
7:15 PM | Distinguished Lecturer Program -IEEE CAS Society


Emre Salman (Presenting)
Sai Geetha
Usha S
Emre Salman
DINESH K 2022-2026
Bhavadharene Manokaran
PAVITHRA R 2022-2026
Types of Data Movement and Energy Cost
Emre Salman (Presentation)
74 others
Usha S
7:16 PM | Distinguished Lecturer Program -IEEE CAS Society