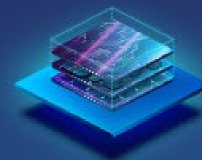
WORKSHOP

Emerging thermal metrology needs for 3D HI microsystems

2023 ERI SUMMIT



PROGRAM MANAGER(S): Dr. Yogendra Joshi and Dr. Tom Kazior/MTO

DATE: Thursday, August 24, 2023	**TIME:** 8:30am-11:30am
ROOM NAME: Elwha B – 5th Floor	

DESCRIPTION

Characterization of 3DHI systems during manufacturing, test, and operation requires spatially and temporally resolved thermal measurements for all tiers within the 3D stack. The interior tiers in a 3DHI stack pose significant challenges, as infra-red and optical techniques cannot be used, and the resolution with other thermometry approaches are not adequate. This workshop will focus on thermal metrology needs and emerging approaches to enable 3DHI systems of the future. The workshop will include four talks (20 minutes each) by leading experts, followed by a panel (55 minutes).

AGENDA

8:30am-8:45am	Workshop Introduction **Dr. Yogendra Joshi and Dr. Tom Kazior / MTO PMs / DARPA**
8:45am-9:05am	Thermal Metrology Needs for 3DHI **Dr. Shankar Devasenathipathy / Engineering Manager / Intel**
9:05am-9:25am	Achieving Nanoscale to Mesoscale 3D Thermal Resistance Measurements With Optical Methods **Prof. Patrick Hopkins / Professor, President / University of Virginia, LaserThermal**
9:25am-9:45am	3D Thermometry for Heterogenous Integration **Prof. David Cahill / Professor / University of Illinois, Urbana-Champaign**
Morning Break: 9:45am-10:15am	
10:15m-10:35am	Full-Field Transient Thermal Imaging for 3D IC Metrology **Dr. Mo Shakouri / President / Microsanj**
10:35am-11:30am	Panel Discussion Challenges and Opportunities in 3D HI Thermal Metrology; Open discussion of key thermal metrology challenges and promising future directions
Workshop Concludes at 11:30am	