

SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
COLLEGE OF DESIGN AND ENGINEERING

Website: <https://cde.nus.edu.sg/ece>

Area: Integrated Circuits & Embedded Systems (ICES)

Host: Dr Gundu Anil Kumar

TOPIC	:	Self-Referenced Design-Agnostic Laser Voltage Probing Attack Detection with 100% Protection Coverage, 58% Area Overhead for Automated Design
SPEAKER	:	Mr Zhang Hui Graduate Student, ECE Dept, NUS
DATE	:	Wednesday, 22 January 2025
TIME	:	10:00AM-11:00AM
VENUE	:	Join Zoom Meeting https://nus-sg.zoom.us/j/85036787780?pwd=UDcc6lGyUY8fb4Nn9coMi0UmPjkYvA.1 Meeting ID: 850 3678 7780 Passcode: 478051

ABSTRACT

A self-referenced distributed on-chip scheme is introduced to achieve continuous detection of laser voltage probing (LVP) attacks against digital IPs with full-area coverage via temperature sensing. Calibration-free, automated and design-agnostic adoption are enabled by a stdcell-based approach, offering a 2.5X area overhead reduction compared to prior art.

BIOGRAPHY

Hui Zhang is currently working on designing and developing circuitry-level countermeasures against laser-based physical attack against encryption digital ICs as a Research Engineer at Green IC group. Before joining the group, he was working for two years at FINISAR Corp, Shanghai China, where he developed 100Gbps QSFP28 optical transceiver and AOC products for datacenter applications. Hui is holding double Bachelor Degrees of 1st Class Honors B.Eng in Electronics and Electronics Science and Technology from University of Liverpool, UK, and Xi'an Jiaotong-Liverpool University, China respectively. Hui also holds MRes Degree in Integrated Photonics and Electronic System from University of Cambridge, UK.

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