NEHWS Day 2025

April 18th, 2025
Massachusetts Institute of Technology
Samberg Conference Center, Chang Building

Time			Session
9:00 - 9:15	Welcome Remarks		Session chair: TBA
9:15 - 9:30	Opening remarks		Session chair: TBA
	News from the NEHWS Community		
9:30 - 10:30	Invited Keynote by Todd Austin (UMich)		
10:30 - 10:45	Break		
10:45 - 12:00	Submitted Talks-- Session I		Session chair: TBA
	Long Talk	FaultDetective: Explainable to a Fault, from the Design Layout to the Software Zhenyuan Liu, Dillibabu Shanmugam and Patrick Schaumont	
	Short Talk	BackMon: IC Backside Tamper Detection using On-Chip Impedance Monitoring Tahoura Mosavirik and Shahin Tajik	
	Long Talk	Who's in Control? Security Risks in Commercial ADAS Yingjie Cao, George Crane, Haoqi Shan and Dean Sullivan	
	Short Talk	Energy-Accuracy-Security Trade-offs in Resistive In-Memory Computing Architectures Saion Roy and Naresh Shanbhag	
	Long Talk	VGF: Value-Guided Fuzzing -- Fuzzing Hardware as Hardware -- Ruochen Dai, Michael Lee, Patrick Hoey, Weimin Fu, Yier Jin, Xiaolong Guo, Shuo Wang, Dean Sullivan, Tuba Yavuz and Orlando Arias	
	Short Talk	USBSnoop - Revealing Device Activities via USB Congestions Davis Ranney, Yufei Wang, A. Adam Ding and Yunsi Fei	
12:00 - 1:30	Lunch and Poster Session		
1:30 - 2:30	Panel Discussion "Secure-by-Construction for Hardware Design: Mission Impossible or Walk in the Park?" - Shivam Basin (Nanyang Technical University) - Srini Devadas (Massachusetts Institute of Technology) - Sharad Malik (Princeton University) - Christof Paar (Max Planck Institute) - Dominic Rizzo (zeroRISC)		Session chair: Seetal Potluri
2:30 - 3:30	Invited Keynote by Ed. Suh (Nvidia)		Session chair: TBA
3:30 - 3:40	Break		
3:40 - 4:45	Submitted Talks-- Session II		Session chair: TBA
	Long Talk	Exploiting Exclusive System-Level Cache in Apple M-Series SoCs for Enhanced Cache Occupancy Attacks Tianhong Xu, Aidong Ding and Yunsi Fei	
	Short Talk	Uncertainty Estimation in Neural Network-enabled Side-channel Analysis and Links to Interpretability Seyedmohammad Nouraniboosjin and Fatemeh Ganji	
	Long Talk	Oreo: Protecting ASLR Against Microarchitectural Attacks Shixin Song, Joseph Zhang and Mengjia Yan	
	Short Talk	Cross-Layer EM Fault Injection Assessment Framework Hanqiu Wang, Ruochen Dai, Tuba Yavuz, Xiaolong Guo, Orlando Arias, Dean Sullivan, Siqi Dai, Honggang Yu, Michael Lee, Domenic Forte and Shuo Wang	
	Long Talk	IvLeague: Side Channel-resistant Secure Architectures Using Isolated Domains of Dynamic Integrity Trees Md Hafizul Islam Chowdhuryy and Fan Yao	
4:45 - 5:45	Invited Keynote by Makoto Nagata (Kobe University)		Session chair: TBA
5:45 - 6:00	Best Poster Award and Closing Remarks		Session chairs: Yingjie Lao
6:00 - 7:00	Networking reception		