

NIST Integrated Circuits for Metrology Workshop

September 20, 2022 – September 21, 2022

September 20, 2022: Invitational Speakers

Workshop Facilitators: Brian Hoskins, Angela Kang, Pauline Truong

10:00 am – 10:10 am (EDT)	Welcome & Introduction	Brian Hoskins (NIST)
10:10 am – 10:50 am (EDT)	CMOS Characterization	Anthony Chou (IBM)
10:50 am – 11:25 am (EDT)	CMOS Reliability	Stephen Ramey (Intel)
11:25 am – 11:50 am (EDT)	CMOS Cryogenics	Alexander Grill (IMEC)
11:50 am – 12:15 pm (EDT)	CMOS & Memory	Dan Mocuta (Micron)
12:15 pm – 12:45 pm (EDT)	CMOS Electrical Characterization: Needs, Future, Challenges	

This panel will include experts in integrated circuit design and electrical measurement to discuss the future metrology needs for CMOS technology from legacy to advanced nodes.

Moderator: Jason Campbell (NIST)

Panelists: Andreas Oloffson (ZeroASIC), Jason Verley (Sandia), Alexander Petr (Keysight), Pragya Shrestha (NIST)

12:45 pm – 1:15 pm (EDT) Break for Lunch

1:15 pm – 1:30 pm (EDT)	Foundry Value Chain	Subhasish Mitra (Stanford)
1:30 pm – 1:50 pm (EDT)	Superconducting Electronics	Karl Berggren (MIT)
1:50 pm – 2:10 pm (EDT)	BioCMOS	Andrew Mason (MSU)
2:10 pm – 2:30 pm (EDT)	Phase Change	Victor Chan (IBM)
2:30 pm – 2:50 pm (EDT)	Ferroelectrics	Asif Khan (Georgia Tech)
2:50 pm – 3:10 pm (EDT)	Photonic Chips	Marcel Pruessner (NRL)
3:10 pm – 3:25 pm (EDT)	15 Minute Break	
3:25 pm – 3:55 pm (EDT)	Metrology, R&D, and Expanding the Foundry Value Chain	

This panel will include experts in materials to systems prototyping for diverse technologies to discuss the opportunities in meeting the metrology challenges of new innovations in the semiconductor and foundry supply chains.

Moderator: Mark Stiles (NIST)

Panelists: Tom Boone (WDC), Ken Shepard (Columbia), Rashmi Jha (U. Cincinnati), Jean Anne Incorvia (U. Texas)

3:55 pm – 4:10 pm (EDT)	Open Source for Science	Tim Ansell (Google)
4:10 pm – 4:30 pm (EDT)	Closing Remarks	Brian Hoskins (NIST)

September 21, 2022: Working Group Meeting on the Nanotechnology Accelerator Platform

Workshop Facilitators: Brian Hoskins, Angela Kang, Pauline Truong

1:00 pm – 1:15 pm (EDT)	Welcome & Introduction	Brian Hoskins (NIST)
1:15 pm – 1:30 pm (EDT) Steve Kosier (Skywater)	Skywater Open Source Technology	
1:30 pm – 1:40 pm (EDT) Michigan)	SSCS Committee on Open-Source	Mehdi Saligane (U.
1:40 pm – 1:45 pm (EDT)	Michigan Test Structures	Mehdi Saligane (U. Michigan)
1:45 pm – 1:50 pm (EDT)	Maryland Test Structures	Advait Madhavan (UMD)
1:50 pm – 1:55 pm (EDT)	GWU Test Structures	Gina Adam (GWU)
1:55 pm – 2:00 pm (EDT)	CMU Test Structures	Rick Carly (CMU)
2:00 pm – 2:15 pm (EDT)	Open Discussion Memory/AI Technologies	
2:15 pm – 2:30 pm (EDT)	Open Discussion Thin Film Transistors	
2:30 pm – 2:45 pm (EDT)	Open Discussion Bioelectronics	
2:45 pm – 3:00 pm (EDT)	Open Discussion All topics	