HIR Workshop @ ECTC 2023

Conference Room Palazzo E

Tuesday May 30th ,2023

8:00 am – 4:30 pm

08:00 am – 8:30 am Welcome & Agenda Review

08:30 am – 10:00 am AI/ML in Package Co-Design for Chiplets Perspective

10:15 am – 11:45 am Heterogeneous Integration of MEMS & Sensors : Challenges and Opportunities

Lunch Break

01:15 pm – 02:45 pm The CHIPS and Science Act

03:00 pm – 04:30 pm Additively Manufactured Electronics for Heterogenous Integration

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HIR Special Session @ ECTC 2023

AI/ML in Package Co-Design for Chiplets Perspective

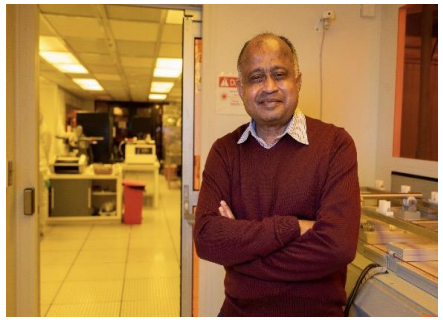
May 30th ,2023 - 08:30 am – 10:00 am

The session will address the co-design science & engineering in heterogeneous integration - Chiplets perspective addressing questions from both academic and industry research standpoint with the goal to forge a vision for basic research for next decade. Developments in AI/ML as well as systems requirements and advanced packaging technologies will be included.

Jose E. Schutt-Aine

Organizers - Moderators:

Jose E. Schutt-Aine (U Illinois) & Madhavan Swaminathan (Penn State U)



Madhavan Swaminathan

Panelists:

CP Hung (ASE)
Shaloo Rakheja (U Illinois)
Atom Watanabe (IBM)
Vaishnav Srinivas (Qualcomm)
Erik Jung (Fraunhofer IZM)

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HIR Special Session @ ECTC 2023
Heterogeneous Integration of MEMS/Sensors: Challenges and Opportunities

May 30th ,2023 - 10:15 am – 11:45 am

In this session, panelists from HIR technical working groups will collaborate in describing the challenges and opportunities for the heterogeneous integration of MEMS from their perspective in application requirements such as mobile, automotive, Internet of Thing (IoT) as well as highlighting power, and thermal requirements, challenges and solutions decades into the future.

Organizer - Moderator: Mary Ann Maher (Soft MEMS)

Advisor: Shafi Saiyed (ADI)

Panelists:

Mobile TWG: Benson Chan (Binghamton University)

Automotive TWG: Veer Dhandapani (NXP)

IoT TWG: Rockwell Hsu (Cisco) & Robert Lo (ITRI)

Thermal TWG: Yin Hang (Meta)

Power TWG Cian O Mathuna (Tyndale)

Session Moderator

Mary Ann Maher

Session Advisor

Shafi Saiyed

HIR Special Session @ ECTC 2023
The CHIPS and Science Act
May 30th ,2023 - 01:15 pm – 02:45 pm

The CHIPS and Science Act of 2022 provided the Department of Commerce resources for a suite of programs to strengthen and revitalize the U.S. position in semiconductor research, development, manufacturing, and investment in American workers. In this session the NIST CHIPS leadership will present to the ECTC community the four components of the CHIPS for America R&D program, including the National Semiconductor Technology Center, the National Advanced Packaging Manufacturing Program, Manufacturing USA, and the NIST Metrology & Standards program

Organizer - Moderator: David Seiler (NIST), Tim Lee (Boeing) & William Chen (ASE)

NIST CHIPS Speakers:

- Eric K. Lin, Interim Director, *CHIPS R&D*
- George Orji, Senior Advanced Packaging Advisor for *NAPMP, CHIPS R&D*
- Marla Dowell, CHIPS Metrology Director, CHIPS R&D
- Robert Rudnitsky, Associate Director & Division Chief (Acting) for Policy & Strategy, Office of Advanced Manufacturing

Session Moderators

David Seiler

Tim Lee

William Chen

HIR Special Session @ ECTC 2023
The CHIPS and Science Act

May 30th ,2023 - 01:15 pm – 02:45 pm

Agenda

1:15 pm – 1:20 pm	Introduction	Moderators
1:20 pm - 1:45 pm	CHIPS R&D Overview	Eric K. Lin, Interim Director, CHIPS R&D
1:45 pm - 2:00 pm	CHIPS R&D Advanced Packaging	George Orji, Senior Advanced Packaging Advisor
2:00 pm - 2:15 pm	CHIPS R&D Metrology	Marla Dowell, Metrology Director
2:15 pm - 2:30 pm	CHIPS Advanced Manufacturing	Robert Rudnitsky, NIST Office of Adv Mfg
2:30 pm – 2:45 pm	Questions & Answers with Audience	

Notes:

1. Very Short Q&A during each speaker's presentation if time permits
2. 2:30 pm – 2:45 pm time slot for all speaker's Q&A
3. Presentation titles tentative

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HIR Special Session @ ECTC 2023

Additively Manufactured Electronics for Heterogenous Integration

May 30th, 2023 - 03:00 pm – 04:30 pm

This HIR session will focus on the application of Additive Manufacturing Electronics (AME) for heterogeneous integration, highlighting the benefits of AME methods, recent AME science and technology advances, promising AME applications and growth areas requisite for electronics industry adoption.

Organizer Kris Erickson, Meta
Advisor Annette Teng, AIM Phtonics
Panelists

- **Christine Kallmayer -** Fraunhofer IZM
- **Mark Poliks –** Binghamton University
- **Mike Newton -** nScrypt
- **Girish Wable -** Jabil
- **Eric Dede -** Toyota Research Institute of North America

Kris Erickson (Meta)

Annette Teng (AIM Photonics)