Workshop on

STRATEGIES TO REVITALIZE THE
ON-SHORE PACKAGING AND ASSEMBLY
DEFENSE INDUSTRIAL BASE

www.imaps.org/backuping

October 3, 2022
Hynes Convention Center | Boston, Massachusetts USA

General Co-Chairs:
Jim Will, SkyWater Technology; Chris Riso, Booz Allen Hamilton Inc.

Organizing Committee:
Brandon Hamilton, Booz Allen Hamilton, Inc.
Anthony Bednarz, Lockheed Martin
Dave Shahin, Northrop Grumman
Mark Dimke, Sandia National Labs.

Speakers by Invitation Only

Overview: The International Microelectronics Assembly and Packaging Society (IMAPS) will host a one-day Workshop to discuss and promote strategies to improve On-Shore Packaging and Assembly Capabilities on Monday, October 3, 2022, at the Hynes Convention Center, Boston, Massachusetts. The mission of this workshop is to engage our workforce community to identify solutions, which address US Government and Defense requirements, critical to the onshoring of the microelectronic assembly and packaging supply chain.

MONDAY, OCTOBER 3

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00am-5:30pm</td>
<td>Registration Open</td>
</tr>
<tr>
<td>7:00am-8:00am</td>
<td>Breakfast</td>
</tr>
<tr>
<td>8:00am-8:15am</td>
<td>Opening Remarks: Workshop Chairs (Room 210)</td>
</tr>
<tr>
<td></td>
<td>Jim Will, SkyWater Technology; Chris Riso, Booz Allen Hamilton Inc.</td>
</tr>
</tbody>
</table>
**KEYNOTE & SHIP SESSION** (Room 210)
Session Chair: Chris Riso, Booz Allen Hamilton Inc.

**8:15am - 8:45am**
**KEYNOTE:** DoD’S STATE-OF-THE-ART (SOTA) HETEROGENEOUS INTEGRATED PACKAGING (SHIP) PROGRAM

Darren J. Crum, Naval Surface Warfare Center, Crane Division - Technical Lead of the SHIP Program for OUSD(R&E) – Modernization Microelectronics

Dr. Darren Crum is a technical leader with more than 20 years of experience in advancing microelectronics engineering in the defense industry through visionary strategies, collaborative public-private partnerships, and capability development leveraging inspired teams. He is a Technical Area Lead and Program Technical Manager for microelectronics advanced packaging at the Naval Surface Warfare Center, Crane Division (NSWC Crane) directly supporting the Office of Under Secretary of Defense for Research & Engineering’s Trusted & Assured Microelectronics Program and the SOTA Heterogeneous Integrated Packaging (SHIP) Program. He also serves as a government representative in various microelectronics industry working groups.

Dr. Crum received the Meritorious Civilian Service Award in March 2022 for his leadership in the Department of Navy’s technology protection efforts.

Dr. Crum holds a PhD in Organization and Management with a focus on Government Innovation Strategy, completed at Capella University. He has a Master of Public Administration from Indiana University and a Bachelor of Science in Electrical Engineering from the University of Kentucky.

**8:45am - 9:10am**
**SHIP DIGITAL**
John Sotir, Intel

**9:10am - 9:35am**
**SHIP RF**
Ted Jones, Qorvo

**9:35am - 10:00am**
**The Evolution of Moore's Law through Chipletized Architectures**
Tony Trinh, Mercury Systems

**10:00am - 10:30am**
**SHIP SESSION Q&A**

**10:30am - 11:00am**
**Break**

**11:00am - 12:00pm**
**PANEL DISCUSSION: DEFENSE INDUSTRIAL BASE (DIB) ECOSYSTEM** (Room 210)
Moderator: Jim Will, SkyWater Technology

Panelists:
Helen Phillips, Northrop Grumman – Director Advanced Operations
Anthony Bednarz, Lockheed Martin – Engineering Project Manager, Advanced Sensors
Susan Trulli, Raytheon Technologies, RMD Advanced Micro. Solutions | Principal Engineering Fellow
Jim Vandevere, BRIDG

**12:00pm - 1:00pm**
**Lunch**
| SESSIONS | SESSION 1: SUBSTRATES & MATERIALS MANUFACTURING  
(Room 210) | SESSION 2: ENABLING & DISRUPTIVE TECHNOLOGIES  
Session Chair: Anthony Bednarz, Lockheed Martin (Room 206) |
|---|---|---|
| 1:10pm-1:35pm | Organic Substrate Process and Commercial Practices  
Tomoyuki Yamada, Kyocera | Co-Packaged Optics (CPO) of Silicon Photonics Optical I/O Chiplet  
Steve Groothuis, Ayar Labs |
| 1:35pm-2:00pm | Advances in Glass Interposers for (Beyond) 5G mmW Communications  
Madhavan Swaminathan, Georgia Tech | Design and Manufacturing for Additive and Flexible Electronics  
Patricia Beck, NextFlex |
| 2:00pm-2:25pm | SESSION PANEL DISCUSSION: ONSHORING ADVANCED SUBSTRATES & MATERIALS  
Meredith LaBeau, Calumet Electronics;  
Habib Hichri, Ajinomoto USA;  
Mike Gleason, GreenSource Fabrication;  
Jim Haley, EMD Group;  
John Swanson, MacDermidAlpha | Wafer Scale 3DHI for Next Generation RF Electronics  
Jeff Herd, MIT Lincoln Laboratory |
| 2:25pm-2:50pm | Low Volume, High Mix R&D and High-Reliability Production  
Scott List, Sandia National Labs. | Heterogeneous Integration of III-V Devices: Successes and Challenges  
John Lannon, Micross |
| 2:50pm-3:15pm | Advanced Packaging Needs and Issues in Perspective of High-reliability Space Applications  
Eric Suh, NASA JPL | When Chips Become Systems  
John Park, Cadence |
| 3:15pm-3:40pm | Design for Manufacturing: Package Design Cleaning Compatibility for High Reliability Electronic Assembly  
Tim Pearson, Collins | Establishing Domestic Heterogeneous Integration Capability  
Alan Huffman, SkyWater Technology |
| 3:40pm-4:05pm | | |
| 4:05pm-4:30pm | | Break |
| 4:30pm-5:30pm | PANEL DISCUSSION: WORKFORCE DEVELOPMENT  
Moderator: John Lannon, Micross (Room 210) | |
| | Panelists:  
Jim Vandevere, BRIDG  
Darren J. Crum, Naval Surface Warfare Center, Crane Division  
Jerry Roberson, Northrop Grumman | |
| 5:30pm | Closing Remarks | |
| 5:30pm-7:00pm | WELCOME RECEPTION  
with IMAPS 2022 Symposium  
All Workshop Attendees Invited!  
(2nd Floor Boylston Hallway) | |
Immediately following the conclusion of the Workshop, please join the IMAPS 2022 attendees for the **Welcome Reception** and the **DEI Session on Equity vs. Equality**!

---

**WELCOME RECEPTION**

*Open to all IMAPS 2022 & On-shoring Workshop participants*

5:30 pm – 7:00 pm  
2nd Floor Boylston Hallway  

Sponsored by:  

[ ASE GROUP ]

---

**IMAPS DEI TOWNHALL DISCUSSION and RECEPTION:**

*EQUITY vs. EQUALITY IN THE WORKPLACE*

7:00 pm – 8:00 pm  
Meeting Room 210  

Sponsored by:  

[ Honeywell ]

**Chair:** Robin Davis, Deca Technologies  
**Committee:** Erica Folk, Northrop Grumman; Beth Keser, Intel; Dan Krueger, Honeywell; Urmi Ray, iNEMI; Nicole Wongk, Honeywell

*This will be a one-hour townhall – open discussion and panel format. Join us for open and lively conversation around many important topics for all to consider in today’s challenging work environment, including the important differences between equity and equality in the workplace.*

**PANELISTS:**

KT Moore, Cadence Design Systems - VP Corporate Marketing & Business Development  
Shelby Nelson, Mosaic Microsystems – Chief Technical Officer  
Urmi Ray, Saras Micro Devices – Chief Technology Officer  
Jean Trewhella, GlobalFoundries - Director of PostFab New Product Introduction  
Susan Trulli, Raytheon Technologies, RMD Advanced Micro. Solutions | Principal Engineering Fellow

*Food & Drink Provided*