



PROGRAM MANAGER: Dr. Anna Tauke-Pedretti / MTO

DATE: Thursday, August 24, 2023	TIME: 12:30pm-3:30pm
ROOM NAME: Quinault – 5 th Floor	

DESCRIPTION

Moving data to the optical domain closer to the computational cores enables new compute architectures and may lead to increased robustness in extreme environments. This workshop will explore what is needed to move data immediately to the optical domain and add photonic integrated circuits to a 3DHI microsystem chip stack. Computing, sensing and data transmission architectures that would benefit from these microsystems will be discussed bringing to the forefront the technical challenges that must be overcome.

AGENDA

12:30pm-12:45pm	Introduction Anna Tauke-Pedretti / Program Manager / DARPA MTO
12:45-12:55	Discussion
12:55pm-1:10pm	Architecture Enablement: DOE HPCs Si Hammond/DOE NNSA HPC Program Manager “Enabling technologies for next generation high performance computer architectures”
1:10-1:20	Discussion
1:20pm-1:35pm	Architecture Enablement: Wafer-scale processors Andrew Feldman/Cerebras “Interconnect bandwidth needs for wafer-scale processor architectures”
1:35-1:45	Discussion
Break: 1:45-2:15 pm	
2:15pm-2:30pm	Technology Challenges: On wafer gain John Bowers/UCSB “Overview of integrated gain technologies for 3D optoelectronic systems”
2:30-2:40	Discussion
2:40pm-2:55pm	Technology Challenges: Large scale photonics/Si photonics Keren Bergman/Columbia “Challenges and limitations of enabling very large scale integrated photonics”
2:55-3:05	Discussion
3:05pm-3:20pm	Technology Challenges: Fiber Attach Technology Peter O’Brien/Tyndall and University of Arizona “Key photonic I/O technology challenges to enable 3D light routing”
3:20-3:30	Discussion
Workshop Concludes: 3:30 pm	