

Wednesday Morning, August 16, 2023

Keynote Address

Room Davis Hall 101 - Session KEY-WeM

Keynote Address III

Moderators: Hari Nair, Cornell University, Uttam Singisetti, University of Buffalo, SUNY

8:30am KEY-WeM-1 Welcome and Opening Remarks,

8:45am KEY-WeM-2 Gallium Oxide Microelectronics for Department of Air Force Applications, *Kelson Chabak*, Air Force Research Laboratory **INVITED**

The Department of Air Force (DAF) and DoD are pivoting to decentralized warfare to win future conflicts. The unique warfighting domains of the DAF require multi-function sensing that demand increased power in small volume platforms. Many of these domains have unique challenges such as no active cooling, temperature extremes, and radiation that require efficient wide and ultra-wide semiconductors. AFRL is a global leader in developing Gallium Oxide device technology for lateral and vertical power conversion with promising operation for switching applications. Further, we have found Gallium Oxide a robust high-temperature microelectronics technology. This presentation will highlight the above and other recent progress of AFRL to mature and transition Gallium Oxide for various RF and power switching applications.

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