

SESSION 7a: THERMAL DESIGN I

Chair: John Blevins, *Air Force Research Laboratory*

This session contains four exciting papers aimed at improving the thermal management of next generation gallium nitride power amplifiers. The first paper is an invited talk from DARPA highlighting their Intra/Interchip Embedded Cooling (ICECool) Program. Subsequent papers will present results achieved under DARPA's Near Junction Thermal Transport (NJTT) Program. The NJTT Program is investigating thermal management approaches at the transistor level. The second paper by Northrop-Grumman explores the use of diamond filled vias for near junction cooling. The third and fourth papers are presented by BAE and Raytheon, respectively, who are pursuing techniques to integrate diamond films in close proximity to the gallium nitride transistor active channel.

