

## **SESSION 7a: PROCESS II - METAL**

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It seems that every year the diversity in topics, materials, and technologies presented at CS MANTECH grows. However, it is heartening to see that the emphasis on manufacturing technology continues to be supported both within CS MANTECH and by the quality of papers submitted by the industry. As in years past Skyworks Solutions has a strong showing in the Metals session, starting off with a study of backside wafer plating uniformity improvements from optimization of the anode design. The work was part of a 4" to 6" conversion, but the combined optimization of equipment and process involved in scaling up this technology provides excellent material to anyone interested in improved electroplating. The second paper moves us over to evaporated metals with an emphasis on applying a broad based group of improvement techniques to increase both tool availability and product yields. The concepts of continuous process improvement and the value of cross functional improvement teams are clear winners in this effort to relieve pressure on a capacity limited toolset. The third paper is one of the excellent student papers submitted this year. From the University of Illinois (Urbana-Champaign) we have a topic that explores the complexity associated with clearing the area beneath an air bridge when dealing with the multiple epitaxial layers of an HBT. Our fourth and final paper continues with HBTs but brings us back to Skyworks Solutions in an exploration of Collector contact optimization. This paper brings home one of the fundamental realities of compound semiconductor manufacturing today – our industry is maturing and the low hanging fruit of the past is being replaced by incremental improvements with contributions from suppliers, materials, and improved understanding of the interactions between process steps.