The papers in this section cover several heterogeneous topics, namely Thin Wafer Handling, SiC and Si via processing as well as die singulation technologies. The first paper is from WIN Semiconductors Corp. about quality and throughput improvements to GaN/SiC wafer sawing with addition of ultrasonic power. Due to the high hardness of GaN and SiC diamond, blades are easily broken during sawing and consequently an extra dressing process is necessary to reduce blade meandering and to maintain blade sharpness. This work evaluates how the addition of ultrasonic power to the saw blade could reduce the heavy and surged loads on the dicing blades and improve saw performance. The second paper of this session by WIN Semiconductors Corp. discusses the optimization of the backside SiC via process for GaN HEMT fabrication on 100mm wafers. Key challenges are the elimination of pillar formation during SiC and GaN dry etching and the subsequent etch byproduct cleaning process. The third paper of the session from Plasma-Therm describes productivity improvement using plasma-based die singulation. Currently used blade dicing suffers from cracking and decreased die strength. Laser dicing struggles with ablation induced contamination, heat affected zones and decreased die strength. This work introduces an approach that addresses these issues using plasma based etching on industry standard tape frames. Being a parallel process, plasma dicing has unique advantages such as the ability to singulate any die shape and/or die layout on a wafer. The next paper in this session is a collaboration of the American Society for Engineering Education, United States Naval Research Laboratory and Universidad Politécnica de Madrid. This paper discusses diamond-coated high density vias for Silicon substrate-side thermal management of GaN HEMT devices. The paper describes an approach to bring high thermal conductivity diamond close to the active gate from below through the fabrication of high density and high aspect ratio diamond-filled TSVs. The session closes with a paper from a collaboration of Brewer Science and TriQuint Semiconductors. The improvements in both the equipment capabilities and the materials for thermal slide debonding are key topics of this paper. The depicted progress allows for thinner and more fragile devices to be debonded with less stress and more support throughout the entire process.