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## SPECIAL ISSUE ON LOW-TEMPERATURE PROCESSING OF ELECTRONIC MATERIALS FOR CUTTING EDGE DEVICES

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**About the Cover:** Heterogeneous integration, such as example (a), is illustrative of the thermal budget limitations imposed upon dissimilar processes when they are blended together, requiring a distinct revolutionary rethinking of the processing of electronic materials. Figure (b) reveals some of the novel pathways, including ultraviolet and near infrared lamps, to selectively heat elements within the heterogeneous composite without collateral damage to adjacent/underlying elements. Figure (c) presents the key tradeoffs of temperature and time, for managing materials processing, high thermal energy with short duration versus low thermal energy and long duration. And finally, (d) shows the yield of an SRAM use case with a variety of thermal budget recipes applied. Figures from the following articles published in this issue: (a) “Heterogeneous Integration of III–V Materials by Direct Wafer Bonding for High-Performance Electronics and Optoelectronics” by D. Caimi *et al.*; (b) “Compact Multilayer Bandpass Filter Using Low-Temperature Additively Manufacturing Solution” by M. Li *et al.*; (c) and (d) “A Review of Low Temperature Process Modules Leading up to the First ( $\leq 500$  °C) Planar FDSOI CMOS Devices for 3-D Sequential Integration” by C. Fenouillet-Beranger *et al.*

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