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3D interconnects for readout electronics

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Driven by advances in manufacturing technologies, microelectronics has evolved significantly over the past decade. Beyond the traditional Moore's Law, microelectronics is becoming increasingly heterogeneous, incorporating concepts developed in part in a "More than Moore"dimension. Above all, it is increasingly understood on a system rather than a chip scale. This evolution emphasizes heterogeneous integration and innovative packaging schemes, with a strong focus on the performance of interconnections between functions.

In particular, 3D integration has emerged as a decisive approach, combining the advantages and possibilities offered by miniaturization with new flexibility in circuit design, especially in fields such as image & radiation sensors, high-performance computing and artificial intelligence. Other advanced packaging approaches are also available, such as fan-out-wafer level packaging, which is also very much in vogue at the moment. All these innovations are aimed at producing more efficiently designed systems, and are supported by major R&D efforts in both design and manufacturing technologies.

Presenter: COUDRAIN, Perceval Tristan (CEA, Univ. Grenoble Alpes, Grenoble, France)