

Title:

Graphene and 2D materials: Applications to conventional and emerging devices and circuits.

Abstract:

Graphene material exhibits a number of outstanding electronic and mechanical properties that make them very attractive for micro and nanoelectronic applications. In association with others new 2D materials, it becomes possible to design new devices and circuits architecture.

In this presentation, an overview of recent 2D devices and circuits will be made, with a focus on high frequency applications.

Henri Happy received the Ph.D. degree in Electrical Engineering from the University of Lille 1, in 1992. In 1988 he joined the Institute of Electronic, Microelectronic and Nanotechnology (IEMN), one of the lab of University Lille 1, where he is currently Full Professor of Electronics. Since 2004, his research area has focused on nanodevices, and particularly carbon devices (carbon nanotube, graphene). These activities concern understanding of fundamental limitations and improvement of high frequency performance of carbon devices, and their applications in emerging fields of RF circuits on flexible substrates. This includes graphene growth either on SiC and metal substrate, fabrication and characterization of graphene FET. He is a leading investigator on the high frequency devices research carried out under the European Graphene Flagship program. His experience is recognized by the community: he has presented many invited talks, seminars and tutorials. Henri Happy has authored or co-authored about 100 international publications and communications.

