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Semiconductor lasers for next generation silicon photonics

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Télécom ParisTech, Paris, France

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Sala Maxwell, Dipartimento di Elettronica e Telecomunicazioni

Corso Castelfidardo 42 (5th floor)

Abstract

Photonic integrated circuits (PIC) have enabled numerous high performance, energy efficient, and compact technologies for optical communications, sensing, and metrology. Demand for PICs is expected to continue to grow rapidly as performance, cost, and integration density improve to enable such applications as high bandwidth density interconnects for within-the-rack communication for datacenters and high performance computers and for light detection and ranging (LIDAR) systems for self-driving vehicles. In this presentation, I will review our recent achievement in semiconductor lasers for next generation silicon photonics.

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Prof. Frédéric Grillot received the Ph.D. degree from the University of Besançon (France) and the Thesis Habilitation in Physics from the University of Paris VII (France). He is currently a Full Professor at Télécom ParisTech (France) and at the University of New-Mexico (USA). His current research interests include advanced quantum confined devices using new materials such as quantum dots, light emitters based on intersubband transitions, nonlinear dynamics and optical chaos in semiconductor lasers and silicon photonics applications. Prof. Grillot has coauthored 93 journal papers and more than 200 contributions in international conferences and workshops. He is an Associate Editor for Optics Express (OSA), a Fellow Member of the SPIE and a Senior Member of the IEEE Photonics Society.

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