

ISTITUTO
DI TECNOLOGIE DELLA
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PERCEZIONE



Scuola Superiore
Sant'Anna

An electrically pumped germanium laser

Dott. Marco Romagnoli

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11:00

Blue Room

Istituto TeCIP

Scuola Superiore Sant'Anna

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Abstract:

Electrically pumped lasing from Germanium-on-Silicon pnn heterojunction diode structures is demonstrated. Room temperature multimode laser with 1mW output power is measured. Phosphorous doping in Germanium at a concentration over $4 \times 10^{19} \text{cm}^{-3}$ is achieved. A Germanium gain spectrum of nearly 200nm is observed.

Biography

Marco Romagnoli, R&D Director, is an expert of Photonic technologies for communications. Graduated in Physics at University of Rome "La Sapienza" with a specialization in Optics and Solid State Physics has worked at the IBM Research Center in San Jose, at Fondazione Ugo Bordoni, and in Pirelli in the field of optical communications systems and technologies. Specifically, since 2001 he developed with MIT and Pirelli Labs a new technological platform in Si for large bandwidth optically integrated circuits. Since 2010 he works at PhotonIC Corp as Director of Boston operations and he manages a program at MIT, within a contract with NSA and US Navy, for the development of optically interconnected processors.