Salon E

Yamazaki, Shuichi Tomabechi, Ayahito Uetake, Mitsuru Ekawa, Ken Morito; Fujitsu Ltd., Japan. We designed a 1×8 mode conversion-type optical coupler and experimentally demonstrated that the monolithically integrated SOA gate switch that uses it has low interchannel gain imbalance (<1.8 dB) and a high fiber-to-fiber gain (>14.5 dB).

12:30 p.m.–2:00 p.m.
Lunch Break

2:00 p.m.–4:00 p.m.
IMC • Active Silicon Devices
Diana Huffaker; Ctr. for High Technology Materials, USA, Presider

IMC1 • 2:00 p.m. **Invited**
III-V/Silicon Photonics: Technology and Integrated Devices, *Gunther Roelkens, Liu Liu, Joost Brouckaert, Joris Van Campenhout, Frederik Van Laere, Dries Van Thourhout, Roel Baets; IMEC- Ghent Univ., Belgium.* III-V/Silicon photonics comprises the heterogeneous integration of a III-V layer on top of an SOI waveguide circuit. We elaborate on the bonding technology used and on the fabrication of III-V/Silicon integrated circuits.

IMC2 • 2:30 p.m.
Integrated GeSi Electro-Absorption Modulators on SOI, *Jifeng Liu[1], Sarah Bernardis[1], Jing Cheng[1], Rong Sun[1], Mark Beals[1], Lionel C. Kimerling[1], Jurgen Michel[1], Andrew T. Pomerene[2]; [1]MIT, USA, [2]BAE Systems, Semiconductor Technology Ctr., USA.* We demonstrate 1.2 GHz waveguide-integrated GeSi electro-absorption modulators on SOI platform with an extinction ratio of >7 dB over a broad wavelength range of 1510-1552 nm and an ultralow energy consumption of 50 fJ/bit.

IMC3 • 2:45 p.m.
CMOS-Compatible Wideband Silicon Modulator, *Steven J. Spector[1], Michael W. Geis[1], Gui-Rong Zhou[2], Matt E. Grein[1], Robert T. Schulein[1], Fuwan Gan[2], Mios A. Popovic[2], Jung U. Yoon[1], Donna M. Lennon[1], Erich P. Ippen[2], Franz X. Kaertner[2], Theodore M. Lyszczarz[1]; [1]MIT Lincoln Lab, USA, [2]MIT, USA.* A Mach-Zehnder based silicon optical modulator has been demonstrated with a bandwidth of 26 GHz and a VπL of 2 V·cm. The design of this modulator does not require an epitaxial overgrowth.

IMC4 • 3:00 p.m.
High-Speed Large Area Ge on Si Photodetectors, *Jing Cheng, Wojciech Giziewicz, Jifeng Liu, Ching-Yin Hong, Lionel C. Kimerling, Jurgen Michel; MIT, USA.* We design and demonstrate GHz large area lateral Ge on Si p-i-n photodetectors with a significant bandwidth improvement over vertical junction devices of the same area for direct coupling with >100μm diameter polymer optical fibers.

Salons A/B

Nakano; Faculty of Engineerring, Hosei Univ., Japan. A plasmon waveguide filter with an apodized grating is numerically investigated to suppress sidelobes in the transmission spectrum using the unconditionally stable finite-difference time-domain method based on the locally one-dimensional scheme.

12:30 p.m.–2:00 pm.
Lunch Break

2:00 p.m.–4:00 p.m.
IMD • Photonic Crystal Cavities and Waveguides
Richard Osgood; Columbia Univ., USA, Presider

IMD1 • 2:00 p.m. **Invited**
Nonlinear Switching in High-Q Photonic Crystal Nanocavities, *Takasumi Tanabe, Akihiko Shinya, Eiichi Kuramochi, Masaya Notomi; NTT Basic Res. Labs, NTT Corp., Japan.* All-optical switching is achieved at an extremely low energy by using silicon photonic crystal nanocavities with a large Q/V. They present the possibility of fabricating all-optical photonic integrated logic gates on a chip.

IMD2 • 2:30 p.m.
Slotted Photonic Crystal Waveguides and Cavities, *Andrea Di Falco, Liam O' Faolain, Thomas F. Krauss; School of Physics and Astronomy, UK.* We demonstrate experimentally slow-light factor in excess of 100 and spatio-temporal confinement with quality factor up to Q=7000 in suspended slotted photonic crystal waveguides and cavities, where light is confined in extremely small air volumes.

IMD3 • 2:45 p.m.
Advancing the Performance of One-Dimensional Photonic Crystal/Photonic Wire Micro-Cavities in Silicon-on-Insulator, *Ahmad Rifqi Md Zain, Marc Sorel, Richard De La Rue; Univ. of Glasgow, UK.* We present new results that demonstrate advances in the performance achievable in photonic crystal/photonic wire micro-cavities. In one example, a quality-factor value as high as 147,000 has been achieved experimentally at a useful transmission level.

IMD4 • 3:00 p.m.
Investigation on High Quality Factor 12-Fold Quasi-Photonic Crystal Microcavities with Different Central Post Sizes, *Tsan-Wen Lu, Chung-Chuan Tseng, Yi-Yu Tsai, Po-Tsung Lee; Dept. of Photonics and Inst. of Electro-Optical Engineering, Taiwan.* We investigate the variations of modal properties of 12-fold quasi-photonic crystal microcavities sustaining whispering-gallery (WG) mode with different central post sizes. WG mode lasing action with quality factor of 8,400 and 420nm post is achieved.

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Presentation Time Start:	7/14/2008 2:00:00 PM
Presentation Time End:	7/14/2008 2:30:00 PM
Author Block:	Gunther Roelkens, Liu Liu, Joost Brouckaert, Joris Van Campenhout, Frederik Van Laere, Dries Van Thourhout, Roel Baets; IMEC- Ghent Univ., Belgium.
Presentation Number:	IMC1

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Hotel Reservation Deadline: June 11, 2008
Pre-Registration Deadline: June 26, 2008

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Due to increasing delays in securing visas to the US, we strongly encourage international attendees to begin this process as early as possible (but no later than three months before the meeting) to ensure timely processing. Please refer to the **Letters of Invitation section** of this website for additional information.

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