

平成 16 年度 第 9 回 VBL セミナー (9th VBL Seminar, 2004)

日時 : 平成 17 年 3 月 10 日(木) 14:00~16:00

場所 : 名古屋大学フロンティアプラザ (VBL)
3F ミーティングルーム

14:00 Thomas Pearsall

VBL 招聘研究員
欧州フォトニクス企業コンソーシアム ゼネラルマネージャー

" Introduction to Planar Photonic Crystals"

Abstract: Photonic crystals represent a new concept for controlling light. I have studied the properties of planar optical waveguides based on photonic crystals designs. These structures have new and interesting properties. Some of these properties appear useful, while others represent new problems. There are excellent lessons to be learned about the difficulty to control light on the sub-micron scale.

15:00 Clifton G. Fonstad, Jr.

VBL 招聘研究員
Vitesse Professor of Electrical Engineering, MIT

"Monolithic Heterogeneous Integration: integrating III-V functionality on Si-CMOS"

Abstract: The seamless, monolithic integration of III-V compounds, and the optoelectronic, electronic, and micromechanical functions they enable, on silicon ICs with no loss in performance or increase in cost is a continuing challenge facing systems designers. Standard hybrid assembly requires cost-performance compromises that become increasingly severe and limiting as the performance of the individual sub-systems continues to increase.

We present research on a new assembly and integration technique called RM-cubed Integration (where RM-cubed stands for Recess Mounting with Monolithic Integration). RM-cubed Integration overcomes the normal cost-performance compromises of hybrid assembly by exploiting the advantages of batch monolithic processing and fine-line lithography that have driven the Moore's law growth of the integrated circuit industry for the past 40 years, along with the best features of hybrid integration, which is also a basic element in all modern electronics.

The talk will also highlight the application of RM-cubed technology to optoelectronic integration for biomedical sensing and for inter- and intra-chip optical clock and signal.

問い合わせ先 : 名古屋大学 VBL

田渕 雅夫 Tel:052-789-5430

E-mail:tabuchi@vbl.nagoya-u.ac.jp

前澤 宏一 Tel:052-789-5455

E-mail:maezawa@nuee.Nagoya-u.ac.jp