

# Contents

## HETEROGENEOUS INTEGRATION I

- 3 **Large-scale monolithic integration technologies for InP-based transmitters and receivers**  
K. J. Thomson, P. Studenkov, J. C. Dries, M. R. Gokhale, D.-S. Kim, S. Yu, S. R. Forrest, Princeton Univ.; M. Lange, E. Mykiety, G. H. Olsen, Sensors Unlimited, Inc.
- 30 **Fusion bonding: hetero-interfacial materials analysis and device application**  
K. A. Black, A. R. Hawkins, N. M. Margalit, D. I. Babic, A. L. Holmes, Jr., Y.-L. Chang, P. Abraham, J. E. Bowers, E. L. Hu, Univ. of California/Santa Barbara
- 56 **Compliant substrate technology for heterogeneous integration**  
Y.-H. Lo, Z.-H. Zhu, R. Zhou, J. Zhang, D. J. Dagel, L. N. Srivasta, Y. Zhou, D. Crouse, Cornell Univ.
- 80 **Dense two-dimensional integration of optoelectronics and electronics for interconnections**  
D. A. B. Miller, Stanford Univ.

## HETEROGENEOUS INTEGRATION II

- 113 **DNA-assisted microassembly: a heterogeneous integration technology for optoelectronics**  
S. C. Esener, D. Hartmann, Univ. of California/San Diego; M. J. Heller, J. M. Cable, Nanotronics Inc.
- 141 **Native oxide technology for III-V optoelectronic devices**  
D. G. Deppe, D. L. Huffaker, Univ. of Texas/Austin
- 184 **VCSEL-based smart pixels and their applications**  
T. Nakahara, H. Tsuda, S. Matsuo, T. Kurokawa, NTT Optoelectronics Labs. (Japan)
- 206 **VCSEL-based optoelectronic smart pixels**  
M. K. Hibbs-Brenner, Y. Liu, R. A. Morgan, J. A. Lehman, Honeywell Technology Ctr.
- 229 **Optoelectronic-VLSI technology based on electroabsorption modulators**  
A. V. Krishnamoorthy, K. W. Goossen, Lucent Technologies/Bell Labs.
- 253 **Integration of AlGaAs devices**  
D. L. Mathine, Optical Sciences Ctr./Univ. of Arizona