

**PATENTS**

US patent 6813305 (2004): Method and apparatus for optical wavelength conversion  
Granted for a method to provide wavelength adjustable sources from a single wavelength transmitter

US patent 6714574 (2004): Monolithically integrated optically-pumped edge-emitting semiconductor laser  
Granted for a novel structure to substantially increase the power output of a high power semiconductor laser

US patent 5461225 (1995): Sampling Methods and Apparatus  
Granted for a method of noise reduction: e.g. in electro-optic sampling systems; suitable for circuits which cannot be biased down for conventional lock-in processes.

US Patent 4661962 (1987): Phased linear laser array  
Granted for a method of producing in-phase output from arrays of gain-guided loss coupled lasers.

**INVITED PRESENTATIONS**

Telecom optical components after the bubble: What kind of light is at the end of the tunnel?

Rick Clayton

The Ottawa Network, Ottawa, Canada, December 2004

Challenges in Optical Component Packaging

Rick Clayton

COPA kickoff meeting, Ottawa, Canada, July 2004

Cost effective hybrid and monolithic integration for metro and long haul optical systems

R. Clayton; A. Carter; K. Anderson; I. Betty; L. Langley, T. Simmons

ITCOM, Conference 5248: Semiconductor Optoelectronic Devices for Lightwave Communication, September, 2003

Technology for the current telecoms environment

Rick Clayton

OCRI Partnership Conference Series: The Photonics Conference, Ottawa, September, 2003

Integrated Optoelectronics

Rick Clayton

GaAs Mantech, Las Vegas, NV, April, 2001

**PANELS**

Industrial R&D discussion panel member

DARPA University Opto-Centers Kick-off meeting, Dana Point, Ca, Nov. 2000

COPA kickoff meeting, Ottawa, Canada, July 2004

---

**PRINT**Flexible polymer waveguides for optical wire bonds

Cynthia Clark, Jason Robinson and Richard Clayton  
OPTO-Canada, Conference CA04, May 2002  
published in J. Opt. A: Pure Appl. Opt. 4 S224-S227, 2002

Towards the Use of Quantum Well Intermixing in Manufacturing.

J.E. Haysom, R. Clayton, D. Macquistan, P.J. Poole, G.C. Aers, F. Yang, S. Campbell, G.T. Andrews, R. Krishnamurthy, A. Ait-Ouali, R. Tong, R. Glew, T. Simpson, I.V. Mitchell and S. Charbonneau  
10th Canadian Semiconductor Technology Conference, Ottawa, August, 2001.

Dependence of Thermal Stability and Quantum Well Intermixing on Epitaxial Growth

J.E. Haysom, F. Yang, P.J. Poole, G. Aers, S. Raymond, T. Simpson, I.V. Mitchell, R. Clayton, D. MacQuistan, S. Charbonneau  
9th Canadian Semiconductor Technology Conference, Ottawa, August, 1999.

Flexible adjustment of the emission wavelengths of laser structures by ion beam implantation

U.G. Akano, I.V. Mitchell, F.R. Shepherd, A. Margittai, R. Clayton and C.J. Miner  
MRS Fall Meeting: SYMPOSIUM I, III-V and SiGe Group IV Device/IC Processing Challenges for Commercial Applications, Boston, November, 1998

Above-threshold longitudinal profiling of carrier nonpinning and spatial modulation in asymmetric cavity lasers

A. J. Bennett, R. D. Clayton, J. M. Xu  
JOURNAL OF APPLIED PHYSICS, V83, #7, 1 APRIL 1998, pp 3784-3788

Investigations of the spectral characteristics of 980-nm InGaAs-GaAs-AlGaAs lasers

Avrutsky, I.A.; Gordon, R.; Clayton, R.; Xu, J.M.  
IEEE Journal of Quantum Electronics vol.33, no.10 p.1801-9, Oct. 1997

EBIC and TEM analysis of catastrophic optical damage in high- power GaAlAs/GaInAs lasers

Mallard, R.E.; Clayton, R.  
Photonics West, Conference 3004, San Jose, CA, February 1997  
Proc. SPIE - Int. Soc. Opt. Eng. (USA)vol.3004 p.145-50, 1997

Longitudinally resolved measurements of carrier concentration and gain in 980 nm InGaAs/GaAs high power quantum well lasers

Bennett, A.J.; Sargent, E.H.; Clayton, R.D.; Kim, H.B.; Xu, J.M.  
Proc. SPIE - Int. Soc. Opt. Eng. (USA)vol.3004 p.160-9: 1997

Increased threshold for the first-order lateral mode lasing in low-ridge waveguide high power QW lasers

Xu, M.L.; Tan, G.L.; Clayton, R.; Xu, J.M.  
IEEE Photonics Technology Letters vol.8, no.11 p.1444-6, Nov. 1996

Longitudinal carrier density profiling in semiconductor lasers via spectral analysis of side spontaneous emission

Sargent, E.H.; Pavlidis, D.; Anis, H.; Golinescu, N.; Xu, J.M.; Clayton, R.; Kim, H.B.  
Journal of Applied Physics vol.80, no.3 p.1904-6, 1 Aug. 1996

Electro-optic probing of GaAs circuits (oral only)

R. Clayton  
Canadian Semiconductor Technology Conference, 1992

Scanning birefringence mapping of semi-insulating GaAs wafers

Clayton, R.D.; Bassignana, I.C.; Macquistan, D.A.; Miner, C.J.;  
Semi-insulating III-V Materials, 1992 Proceedings of the 7th Conference on, Pages: 211 – 216, 21-24 April 1992