

RICHARD (Rick) CLAYTON

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### High level technical expertise and organizational management skills

- Evaluation, implementation and management of research and development programs.
- In-depth engineering experience in the areas of optics, optical device design, optoelectronic packaging, electrical circuit design, testing and automation hardware and software, high speed electronics and fiber optic measurements.
- Management of multiple technology families: III-V actives, SiO<sub>2</sub>/Si planar waveguide, III-V electronics, EDFA amplifiers, Hermetic packaging, Pluggable modules
- All aspects of project management including strategic planning, goal setting, mentoring, coaching, performance monitoring and reviews.
- Broad view and understanding of optical communication systems market and architectural requirements
- Technology evaluation and transfer in support of major mergers and acquisitions.
- Identification and integration of multiple technologies to achieve product goals
- Multi-site, multi-time zone organization and management
- Intellectual Property management, patent infringement and reverse engineering analysis
- Business and technical consulting for venture capital companies, privately funded companies, public companies, and universities
- R&D build-up and management of an early phase, venture backed, company

### Technical background

- Technology transfer and integration
- Semiconductor processing and process design
- Diode laser design and characterization
- Device reliability and qualification
- Electronic circuit design: IC standard cell and circuit board based
- Hermetic packaging design: optics and RF
- Optical system design: bench top and instrumentation
- Instrumentation: design, construction and optimization
- Motion control, human interface, and analytical software
- Solid state, optical and general physics
- Extensive "Hands on" lab experience

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## CAREER BRIEF

2006 Early phase venture backed company

### **Vice-President of Advanced Materials**

Oct. 2006 – Mar. 2007

Responsible for establishment of entire materials operation: hiring, space planning, budgeting, equipment acquisition, technical strategy, performance specifications, material understanding, process implementation, BOD presentations, etc.

2005 CLAYTON & ASSOCIATES

### **Telecommunications Industry Consultant**

2005 –2006

Market, technology and Intellectual Property consulting projects for venture capital firms, privately funded companies, public companies and universities. Chapter author, editorial advisory board member and representative speaker for MIT Microphotonics Center *Communications Technology Roadmap*. Chapter editor/author of Optoelectronics section of iNEMI 2007 Technology Roadmap.

2002 – 2005 BOOKHAM (acquired Nortel Networks Optical Components)

### **Chief Technical Advisor to CTO**

2002 –2005

Responsible for R&D program integration during merge, ongoing IP management (with legal), ROADM strategy, advanced transmission strategy. Worked with PLM to define and maintain the pluggable optics strategy. Initiated business activity in laser dermal therapy. Technical support to Defense sales.

1982 – 2002: BNR through to NORTEL NETWORKS OPTICAL COMPONENTS

### **Chief Technical Advisor to VP, R&D**

2000 – 2002

Negotiated IP transfer from Nortel to Bookham, evaluated investment and M&A opportunities, coordinated IP management, coordinated technology council, produced and maintained division strategy, initiated advanced pluggable module strategy, expert technical resource for device, packaging and reliability designers and engineers

### **Technical Advisor & Manager, Advanced Laser Design Group**

1999 – 2000

Increased and retained staff (from 6-8), ensured design approaches met targets, identified and assigned R&D activities, negotiated priorities for resources with production managers, full range of staff management. Instituted new management structure for device design groups. Key technical evaluator leading to Nortel purchase of CoreTek

### **Project Leader, Photonic Integration**

1998 – 2000

Analyzed future requirements & developed photonic integration strategy  
Uninitiated and coordinated technology elements to support the strategy  
Current products use processes resulting from this activity

### **Manager, Optoelectronic Device Test & Verification lab**

1997 – 1998

Expanded and modernized the T&M facility.  
Dramatically improved capabilities and service  
Staff, procedures and facilities planning and management

### **Nortel Representative on National Research Council SSOC**

1996 – 1998

Technical oversight and contributions to joint research.  
Included committing Nortel resources to projects

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**Technical Lead on 980 nm Pump Laser**

1993 – 1996

Responsible for all aspects of device for fit to service

- design, fabrication, test, reliability, qualification
- direct and indirect management of ~ 8 people
- design and implementation of new high throughput characterization tools
  - o designed tests, procured hardware, wrote software (control and GUI)

**Various R&D projects involved with optoelectronics design**

1982 – 1993

Extensive device and packaging design and T&M experience

Project examples available on request

**ADDITIONAL RECENT ACTIVITIES**

**Chapter editor/author of Optoelectronics section of iNEMI**

**2007 Technology Roadmap**

2006

**Contributing member of the MIT Microphotonics Consortium**

2002 – 2006

**Editorial Advisory Board member**

2005 – 2006, 2008 – present

**III-V Integration chapter co-author**

2005

**Member of the Board of the Canadian Photonics Consortium**

2003 – 2005

**Executive Committee**

2004 – 2005

**Member of the Technical Committee, IPRA 2005**

2005

**OTHER INFORMATION**

(details available on request)

**4 granted patents, 6 invited presentations, 12 peer reviewed publications**

**Nortel “Top Talent” 2000**

**EDUCATION**

BASc (Engineering Physics: mechanical engineering option), University of British Columbia, 1981, Vancouver, Canada