

# Resume of Michael J. Derks

## Manufacturing Engineering Summary:

Self-directed QA/Manufacturing Engineer with hands on experience in the development and manufacturing of optical systems for pico projectors, holographic data storage, fiber optic component, military imaging, and polarization optics. Demonstrated skills in project management, ISO compliance, quality management, product development, team building, production process documentation, test system definition, procurement and vendor relations. With extensive successes in project and personnel management I have a proven ability to convert theoretical concepts into precision products using innovative materials and techniques.

## Professional Experience:

### Display Product Engineer, *Micron Technologies, Inc.* 9/11 – present

Tasked with insuring the successful development, related manufacturing, and qualification of FLCOS/LED based micro display light engines for the consumer market. ([www.thepopvideo.com](http://www.thepopvideo.com))

- Provide direct support to our Chinese manufacturing partner in the development and improvement of the fabrication lines, processes, test methodology, and documentation.
- Develop and perform all product qualification plans, as well as define production milestones.
- Organized the internal efforts of multiple teams in customer support, marketing, product design, procurement, quality assurance, and vendor relations.
- Hands on engineering involvement in failure analysis and problem resolution on current designs at both customer and vendor levels.
- Prepare and monitor performance databases, RMA, SCARS, ECO, meeting minutes, and action items according to ISO and best engineering practices.
- Assist in the design and manufacturability of next generation products.

### Quality Assurance Engineer, *Ocean Thin Films, Inc.* 10/10 – 7/11

Responsible for the development, implementation, and continuous improvement of all quality related procedures and policies to ensure adherence with product specifications and customer expectations. ([www.oceanthinfilms.com](http://www.oceanthinfilms.com))

- Generated and maintained procedures, flowcharts, forms, worksheets, and other quality related documents in accordance with ISO standards and best management practices.
- Certified ISO 9001:2008 Process Based Internal Auditor. Lead over 20 internal and external customer audits in 6 months.
- Reviewed and modified entire Quality Management System. Received highest marks from external customers and regulatory based auditors generating greater sales and higher yields.
- Implemented and managed the CAPA and RMA programs using root cause analysis, SPC, and other problem solving techniques. Worked directly with customers to resolve non-conformances issues. (Quantity of RMAs was reduced to lowest level of all parent holding companies.)

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- Provided direct customer and vendor support on all aspects of product performance and reliability including Certificates of Performance and inspection reports.

### **Senior Production Engineer/Quality Assurance Manager, *InPhase Technologies, Inc.* 7/03- 2/10**

Key member of the engineering team involved in the development and initial production of the first commercial data storage drive based on angle multiplexed holography. ([www.inphase-technologies.com](http://www.inphase-technologies.com))

- Managed incoming quality inspection department for all optical and mechanical components. Guided component definitions, built vendor relationships, and helped defined procurement strategies. Trained and supervised personnel on inspection techniques and data collection.
- Developed and prototyped subsystem manufacturing and test processes ensuring minimal failures and optimal drive performance.
- Identified and interacted with key contract manufactures on initial volume production.
- Created manufacturing line layout, defined specialized tooling, generated assembly process criteria and created and managed documentation revisions. Trained and supervised build line staff.

### **Technical Consultant/Hardware Design Engineer, *Agilent Technologies*, 7/01-7/03**

Provided technical and field support to customers of fiber optic based test equipment in the US, Canada, and Europe. ([www.agilent.com](http://www.agilent.com))

- Developed and presented technical seminars on fiber optic component and network testing.
- Setup and calibration of fiber optic test systems/networks at customer sites.
- Provided expertise to customers in optical component manufacturing processes, performance monitoring and regulatory compliance.

### **Fiber Optic Component Test Systems Hardware Engineer, *Agilent Technologies*, 7/00-7/01**

Designed, built, and installed automated systems for the testing of fiber optic components and networks.

- Initiated an optical cross connect test system which included the development of automated test strategies, equipment integration into a system rack, coordinated control software and database management tools.
- Worked directly with customers on creating specifications, statements of work, technical documentation and budgetary quotes to develop wavelength based polarization dependent loss automated test systems. Organized and managed multidisciplinary work teams to complete program.

### **Project Manager, *Chorum Technologies, Inc.* 7/97- 7/00**

Functional manager for multi-disciplined team tasked with initial production of twisted nematic liquid crystal based fiber optic switches and attenuators.

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- Initiated and managed electronic, packaging, mechanical, and production engineer based team. All devices passed all Telecordia requirements and became the company's first product offerings.
- Defined component specifications, determined best vendors, developed inventories
- Designed manufacturing stations; and documented assembly and test procedures.
- Provided leadership in creating a manufacturing line that expanded from one person (me), to over 50 assemblers and engineers producing more than 300 units per month.

### **Production Engineer-Manager, Meadowlark Optics, Inc. 4/86 - 7/97**

Created assembly facilities and managed a staff for the production of catalog and custom polarization based optical components. ([www.meadowlark.com](http://www.meadowlark.com))

- Introduced new products for both standard products and customer specific programs.
- Managed production department including staff training, and workflow scheduling.
- Designed and built both evaporative and magnetron based thin film deposition high vacuum chambers. Performed production runs of mirror, anti-reflection and ITO optical coatings.
- Created product lines of both polymer and crystal polarization control systems and initiated production of both Nematic and ferroelectric based liquid crystals.
- Developed manufacturing and in process procedures for all products.

### **Laboratory Instrumentation:**

Shack-Hartman wavefront sensors, ASE and tunable lasers (fiber and free spaced), Agilent™ optical spectrum analyzers, Zygo™ wavefront analyser, and Wavefront Sciences™ interferometers, ellipsometers, Varian™ spectrophotometer, CMM, Smart Scopes, and optical comparators.

### **Education:**

**Ongoing Courses:** JMP9, ISO9001:2008 Internal Auditor, Advanced Polarization in Optical Designs, Fiber Optic Networks, Passive Component Test Methodology, Advanced Adhesives, Design and Operation of Vacuum Coating System, Six Sigma, Total Quality Management, Design of Experiments.

**Bachelor of Science,** Colorado State University

### **Sample Publications and Patents:**

Kopp, G.A., Derks, M.J., and Graham, A., "Liquid Crystal Tunable Birefringent Filters," *SPIE Proceedings*, Volume 2830, (August, 1996)

Derks, M.J., and Kopp, G.A., "Birefringent Characteristics of Two New Crystalline Materials, CeF<sub>3</sub> and LaF<sub>3</sub>," *SPIE Proceedings*, Volume 2265, (July 1994)

M.J. Derks, et.al. "Optical Routing Switch" U.S. Patent Number 6275312, 8/14/2001

### **Website:**

<http://www.linkedin.com/pub/michael-derks/19/5a1/536>