

## DAVID MATTHEWS P.H.D.

1819 Polk Street #203 • San Francisco, CA 94109  
+1-415-299-2630 • davem@inclinephotonics.com

---

### SUMMARY

An experienced laser specialist with demonstrated hands-on technical expertise in direct diode laser and diode pumped solid state laser solutions for industrial and medical applications. Accomplished in a wide variety of roles including product development, project management, manufacturing engineering, marketing, and sales & service.

---

### PROFESSIONAL EXPERIENCE

INCLINE PHOTONICS, San Francisco, CA 2005 – 2010

**Consultant** (sole-proprietor)

Assist industrial and medical companies in the design and development of laser and photonic systems.

- Designed and built 1320 nm fiber-coupled diode laser modules for inclusion into a system for treatment of vascular reflux insufficiency. Managed project for the development of the system coordinating external and internal engineering groups. Constructed test equipment for incoming inspection of diode lasers and fiber-optic catheter production. (VNUS Medical Technologies)
- Built DPSS laser systems and specified lasers for solar scribing applications. (Global Solar, REC Tech)

COHERENT INC, Santa Clara, CA 2004 – 2005

**Product Line Manager, Semiconductor Lasers**

Responsible for the strategic direction, P&L, marketing and performance metrics for diode laser products.

- Managed four product lines including High Power Diode Laser Stacks and Line Illumination Modules.
- Translated customer needs into product improvements by successfully liaising with international sales teams and engineering staff.

IRIDEX CORPORATION, Mountain View, CA 2000 – 2004

**Manager, Laser Engineering**

Responsible for production and reliability of 700 lasers per annum generating \$20 million of annual revenue.

- Designed new 532-nm diode pumped solid state (DPSS) lasers for ophthalmic & aesthetic applications. Improved specified power from 3 to 5 watts whilst markedly reducing cost and increasing reliability.
- Implemented manufacturing engineering and quality control procedures that vastly improved reliability of existing models reducing service return rates dramatically.
- Analyzed and resolved technical difficulties with a high power direct diode system for hair removal.

LIGHT SOLUTIONS CORPORATION, Mountain View, CA 1996 – 2000

**Director, Laser Systems** (1998 – 2000)

**Senior Laser Development Engineer** (1996 - 1998)

Responsible for the product development, laboratory management, sales and marketing and service for this start-up company.

- Designed and developed industrial and scientific CW and Q-switched DPSS laser systems.
- Managed two commercial IR, UV and visible DPSS laser product lines. Built, aligned and serviced most lasers personally.
- Led research and development for SBIR projects on eye-safe OPO & multi-wavelength lasers.
- Wrote manufacturing instruction procedures and completed all documentation for transfer to production.
- Led sales & marketing, including liaison material development, client liaison activities and trade show exhibitions in the US, Japan and Germany.

UNIVERSITY OF ST. ANDREWS, Scotland 1994 – 1996

**Post-Doctoral Research Fellow**

Developed the first diode pumped blue microchip laser later commercialized by Uniphase.  
Undertook a comparative study of diode pumped microchip laser materials: Nd:YVO<sub>4</sub>, YOS, SFAP & SVAP.

MEDIS - MEDIZINISCHE INFORMATIONSSYSTEME GMBH, Hamburg, Germany 1992 – 1994

**Software Engineer**

Developed software for a Unix-based pathology laboratory analysis system testing 2000 samples per day using: C++, Sybase SQL.

UNIVERSITY OF HAMBURG, INSTITUTE FOR LASER PHYSICS, Hamburg, Germany 1990 - 1992

**Research Associate** (DAAD Scholarship)

Evaluated new solid-state crystals for suitability for diode laser pumping. Included crystal growth, spectroscopic analysis, Ti-sapphire excitation, and the construction of a data acquisition system.

---

**E D U C A T I O N**

MACQUARIE UNIVERSITY, Center for Lasers and Applications, Sydney, Australia

**Ph.D.** in Laser Physics.

Thesis Title: "An Inner-Shell Photo-Ionization Laser Pumped by Incoherent Soft X-Rays".

MONASH UNIVERSITY, Melbourne, Australia

**B. Sc. (Hons.)**, *first class honors*, in Physics. J. J. McNeill Prize for top honors student in physics.

Thesis Title: "A Study of Rayleigh Scattering from Dilute Globular Protein Solutions".

---

**O T H E R**

**Citizenships:** United States, British (E.U) and Australian

**Languages:** English, German