Dr. Jens Kunde

Graduate Physicist and Business Economist (IWW)

Käferholzstrasse 244

CH-8046 Zürich

+41 – 79 – 692 23 84

jens.kunde@takeoff-photonics.ch

TAKE-OFF PHOTONICS

PERSONAL DATA

Age	40
Place of Birth	Berlin, Germany
Citizenship	German
Marital Status	Single

EDUCATION

08/1978-06/1991	Protestant School of Frohnau, Berlin
10/1991-09/1996	Studies in Physics at the Technical University of Berlin. Diploma work at the Optical Institute in the Laser Group of Prof. H.J. Eichler; Teaching assistant *physics diploma; grade: 1.0 – 'with distinction'* *honored for excellent studies with the Erwin-Stephan-Award*

EXPERIENCE

04/1997-12/2000

Research and Teaching Assistant in the Ultrafast Laser Physics Laboratory of Prof. U. Keller at the Institute of Quantum Electronics, ETH Zurich

Numerous conference and journal publications

12/00: Dissertation "Optical Control of Ultrafast Semiconductor Nonlinearities" – Dr. sc. nat.

02/2001-01/2006

R&D Engineer and Project Manager at the Swiss Center for Electronics and Microtechnology CSEM in the Field of Optics and Communication

Management for miscellaneous development projects, e.g.:

- Development of a small form-factor multi-fiber optical connector from the conceptual phase up to demonstrator manufacturing. Technologies: Fiber optics, micro optics, assembly und packaging, adhesive bonding.
- Modification of machine for production of fused-fiber couplers. On-site evaluation of existing system in the US and of the production line in China. Technologies: Fiber-optical components, WDM communication systems.
- Infrared microsystem for polluting emission control on cars European research project for detection of exhaust gases (HC, CO) at low concentrations. Technologies: Gas-absorption spectroscopy, infrared optics, low-noise detection.
- Magneto-optic sensor for non-destructive testing: Design and manufacturing of 10 functional models. Technologies: Magneto optics, polarization microscopy, opto mechanics, CMOS sensors, harsh environment.

Project acquisition

Deputy group manager

02/2006-11/2009 **Project Manager R&D at RUAG Space** for electro-optical systems

- Project management „Lisa Technology Package Inertial Sensor Front-End Electronics" including shadowing of subcontractors and claim management. Design phase to flight hardware. Project budget about 6M€. Technologies: Analog and digital electronics, software for ground support equipment, thermo-mechanical analyses, assembly / integration / verification.
- Project Management of various optics studies, pre-developments, and breadboards
- Member of the steering committee "Project management"

since 01/2010 **Owner-Manager at Take-Off Photonics**

- Engineering and consulting services in the fields of optics, optoelectronics, and space
- Project management
- Support for project proposals, development plans, and technical documentation

Skills

Methods

- Management of complex high-tech projects
- System engineering optics/electronics/mechanics/software
- Space projects from proposal to flight hardware qualification
- Product development (idea → design → prototype → series)

Technical Areas of Expertise

- Laser physics
- Optical data communication, fiber optics
- Optical sensors, technical optics, optics design
- Semiconductor physics and technology
- Ultrafast physics
- Infrared optics and sensors
- Packaging of opto-electronic components, automation, process and joining techniques
- Thin-film coatings

Tools

- MS Project
- Zemax, TFCalc, Igor Pro, pattern recognition, Labview
- HTML, C, optimization with evolutionary algorithms

FURTHER EDUCATION

2002 **Project Management** (Intop Training AG)

- Efficient project organization
- Project planning
- Presentation techniques

2005 **Advanced Project Management** (ZfU)

- Risk and crisis management
- Communication within project team
- Agile project management

2007 **Space Systems Engineering** (University of Southampton)

- Space environment
- Mission analysis and spacecraft structures
- Quality assurance
- Ground control

2007-2008 **Management of Complex Projects** (Primas Consulting)

- Contract management
- Conduct of negotiations
- Customer relationship

2008-2009 Distance Study **Economics** (IWW of FernUniversität Hagen)

- Accounting and finances
- Strategic management
- Organization and leadership
- Strategic marketing
- Finance, investment, and risk management
- Bank, stock exchange, and financial transactions
- Political economics

Degree: **Business Economist** (IWW)

MISCELLANEOUS

Memberships	IEEE, OSA, SSOM, DPG
Languages	German (native), English (fluent), French (beginner)
Internships	Siemens in production (07-08/91) and planning (08-12/92)
Hobbies	Jogging, trekking, literature

PUBLICATIONS

Working as referee for Optics Letters, JOSA B, Optics Express, Applied Physics B etc. About 35 contributions to international journals and conferences. Selection:

JOURNAL PUBLICATIONS

- J. Kunde, R. Bauknecht, R. Krahenbuhl, Ph. Niedermann, Ch. Bosshard, "Versatile multi-fiber optical connectivity solution: from concept to realization," J. Lightwave Technol. **25**, 562-570 (2007).
- Ch. Bosshard, A.-C. Pliska, J. Kunde, A. Codourey, "Adhesive bonding for automation in optoelectronic assembly," *OnBoard Technology* **10/04**, 38-41 (2004).
- J. Kunde, B. Baumann, S. Arlt, F. Morier-Genoud, U. Siegner, and U. Keller, "Optimization of adaptive feedback control for ultrafast semiconductor spectroscopy," *J. Opt. Soc. Am. B* **18**, 872-881 (2001).
- J. Kunde, B. Baumann, S. Arlt, F. Morier-Genoud, U. Siegner, and U. Keller, "Adaptive feedback control of ultrafast semiconductor nonlinearities," *Appl. Phys. Lett.* **77**, 924-926 (2000).
- J. Kunde, S. Arlt, L. Gallmann, F. Morier-Genoud, U. Siegner, and U. Keller, "Sensitive characterization of phase and amplitude semiconductor nonlinearities for broadband 20 fs excitation," *J. Appl. Phys.* **88**, 1187-1189 (2000).
- J. Kunde, U. Siegner, S. Arlt, G. Steinmeyer, F. Morier-Genoud, and U. Keller, "Potential of femtosecond chirp control of ultrabroadband semiconductor continuum nonlinearities," *J. Opt. Soc. Am. B* **16**, 2285-2294 (1999).
- J. Kunde, U. Siegner, S. Arlt, F. Morier-Genoud, and U. Keller, "Chirp-controlled ultrafast optical nonlinearities in semiconductors," *Appl. Phys. Lett.* **73**, 3025-3027 (1998).
- H.J. Eichler, J. Kunde, B. Liu, "Fiber phase conjugators at 1064-nm, 532-nm, and 355-nm wavelengths," *Opt. Lett.* **22**, 495-497 (1997).

CONFERENCE PUBLICATIONS

- J. Kunde, M. Thurner, A.-C. Pliska, Ch. Bosshard, A. Codourey, R. Bauknecht, S. Egger, "Comparison of Microlens Technologies for Passive Alignment Platform Applications," Poster F-33, *Microoptics Conference MOC 04*, Jena, Germany, September 1-3, 2004.
- U. Siegner, M. Haiml, J. Kunde, and U. Keller, "Adaptive control of ultrafast semiconductor nonlinearities," **Invited Talk**, *OSA Annual Meeting 2001 and Interdisciplinary Laser Science Conference XVII*, Long Beach, California, USA, October 14-18, 2001.
- J. Kunde, B. Baumann, S. Arlt, F. Morier-Genoud, U. Keller, and U. Siegner, "Efficient adaptive feedback control of ultrafast semiconductor nonlinearities," Talk QThG4, *Quantum Electronics and Laser Science Conference*, Baltimore, Maryland, USA, May 6-11, 2001.
- J. Kunde, U. Siegner, S. Arlt, F. Morier-Genoud, and U. Keller, "Ultrafast semiconductor differential transmission spectroscopy with broadband chirped pulses," Talk QWE4, *International Quantum Electronics Conference*, San Francisco, California, USA, May 3-8, 1998.
- H.J. Eichler, J. Kunde, and B. Liu, "Fiber phase conjugators at 1.06µm, 532nm and 355nm wavelengths," Talk MA6, *Advanced Solid-State Lasers*, Orlando, Florida, USA, January 27-29, 1997.

PATENTS

- „Laser-System mit SBS-Glasfaser-Phasenkonjugation" DE 19621461
- „Fibre-lens arrangement and lens array for one such fibre-lens arrangement" CH 697142