



San José State  
UNIVERSITY

# Introduction to Fiber Optics

A One-Day Professional Development Short Course

Thursday, March 11, 2004 8:00 a.m. – 5:00 p.m.

Engineering Building, Room 287

(Registration starts at 8:00 a.m.)

**OBJECTIVES:** The objective of this course is to provide the attendee with a broad understanding of the fundamental science, basic operation, technology choices, manufacturing methods, terminology, supplier base, market landscape, and practical aspects of fiber-optic interconnects.

**WHO SHOULD ATTEND:** Engineers, scientists, technicians, sales, marketing, legal professionals, analysts, investors, purchasing staff, managers, and anyone seeking an entry-level background in fiber optics. This short course does not require advanced mathematics.

- COURSE OUTLINE:**
- Introduction to optics
  - Overview of fiber optic technology
  - Fiber handling and hygiene
  - Multimode fiber
  - Fiber manufacturing
  - Fiber-optic connectors
  - History of optics and fiber optics
  - Laser and fiber safety
  - Singlemode fiber
  - Specialty fiber
  - Fiber-optic cable
  - Fiber-optic splices

**PRESENTED BY:** Robert Dahlgren, President and CEO of Silicon Valley Photonics Limited, has been engaged in optical technology for more than 20 years. He received his M.S. degree from M.I.T in aeronautics/astronautics in 1993, his second M.S. degree from San Jose State University in physics in 2001, and his B.S.E.E. from the University of Minnesota in 1983, and is a recipient of the IEEE “3<sup>rd</sup> Millennium” award.

**FEE:** \$395, which includes continental breakfast, refreshments, lunch, and course notes.

For more information, please see <http://www.engr.sjsu.edu/mae> or contact Dr. Fred Barez at (408) 924-4298 or [barezf@email.sjsu.edu](mailto:barezf@email.sjsu.edu)

REGISTRATION FORM (Please forward by March 4, 2004)

## Introduction to Optical Fiber, March 11, 2004 - \$395

You may pay by credit card or make check payable to **PDP/MAE Dept/Fiber Optics** and mail registration form to:

PDP SHORT COURSE, Mechanical & Aerospace Engineering,  
San José State University, One Washington Square, San José, CA 95192-0087 Fax (408) 924-3995.

NAME \_\_\_\_\_ COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

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San José State  
UNIVERSITY

# Introduction to Optical Fiber Devices

A One-Day Professional Development Short Course

Thursday, April 1, 2004 8:00 a.m. – 5:00 p.m.

Engineering Building, Room 287

(Registration starts at 8:00 a.m.)

**OBJECTIVES:** The objective of this course is to provide the attendee with a broad understanding of the fundamental science, basic operation, technology choices, manufacturing methods, terminology, supplier base, market landscape, and practical aspects of fiber-optic passive and active devices.

**WHO SHOULD ATTEND:** Engineers, scientists, technicians, sales, marketing, legal professionals, analysts, investors, purchasing staff, managers, and anyone seeking an entry-level background in fiber optics. This short course does not require advanced mathematics.

**COURSE OUTLINE:**

- Overview
- Adapters
- Attenuators
- Couplers (splitters)
- WDM devices
- Coils and coil winding
- Optical switches
- Polarization devices
- Semiconductor light sources and detectors
- Optical modulators and amplifiers
- Nonreciprocal devices
- Other passive and active devices

**PRESENTED BY:** Robert Dahlgren, President and CEO of Silicon Valley Photonics Limited, has been engaged in optical technology for more than 20 years. He received his M.S. degree from M.I.T in aeronautics/astronautics in 1993, his second M.S. degree from San Jose State University in physics in 2001, and his B.S.E.E. from the University of Minnesota in 1983, and is a recipient of the IEEE “3<sup>rd</sup> Millennium” award.

**FEE:** \$395, which includes continental breakfast, refreshments, lunch, and course notes.

For more information, please see <http://www.engr.sjsu.edu/mae> or contact Dr. Fred Barez at (408) 924-4298 or [barezf@email.sjsu.edu](mailto:barezf@email.sjsu.edu)

REGISTRATION FORM (Please forward by March 25, 2004)

## Introduction to Optical Fiber Devices, April 1, 2004 - \$395

You may pay by credit card or make check payable to **PDP/MAE Dept/Optical Devices** and mail registration form to:

PDP SHORT COURSE, Mechanical & Aerospace Engineering,  
San José State University, One Washington Square, San José, CA 95192-0087 Fax (408) 924-3995.

NAME \_\_\_\_\_ COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

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San José State  
UNIVERSITY

# Intensity-Based Optical Fiber Sensors

A One-Day Professional Development Short Course

Thursday, April 15, 2004 8:00 a.m. – 5:00 p.m.

Engineering Building, Room 287

(Registration starts at 8:00 a.m.)

**OBJECTIVES:** The objective of this course is to provide the attendee with a broad understanding of the fundamental science, basic operation, technology choices, manufacturing methods, terminology, supplier base, market landscape, and practical aspects of fiber-optic intensity-based sensors.

**WHO SHOULD ATTEND:** Engineers, scientists, technicians, sales, marketing, legal professionals, analysts, investors, purchasing staff, managers, and anyone seeking an entry-level background in fiber optics. This short course does not require advanced mathematics.

**COURSE OUTLINE:**

- Overview of applications
- A taxonomy of sensing systems
- Transduction physics
- Dynamic range and electronics
- Noise and other error sources
- Overview of multimode fiber devices
- Chemical sensors
- Biomedical sensors
- Polarimetric sensors
- Signal processing
- Market landscape
- Industry standards

**PRESENTED BY:** Robert Dahlgren, President and CEO of Silicon Valley Photonics Limited, has been engaged in optical technology for more than 20 years. He received his M.S. degree from M.I.T in aeronautics/astronautics in 1993, his second M.S. degree from San Jose State University in physics in 2001, and his B.S.E.E. from the University of Minnesota in 1983, and is a recipient of the IEEE “3<sup>rd</sup> Millennium” award.

**FEE:** \$395, which includes continental breakfast, refreshments, lunch, and course notes.

For more information, please see <http://www.engr.sjsu.edu/mae> or contact Dr. Fred Barez at (408) 924-4298 or [barezf@email.sjsu.edu](mailto:barezf@email.sjsu.edu)

REGISTRATION FORM (Please forward by April 8, 2004)

## Intensity-Based Optical Fiber Sensors, April 15, 2004 - \$395

You may pay by credit card or make check payable to **PDP/MAE Dept/Intensity Optical Sensors** and mail registration form to:

PDP SHORT COURSE, Mechanical & Aerospace Engineering,  
San José State University, One Washington Square, San José, CA 95192-0087 Fax (408) 924-3995.

NAME \_\_\_\_\_ COMPANY \_\_\_\_\_

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San José State  
UNIVERSITY

# Phase-Based Optical Fiber Sensors

A One-Day Professional Development Short Course

Thursday, April 29, 2004 8:00 a.m. – 5:00 p.m.

Engineering Building, Room 287

(Registration starts at 8:00 a.m.)

**OBJECTIVES:** The objective of this course is to provide the attendee with a broad understanding of the fundamental science, basic operation, technology choices, manufacturing methods, terminology, supplier base, market landscape, and practical aspects of fiber-optic interference-based sensors.

**WHO SHOULD ATTEND:** Engineers, scientists, technicians, sales, marketing, legal professionals, analysts, investors, purchasing staff, managers, and anyone seeking an entry-level background in fiber optics. This short course does not require advanced mathematics.

- COURSE OUTLINE:**
- Overview of applications
  - Polarization maintaining fiber
  - Phase and optical interference
  - Square law detection
  - Transfer function
  - Overview of single-mode fiber devices
  - Mach-Zehnder interferometer
  - Michelson interferometer
  - Acoustic sensors
  - Magnetometers
  - The Sagnac Effect and Optical gyroscopes

**PRESENTED BY:** Robert Dahlgren, President and CEO of Silicon Valley Photonics Limited, has been engaged in optical technology for more than 20 years. He received his M.S. degree from M.I.T in aeronautics/astronautics in 1993, his second M.S. degree from San Jose State University in physics in 2001, and his B.S.E.E. from the University of Minnesota in 1983, and is a recipient of the IEEE “3<sup>rd</sup> Millennium” award.

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REGISTRATION FORM (Please forward by April 22, 2004)

## Phase-Based Optical Fiber Sensors, April 29, 2004 - \$395

You may pay by credit card or make check payable to **PDP/MAE Dept/Phase Optical Sensors** and mail registration form to:

PDP SHORT COURSE, Mechanical & Aerospace Engineering,  
San José State University, One Washington Square, San José, CA 95192-0087 Fax (408) 924-3995.

NAME \_\_\_\_\_ COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

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DAY PHONE \_\_\_\_\_ FAX NO. \_\_\_\_\_

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