



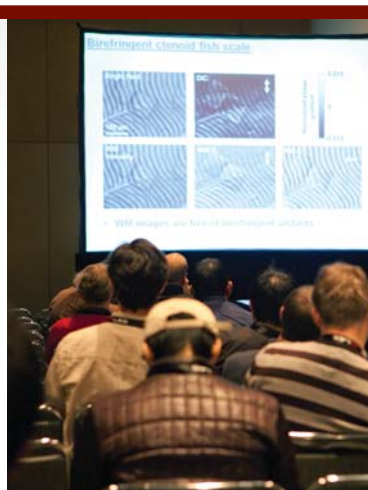
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SC040

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Instructor: **Robert Fisher**

Adaptive Optics

SC135

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Infrared Focal Plane Arrays

SC152

Course level: Introductory

Instructors: **Eustace Dereniak** and **John Hubbs**

Imaging Spectrometry

SC153

Course level: Intermediate

Instructors: **Eustace Dereniak** and **Michael Descour**

Precision Stabilized Pointing and Tracking Systems

SC160

Course level: Intermediate

Instructor: **James Hilkert**

Imaging Polarimetry

SC180

Course level: Advanced

Instructors: **Eustace Dereniak**, **Brian Miles** and **Derek Sabatke**

Advanced Composite Materials for Optomechanical Systems

SC218

Course level: Intermediate

Instructor: **Carl Zweben**

X-Ray Detector Performance: Principles and Measurements using a Linear Systems Approach

SC358

Course level: Advanced

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Understanding X-Ray Imaging Systems

SC383

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Introduction to CCD and CMOS Imaging Sensors and Applications

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Course level: Introductory

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Optomechanics for Space Applications

SC561

Course level: Introductory

Instructor: **Ann Shiple**

An Introduction To Scalable Frameworks For Observatory Software Infrastructure

SC644

Course level: Intermediate

Instructor: **Gianluca Chiozzi**

X-ray microCT (Micro Computed Tomography)

SC794

Course level: Introductory

Instructor: **Stuart Stock**

Infrared Systems - Technology & Design

SC835

Course level: Advanced

Instructor: **Arnold Daniels**

Imaging Detectors for Astronomy

SC904

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CMOS Imaging Sensor Architecture, Construction, and Applications

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Course level: Introductory

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Course level: Introductory

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Digital Camera and Sensor Evaluation Using Photon Transfer

SC916

Course level: Introductory

Instructor: **James Janesick**

Systems Engineering for Astronomy Projects

SC1001

Course level: Introductory

Instructor: **Hermine Schnetler**

Biomedical Optics & Medical Imaging

Tissue Optics

SC029

Course level: Introductory

Instructor: **Steven Jacques**

Multispectral and Hyperspectral Image Sensors

SC194

Course level: Advanced

Instructor: **Terrence Lomheim**

Fluorescent Markers: Usage and Optical System Optimization

SC309

Course level: Intermediate

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Principles and Applications of Optical Coherence Tomography

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Microfabrication Techniques for MicroFluidics & BioMEMS

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Bio-Optical Detection Systems

SC461

Course level: Intermediate

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Biophotonics

SC463

Course level: Advanced

Instructor: **Paras Prasad**

Principles and Advancements in X-ray Computed Tomography

SC471

Course level: Introductory

Instructor: **Jiang Hsieh**

Terahertz Wave Technology and Applications

SC547

Course level: Intermediate

Instructor: **Xi-Cheng Zhang**

Statistical Methods in Medical Imaging and Bioengineering with Applications to Observer Performance Evaluation

SC613

Course level: Intermediate

Instructors: **Elizabeth Krupinski** and **Dev Chakraborty**

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Diffuse Optical Spectroscopy and Imaging of Tissues

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Course level: Intermediate

Instructor: **Vladislav Toronov**

Optoacoustic Systems for Medical Imaging: From Principles to Clinical Applications

SC768

Course level: Intermediate

Instructor: **Alexander Oraevsky**

Monte Carlo Simulation of Radiation Imaging Systems

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Course level: Intermediate

Instructors: **Aldo Badano**, **Josep Sempau**, and **Michael Flynn**

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Multiphoton Microscopy (MM) - Basics, Technology Development, and Applications

SC819

Course level: Intermediate

Instructors: **Ammasi Periasamy** and **Peter So**

Diagnostic Endoscopy

SC823

Course level: Intermediate

Instructor: **Haishan Zeng** is a senior scientist with the Cancer Imaging Department

Diffuse Light Transport in Tissue and Diffuse Tomography Reconstruction using MATLAB

SC824

Course level: Introductory

Instructors: **Hamid Dehghani** and **Brian Pogue**

An Introduction to Finite Elements for Medical Imaging

SC828

Course level: Introductory

Instructor: **Michael Miga**

MIC-GPU: High-Performance Computing for Medical Imaging on Programmable Graphics Hardware (GPU)

SC829

Course level: Intermediate

Instructors: **Klaus Mueller** and **Fang Xu**

Optical Design for Biomedical Imaging

SC868

Course level: Intermediate

Instructor: **Rongguang (Ron) Liang**

Computer-Aided Diagnosis

SC882

Course level: Advanced

Instructors: **Maryellen Giger**, **Nico Karssemeijer**, **Bram van Ginneken**, and **Ronald Summers**

Validation in Medical Image Processing (VMIP)

SC884

Course level: Intermediate

Instructor: **Pierre Jannin**

Fundamental Principles and Statistical Analysis of Magnetic Resonance Imaging

SC907

Course level: Intermediate

Instructors: **Tianhu Lei** and **Hee Kwon Song**

Quantitative Characterization of Cancer Using in vivo Imaging

SC938

Course level: Introductory

Instructor: **Thomas Yankeelov**

Exact Cone Beam Reconstruction: Theory and Practice

SC939

Course level: Intermediate

Instructors: **Alexander Katsevich** and **Alexander Zamyatin**

Light Microscopy

SC978

Course level: Introductory

Instructor: **Tomasz Tkaczyk**

Fundamentals of Three-Dimensional Optical Microscopy

SC979

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Instructors: **Manuel Martinez-Corral** and **Bahram Javidi**

Digital Radiography Image Processing and Image Quality

SC986

Course level: Intermediate

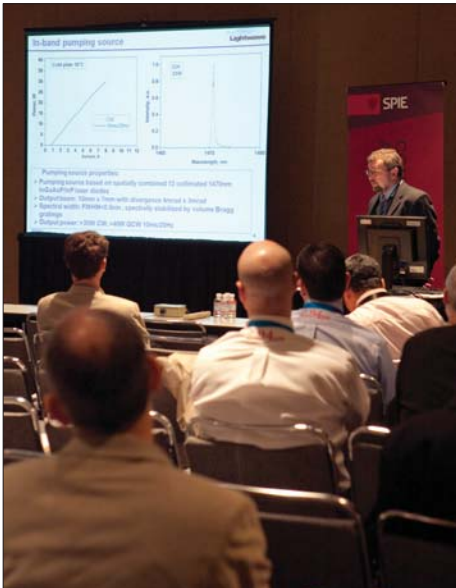
Instructors: **Xiaohui (Ed) Wang** and **David Foos**

Spectral CT Imaging

SC987

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SC656

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Ultrafast Fiber Lasers

SC744

Course level: Intermediate

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High-Power Fiber Sources

SC748

Course level: Advanced

Instructor: **Johan Nilsson**

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Practical Optical System Design

SC003

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Introduction to Optical Alignment Techniques

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Introduction to Optomechanical Design

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Course level: Introductory

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Structural Adhesives for Optical Bonding

SC015

Course level: Intermediate

Instructor: **John Daly**

Principles of Fourier Optics and Diffraction

SC017

Course level: Intermediate

Instructor: **Jack Gaskill**

Optical Scattering: Measurement and Analysis

SC020

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Instructor: **John Stover**

Fundamentals of Electronic Image Processing

SC066

Course level: Introductory

Instructor: **Arthur Weeks**

Testing and Evaluation of E-O Imaging Systems

SC067

Course level: Advanced

Instructor: **Gerald Holst**

Optical Design Fundamentals for Infrared Systems

SC134

Course level: Intermediate

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Electro-Optical Imaging System Performance

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MTF in Optical and Electro-Optical Systems

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Introduction to Laser Radar

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Course level: Advanced

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Materials: Properties and Fabrication for Stable Optical Systems

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Infrared Detectors

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Joint Design of Optics and Image Processing for Imaging Systems

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Computational Optical Imaging

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IR Detector Cryocoolers

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Stereoscopic Display Application Issues

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Fundamentals of Electronic Image Processing

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Use of CCD and CMOS Sensors in Visible Imaging Applications

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Effective Color Computing

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Understanding Color

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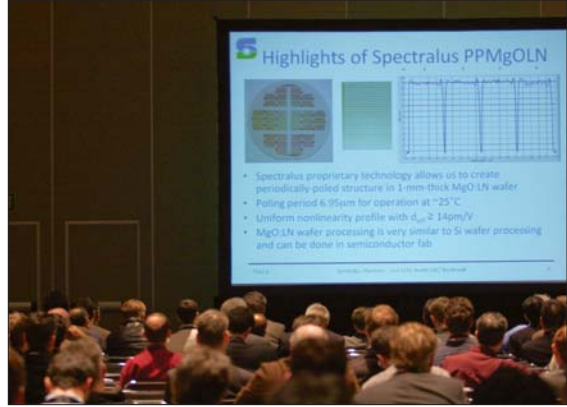
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SC970

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Instructor: **David Brady**

Theory and Methods of Lightfield Photography

SC980

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Instructors: **Todor Georgiev** and **Andrew Lumsdaine**

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Course level: Introductory

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Instructor: **E. Fred Schubert**

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Instructor: **Gregory Crawford**

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Instructor: **Alan Tirpak**

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Holographic Techniques for Advanced Photonic Systems

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Instructor: **Arnaud Darmont**

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Imaging Polarimetry

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