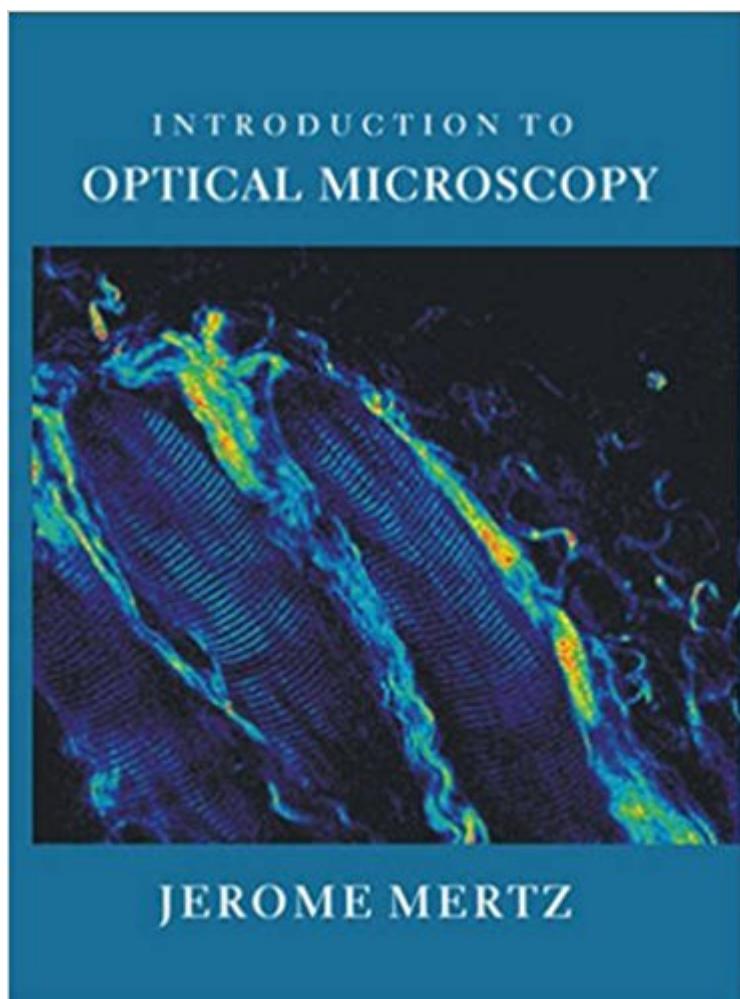


The book was found

# Introduction To Optical Microscopy



## Synopsis

Introduction to Optical Microscopy provides a rigorous and comprehensive overview of the fundamentals of optical microscopy. Starting from basic principles in Fourier optics, partial coherence, 3D imaging theory, and the physics of scattering and fluorescence, Introduction to Optical Microscopy explores a broad range of microscopy techniques. These include classical techniques such as phase contrast, confocal microscopy, etc., and progress to more modern techniques such as holographic microscopy, optical coherence tomography, two-photon microscopy, coherent anti-Stokes Raman scattering microscopy, etc.. The final chapters present a survey of new directions, including structured illumination and superresolution. Introduction to Optical Microscopy is designed to provide a solid theoretical foundation for graduate students or researchers who want to enter the field. While valuable as a reference, it can also serve as a textbook, as it includes a corresponding website that provides problem sets and an instructorâ™s solution manual.

## Book Information

Hardcover: 432 pages

Publisher: W. H. Freeman; 1 edition (May 11, 2009)

Language: English

ISBN-10: 0981519482

ISBN-13: 978-0981519487

Product Dimensions: 7.2 x 1.3 x 9.5 inches

Shipping Weight: 2.2 pounds (View shipping rates and policies)

Average Customer Review: 4.8 out of 5 starsÂ See all reviewsÂ (4 customer reviews)

Best Sellers Rank: #1,053,148 in Books (See Top 100 in Books) #71 inÂ Books > Science & Math > Experiments, Instruments & Measurement > Microscopes & Microscopy #303 inÂ Books > Textbooks > Medicine & Health Sciences > Medicine > Basic Sciences > Microbiology #421 inÂ Books > Science & Math > Physics > Optics

## Customer Reviews

I am a graduate student who works on optical microscopes. I actually took the class with the author of this book, so perhaps I am a bit biased, however I found the book to be very insightful. Pros:-The book has good coverage of many modern optical imaging techniques, including OCT, Digital Holography, Two Photon microscopy, some of the more standard non-linear techniques, and super-resolution techniques.-Several gems of intuition in the book-There is a reasonable amount of

math to back up the descriptions, but it is "good" math because it is presented in a way that really reinforces the concepts, it is not math-for-math's-sake like I have seen in many esoteric graduate-level textbooks.-I like how the references are discussed in the test (i.e. "see [5] for a very readable review, and see [6-8] for more in-depth reviews with an emphasis on ...")-Intuitive approach to 3D Optical Transfer functions, interesting and unique discussion of radiometryCons:-some of the notation is slightly non-standard, but usually this places more emphasis on the content and less on the math (so not necessarily a con)-a few of the earlier chapters (on background material) are a little hard for an introduction level book

This is a must for those that want to understand how microscopes work. It provides you with a coherent theoretical framework to address all classic techniques but also (and most importantly) "new microscopies". This book really makes you understand the physics that underlie optical microscopy and will surely help anyone willing to engage in this exciting field of research.

No doubt a must have for anyone who wants to learn microscopy.

Great introduction, but lots of the outlined theory doesn't match experimental observation. In particular transmitted light modalities that rely on the interference of fields for example DIC or PC are treated in the same way as fluorescence modalities, despite a well known non-linearity in the transfer function.

[Download to continue reading...](#)

Introduction to Optical Microscopy D. B. Williams's C. Barry Carter's Transmission Electron Microscopy 2nd(Second) edition (Transmission Electron Microscopy: A Textbook for Materials Science [Hardcover])(2009) Transmission Electron Microscopy: Physics of Image Formation (Springer Series in Optical Sciences) Electromagnetic and Optical Pulse Propagation 1: Spectral Representations in Temporally Dispersive Media (Springer Series in Optical Sciences) (v. 1) Interferogram Analysis For Optical Testing, Second Edition (Optical Science and Engineering) Resolution Enhancement Techniques in Optical Lithography (SPIE Tutorial Texts in Optical Engineering Vol. TT47) Introduction to Electron Microscopy Introduction to Optical Mineralogy Introduction to Optical Waveguide Analysis: Solving Maxwell's Equation and the Schrodinger Equation Scanning Electron Microscopy and X-Ray Microanalysis: A Text for Biologists, Materials Scientists, and Geologists Scanning Electron Microscopy and X-Ray Microanalysis Handbook of Transmission Electron Microscopy Practical Electron Microscopy: A Beginner's Illustrated Guide

Pharmaceutical Microscopy Principles of Nuclear Magnetic Resonance Microscopy Electron Microscopy, 2nd Edition Polarized Light Microscopy Light and Electron Microscopy Transmission Electron Microscopy: A Textbook for Materials Science (4 Vol set) Diagnostic Electron Microscopy: A Practical Guide to Interpretation and Technique

[Dmca](#)