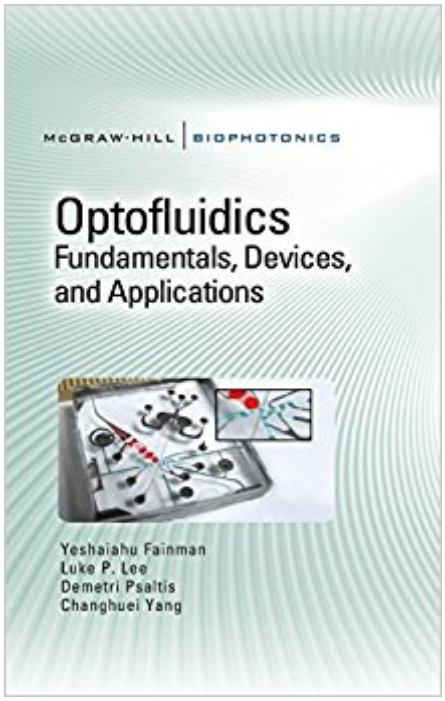
Optofluidics: Fundamentals, Devices, And Applications (McGraw-Hill Biophotonics)



Synopsis

Cutting-Edge Optofluidics Theories, Techniques, and PracticesAdd novel functionalities to your optical design projects by incorporating state-of-the-art microfluidic technologies and tools. Co-written by industry experts, Optofluidics: Fundamentals, Devices, and Applications covers the latest functional integration of optical devices and microfluidics, as well as automation techniques.Â This authoritative guide explains how to fabricate optical lab-on-a-chip devices, synthesize photonic crystals, develop solid and liquid core waveguides, use fluidic self-assembly methods, and accomplish direct microfabrication in solutions. The book includes details on developing biological sensors and arrays, handling maskless lithography, designing high-Q cavities, and working with nanoscale plasmonics. Research outcomes from the DARPA-funded Center for Optofluidics Integration are also discussed. Discover how to:Work with optofluidic sources, lenses, filters, switches, and splittersUse dielectric waveguiding devices to input, move, and manipulate fluidsIntegrate colloidal crystals and fibers with microfluidic systemsDevelop bio-inspired fluidic lens systems and aspherical lensesDeploy miniaturized dye lasers, microscopes, biosensors, and resonatorsAnalyze microfluidic systems using flow injection and fluorescent spectroscopyBuild optofluidic direct fabrication platforms for innovative microstructures Accomplish optofluidic liquid actuation and particle manipulation

Book Information

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