

LABS ON CHIP

Principles, Design, and Technology

"... a bright example of a truly interdisciplinary text ... useful for a broad class of readers."

—Fabrizio Frezza, Sapienza – Università di Roma, Italy

Labs on Chip: Principles, Design, and Technology provides a complete reference for the complex field of labs on chip in biotechnology. Merging three main areas— fluid dynamics, monolithic micro- and nanotechnology, and out-of-equilibrium biochemistry—this text integrates coverage of technology issues with strong theoretical explanations of design techniques. Analyzing each subject from basic principles to relevant applications, this book:

- Describes the biochemical elements required to work on labs on chip
- Discusses fabrication, microfluidic, and electronic and optical detection techniques
- Addresses planar technologies, polymer microfabrication, and process scalability to huge volumes
- Presents a global view of current lab-on-chip research and development
- Devotes an entire chapter to labs on chip for genetics

Summarizing in one source the different technical competencies required, **Labs on Chip: Principles, Design, and Technology** offers valuable guidance for the lab-on-chip design decision-making process, while exploring essential elements of labs on chip useful both to the professional who wants to approach a new field and to the specialist who wants to gain a broader perspective.



CRC Press
Taylor & Francis Group
an informa business

www.crcpress.com

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K15908

ISBN: 978-1-4665-6072-7



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