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Titolo	Secure and Trustworthy Cyberphysical Microfluidic Biochips [[electronic resource]] : A practical guide to cutting-edge design techniques for implementing secure and trustworthy cyberphysical microfluidic biochips / / by Jack Tang, Mohamed Ibrahim, Krishnendu Chakrabarty, Ramesh Karri
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Nota di contenuto	Chapter 1. Cyberphysical Microfluidic Biochips -- Chapter 2. Security and Trust -- Chapter 3. Prevention: Tamper-Resistant Pin-Constrained Digital Microfluidic Biochips -- Chapter 4. Detection: Randomizing Checkpoints on Cyberphysical Digital Microfluidic Biochips -- Chapter 5. Mitigation: Tamper-Mitigating Routing Fabrics -- Chapter 6. Conclusions.
Sommario/riassunto	This book describes novel hardware security and microfluidic biochip design methodologies to protect against tampering attacks in cyberphysical microfluidic biochips (CPMBs). It also provides a general overview of this nascent area of research, which will prove to be a vital resource for practitioners in the field.This book shows how hardware-based countermeasures and design innovations can be a simple and effective last line of defense, demonstrating that it is no longer justifiable to ignore security and trust in the design phase of biochips.

Provides a high-level overview of emerging security threats facing cyberphysical microfluidic biochips Discusses hardware design for the prevention of tampering attacks on DMFBs Describes techniques for detection of tampering attacks on DMFBs Presents methodology for hardware-based mitigation of tampering attacks on flow-based routing fabrics.