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Observational Bias; 3.4.3 Bias at Specimen/Tissue Collection; 3.4.4 Bias at mRNA Extraction and Hybridization; 3.5 Conclusion; 4 Batches and Blocks, Sample Pools and Subsamples in the Design and Analysis of Gene Expression Studies; 4.1 Introduction; 4.1.1 Batch Effects; 4.2 A Statistical Linear Mixed Effects Model for Microarray Experiments; 4.2.1 Using the Linear Model for Design; 4.2.2 Examples of Design Guided by the Linear Model; 4.3 Blocks and Batches; 4.3.1 Complete Block Designs; 4.3.2 Incomplete Block Designs
4.3.3 Multiple Batch Effects
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7.1.1 Microarray Gene Expression Data

Sommario/riassunto

Batch Effects and Noise in Microarray Experiments: Sources and Solutions looks at the issue of technical noise and batch effects in microarray studies and illustrates how to alleviate such factors whilst interpreting the relevant biological information. Each chapter focuses on sources of noise and batch effects before starting an experiment, with examples of statistical methods for detecting, measuring, and managing batch effects within and across datasets provided online. Throughout the book the importance of standardization and the value of standard operating procedures in the devel
