

**NESTING AND OTHER REPLICATION ISSUES IN TWO-CHANNEL MICROARRAY DESIGNS**

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One of the prevalent forms of transcriptional measurements uses a two-channel microarray set-up, which allows for measuring two and only two conditions simultaneously. In the case the number experimental conditions exceeds two, this leads naturally to the use of an incomplete block-design. Recent, more sophisticated experiments have started to introduce a nested structure in the sampling approach. Another peculiarity of such experiments is that it is rare for biologists to have the same number of samples as the number of available microarray channels. This poses the possibility of either pooling several samples before hybridization, if the former is in excess, or using "technical replicates" in several channels, if there are more of the latter.