

Short Book Reviews

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Adaptive Design Theory and Implementation Using SAS and R

Mark Chang

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Table of contents

- | | |
|---|--|
| 1. Introduction | 11. Drop-loser and add-arm design |
| 2. Classic design | 12. Biomarker-adaptive design |
| 3. Theory of adaptive design | 13. Adaptive treatment switching and crossover |
| 4. Method with direct combination of P-values | 14. Response-adaptive allocation design |
| 5. Method with inverse-Normal P-values | 15. Adaptive dose finding design |
| 6. Implementation of K-stage adaptive designs | 16. Bayesian adaptive design |
| 7. Conditional error function method | 17. Planning, execution, analysis, and reporting |
| 8. Recursive adaptive design | 18. Paradox – debates in adaptive designs |
| 9. Sample-size re-estimation design | A. Random number generation |
| 10. Multiple-endpoint adaptive design | B. Implementing adaptive designs in R |

Readership: Biostatisticians, medical researchers, and those engaged in areas of pharmaceutical research and development.

This easy-to-read book provides the reader with a unified and concise presentation of adaptive design theories; together with computer programs written in SAS and R for the design and simulation of adaptive trials. Compared to a classic trial design with static features, an adaptive design allows for changing or modifying the characteristics of a trial based on accumulated information gathered during an on-going trial. Such adaptations are made because they can improve the efficiency of the trial design, provide earlier remedies, and reduce the time and cost of drug development – clearly, in addition to their ethical importance! Practical examples are provided throughout the text that are motivated by real issues in aspects of clinical trials – particularly, stopping a trial early if either the risk to subjects outweighs the benefit or there is evidence of efficacy for a safe drug. The last chapter in the book presents a discussion of controversial issues surrounding statistical theories, and highlights future research and the application of adaptive designs. The text, computer programs and data sets will be of value to both practitioners and students alike.

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