

Contents

List of Authors	vii
Preface	xiii
1. An Overview of Industrial Screening Experiments <i>Douglas C. Montgomery and Cheryl L. Jennings</i>	1
2. Screening Experiments for Dispersion Effects <i>Dizza Bursztyn and David M. Steinberg</i>	21
3. Pooling Experiments for Blood Screening and Drug Discovery <i>Jacqueline M. Hughes-Oliver</i>	48
4. Pharmaceutical Drug Discovery: Designing the Blockbuster Drug <i>David Jesse Cummins</i>	69
5. Design and Analysis of Screening Experiments with Microarrays <i>Paola Sebastiani, Joanna Jeneralczuk, and Marco F. Ramoni</i>	115
6. Screening for Differential Gene Expressions from Microarray Data <i>Jason C. Hsu, Jane Y. Chang, and Tao Wang</i>	139
7. Projection Properties of Factorial Designs for Factor Screening <i>Ching-Shui Cheng</i>	156
8. Factor Screening via Supersaturated Designs <i>Steven G. Gilmour</i>	169
9. An Overview of Group Factor Screening <i>Max D. Morris</i>	191
10. Screening Designs for Model Selection <i>William Li</i>	207
11. Prior Distributions for Bayesian Analysis of Screening Experiments <i>Hugh Chipman</i>	235

vi Contents

12. Analysis of Orthogonal Saturated Designs <i>Daniel T. Voss and Weizhen Wang</i>	268
13. Screening for the Important Factors in Large Discrete-Event Simulation Models: Sequential Bifurcation and Its Applications <i>Jack P. C. Kleijnen, Bert Bettonvil, and Fredrik Persson</i>	287
14. Screening the Input Variables to a Computer Model Via Analysis of Variance and Visualization <i>Matthias Schonlau and William J. Welch</i>	308
Index	328