Contents

List of contributors ix
Preface to second edition xi
Preface to first edition xiii

Part One Introduction

1 A view of research 3
Tony Greenfield

2 The research journey: four steps to success 7
Tom Bourner

3 Managing your PhD 13
Stan Taylor

4 Documenting your work 28
Vivien Martin

5 Word processing tips 37
R Allan Reese

6 Ethics of research 41
Tony Greenfield

Part Two Support

7 Research proposals 53
David Williams

8 Finding funds 58
Tony Greenfield

9 Who can help? 65
Shirley Coleman

Part Three Tools of research

10 Information technology and computers 73
R Allan Reese

11 Choosing and using software for statistics 86
Felix Grant

12 The internet 94
Karen L Ayres

13 Library and information services 100
Claire Abson
Contents

14 Searching in unfamiliar fields  
   Michael Hal Sosabowski and Tom Bourner

Part Four Creativity

15 Darwin and creativity  
   Rodney King

16 When to use creativity  
   Rodney King

17 Synthesis and evaluation of creativity  
   Rodney King

18 Software and websites for creativity  
   Rodney King

Part Five Research types

19 Randomised trials  
   Douglas Altman

20 Laboratory and industrial experiments  
   Tony Greenfield

21 Agricultural experiments  
   Roger Payne

22 Survey research  
   David de Vaus

Part Six Measurement

23 Principles of sampling  
   Peter Lynn

24 Sampling in human studies  
   Peter Lynn

25 Sources of population statistics  
   Jonathan Smith

26 Interviewing  
   Mark Hughes

27 Problems of measurement  
   Jim Rowlands

28 Instrumentation in experimentation  
   Anand D Pandyan, Frederike van Wijck and Garth R Johnson

Part Seven Analysis

29 Elementary statistics  
   David Hand

30 Further statistical methods  
   David Hand
31 Computer support for data analysis
   Clifford E Lunneborg
32 Spreadsheets: a few tips
   Tony Greenfield

Part 8 Special tools
33 The value of mathematical models
   Andrew Metcalfe
34 Deterministic models
   Andrew Metcalfe
35 Stochastic models and simulation
   Andrew Metcalfe
36 Optimisation
   Andrew Metcalfe

Part 9 Presentation
37 Writing the thesis
   Tony Greenfield
38 Presenting your research: reports and talks
   Paul Levy
39 Graphical presentation
   Paul Levy
40 Personal home pages on the web
   Karen L Ayres

Part 10 Future
41 Protecting and exploiting technology
   Laura Anderson
42 Career opportunities
   Ralph Coates

Index