

Written specifically for animal researchers, this is the first book to provide a comprehensive guide to the design and statistical analysis of animal experiments. It has long been recognised that the proper implementation of these techniques can help to optimise the number of animals used in an experiment. By using real-life examples to make them more accessible, this book explains the statistical tools that are routinely employed by practitioners.

A wide range of design types are considered in detail, including block, factorial, nested, crossover, dose-escalation and repeated measures. Alongside each design, techniques are introduced to analyse the experimental data generated. Each analysis approach is described in non-mathematical terms, helping readers without a statistical background understand key techniques such as *t*-tests, ANOVA, repeated measures, analysis of covariance, multiple comparison tests, non-parametric methods and survival analysis.

This is also the first text to describe technical aspects of InVivoStat, a powerful open-source software package developed by the authors to enable animal researchers to analyse their data and obtain informative results. InVivoStat can be downloaded at www.invivostat.co.uk.

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"At last, a readable statistics book focusing solely on preclinical experimental designs, data and its analysis that should form part of every in-vivo scientist's personal library."

Darrel J. Pemberton, *Janssen Research and Development*

"This book provides an indispensable reference for any in-vivo scientist. It addresses common pitfalls in animal experiments and provides tangible advice to address sources of bias... [it] will help scientists improve the design of animal experiments and give them the confidence to use more complex designs..."

Nathalie Percie du Sert, *National Centre for the Replacement, Refinement and Reduction of Animals in Research*

"This book will transform the way biomedical scientists plan their work and interpret their results. Although the subject matter covers complex points, it is easy to read and packed with relevant examples."

Clare Stanford, *University College London*

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