

International Society for Clinical Biostatistics

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Editorial

There are just a few weeks to go before the 2006 Conference, ISCB27 to be held in Geneva, Switzerland. The organisers were almost overwhelmed with the number of abstracts received (about 250) and Lutz Edler has been extremely busy organising them into a packed programme, which you can see in the middle of this News. The conference should be the largest for many years.

Congratulations to Statistics in Medicine on its 25th Birthday this year. Its publisher has been a strong supporter of ISCB across the years and at ISCB27, there will be 3 very special poster prizes. On p.4, there's a look back at the special ISCB issues of SiM.

Would You like to be part of ISCB? Later this year, new members and officers of the Executive Committee will be chosen to serve from 2007-08. See the details on page 5.

Thanks to the contributors to this News: John Whitehead, Harbajan Chadha-Boreham, Harry Southworth and the book reviewers, and retiring CAS and SCA chairs, Michael Schemper and Marie Reilly.

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ISCB Membership

If you joined ISCB by attending the Szeged conference, please note this will be the last News you receive, so please renew your subscription!

		end 89	end 92	Dec 93	Dec 94	Dec 95	Dec 96	Dec 97	Dec 98	Dec 99	Nov 00	Nov 01	Dec 02	Nov 03	Nov 04	Nov 05	May 06
*=host of	conference																
	Total	261	596	715	698	725	702	685	729	818	797	837	825	756	758	620	433
	# Countries	23	32	32	31	33	34	37	37	41	40	45	41	40	38	39	35
1.	UK	50	90	176*	120	144	121	128	169*	135	151	153	141	190*	140	109	62
2.	Hungary [NatGrp]	1	21	17	18	19	25*	27	29	29	33	34	41	48	42	38*	50
3.	Poland [NatGrp]		11	11	24	24	30	21	19	26	34	37	41	41	43	40	42
4.	Germany	30	67	75	84	71	78	72	70	186*	90	87	77	61	57	51	34
5.	USA	18	45	40	39	41	40	79*	66	76	77	89	78	75	57	51	33
6.	Romania [NatGrp]						2			4	1	1	1	19	21	30	28
7.	Denmark	4	58*	38	31	30	32	26	35	38	39	36	46	41	37	37	26
8.	Czech. Rep. [NatGrp]			1	1	1	1	1	1	2	2	1	1	1	1	3	17
9.	Netherlands	14*	30	38	33	36	29	31	39	35	33	38	39	33	87*	35	16
10.	Switzerland	14	25	22	80*	33	29	24	25	23	18	23	26	22	23	23	16*
11.	Sweden	23	51	53	54	58	64	51	45	38	44	88*	50	36	34	24	15
12.	Belgium	13	22	27	30	30	32	35	29	25	33	36	33	23	27	24	15
13.	France	30	52	62	50	73	67	52	52	49	53	37	93*	31	41	30	13
14.	Italy	16	33	37	32	32	33	26	33	26	63*	29	25	15	25	15	9
15.	Norway	13	18	25	22	12	18	10	10	11	10	16	16	12	14	12	7
16.	Japan	2	6	7	5	7	4	10	13	20	12	11	10	10	10	17	6
17.	Canada	6	12	14	14	11	13	15	14	9	9	10	14	16	8	12	6
18.	Australia	6	9	11	6	9	8	11	9	10	12	8	9	14	8	6	6
19.	Austria	4	9	11	13	11	16	13	11	15	18	15	13	16	17	15	4
20.	Finland	2	7	7	9	9	9	7	5	10	9	18	11	7	11	10	3
21.	Spain	10	12	18	12	46*	23	14	16	12	11	11	8	7	15	5	3
22.	Slovenia		1	2	3	2	1	1	3	2	1	2	1	2	3	3	3
23.	Israel	1	3	4	4	4	4	3	3	4	10	13	10	7	8	3	2
24.	Malaysia					2	1	2	2	1	1	1	1	1	3	3	2
25.	South Africa		1	4	1	3	2	2	2	2	2	3	3	3	2	3	2
26.	India		1	1	1	1	1	1	1	1	2	1	2	2	3	2	2
27.	Greece		1	1	1				1	1	3	1	6	1	2	2	2
28.	Slovakia												1			1	2
29.	Singapore							3	6	4	5	8	5	7	2	4	1
30.	Turkey		1	1						1				1	2	2	1
31.	New Zealand		1		1		2	1	2	2	2	3	3	3	1	2	1
32.	Iran						1	1					1	1	4	1	1
33.	Russia					1	3	3	3	2	2	1	4	3	2	1	1
34.	Mexico						1	1	1	1	1	1	2	2	2	1	1
35.	Portugal	1	3	5	2	2	2	2	5	5	3	4	3	3	1	1	1
36.	Cuba								2	2	2	2	2		2	1	
37.	Taiwan										1	1	1	1	1	1	
38.	Estonia											2		1		1	
39.	United Arab Emirates															1	
40.	Malawi												1	1	1		
41.	Ireland	1	2	3	4	3	4	4	2	3	2	3		1	1		
42.	South Korea					3		1						1			
43.	Colombia							1	1		1			1			
44.	China		1	1	2	3	3	3	3	3	3	3	2				
45.	Thailand		1	1		1	1	2	1	1	2	2	2				
46.	Croatia									1	1		1				
47.	Gambia												1				
48.	Lithuania											2					
49.	Argentina											1					
50.	Brazil					2						1					
51.	Kuwait	1										1					
52.	Saudi Arabia											1					
53.	Sudan											1					
54.	Ukraine									1		1					
55.	Egypt											1					
56.	Pakistan								1	1	1						
57.	Philippines									1							
58.	Indonesia						1										
59.	Zimbabwe				1												
60.	Kenya		1	1													
61.	Oman	1															

President's Mid-Year Message

From John Whitehead

Summer is here, and so the ISCB Conference cannot be far away! I hope that you will be coming to Geneva this year, and that you will publicise our meeting to colleagues who are less familiar with the Society. An exciting scientific programme has been arranged, and we are hoping for good attendance from both regular and new members. A beautiful venue and some lively social gatherings can also be promised.

Even though our meeting in Geneva has not yet taken place, preparations are already under way for ISCB 2007 in Greece. This meeting will take place on the beach - or at least very close to it, in the resort town of Alexandroupolis. More preliminary work is also going on in preparation for the following year's meeting in Copenhagen. These future arrangements will be presented at the AGM in Geneva. If you wish to play a

part in hosting ISCB in 2009 or 2010, then it is not too early to begin to put together some ideas and to approach the Officers of the Society.

A number of the Society's Officers will reach the end of their terms of office at the end of 2006, and so later this year there will be elections for a new Vice-President (who will succeed as President in 2009), a new Treasurer and a new Secretary. The seats on the Executive Committee will also be contested, although it is hoped that most of the ExCom members who joined in 2005 will wish to stand again for a second two-year term. Please consider whether you would like to stand for one of these positions, or to nominate someone for them. Nominations will be sought in due course by the Ballot Committee.

ISCB27 Geneva 2006: AGM Agenda

From Harbajan Chadha-Boreham

The Annual General Meeting (AGM) will be held in the main lecture room at the conference site on Wednesday 30 August 2006, from 1200 to 1300. The agenda is the following:

1. President's report
2. Treasurer's report
3. Subcommittee reports and motions for continuation:

Statistics in Regulatory Affairs,
Education,
National Groups,
Communications,
Student Conference Awards,
Statistics in Dentistry,
Conference Organising,
Membership.

4. Future ISCB meetings: 2007 Alexandroupolis (GR), 2008 Copenhagen (DK).

5. Any other business

ALL participants of the Geneva meeting, even newcomers to ISCB are, by definition, full ISCB members and are, therefore, most welcome to attend the AGM. Please take part!

ISCB27 Geneva 2006: Conference Awards for Scientists

From Michael Schemper

A total of 14 applications were received and the Conference Awards for Scientists have been awarded to the following people:

Krisztina Boda	Hungary	Application of multivariate analyses to find predictors of multiple gestations following in vitro fertilization
Yasemin Genc	Turkey	Statistical methods for paired clustered binary data
Ewa Kawalec	Poland	Are psychological factors associated with smoking? Results of the POL-MONICA Cracow project
Märt Möls	Estonia	Identifying HIV risk factors in intravenous drug users ñ a likelihood-based approach for respondent-driven samples
Robert Ntozini	Zimbabwe	Predictive value of plasma HIV RNA levels measured at 6 weeks between in-utero and intra-partum HIV-infected Zimbabwean infants on mortality at 6 and 12 months
Roshini Sooriyarachchi	Sri Lanka	Use of an internal pilot study in testing hypotheses pertaining to a Gaussian error linear model : An application to a clinical toxicology study

ISCB26 Geneva 2006: Student Conference Awards

From Marie Reilly

A total of 9 applications were received and the Conference Awards for Scientists have been awarded to the following people:

Arnošt Komárek	Katholieke Universiteit Leuven, Belgium	Baseline and treatment effect heterogeneity in disease free survival between centers: Random effects accelerated failure time model with flexible error distribution
Havi Murad	Bar Ilan University, Israel	Estimating and testing interactions in linear regression models when explanatory variables are subject to classical measurement error
Christopher Nelson	University of Leicester, UK	Flexible parametric models for relative survival

Finite Mixture Models by McLachlan and Peel is quite a technical book, but which contains many practical applications which keep it grounded as an applied statistical text. The book provides a very wide overview of modern identification, estimation and application of mixture models. The references section runs to 44 pages and contains over 800 entries. As such, the book is necessarily a little superficial in places, and the reader may have to follow up on some of the many references in order to fully appreciate a particular area.

The introductory chapter to the book provides an excellent and wide ranging 39 page overview of the history of mixture modelling (dating back to 1894), the issues commonly encountered in mixture modelling applications (including identification of the number of components in the mixture and estimation), and contains several motivating examples (including modelling of skewed data, cluster analysis and image segmentation). This chapter also contains the basic definitions of a mixture distribution and introduces the notation used throughout the rest of the book.

Historically, problems of estimation have limited the usability of mixture models. However, the advent of the EM algorithm and plentiful computing power have worked together to overcome many of these problems. It is therefore appropriate that this book dedicates a considerable amount of space to description of estimation procedures in various applications. Variations of the EM algorithm appear throughout the book, including an entire chapter devoted to scalable EM algorithms for estimation from large databases. Other modern statistical methods, including bootstrap methods and Bayesian methods, also feature prominently.

The second chapter of the book is devoted to maximum likelihood estimation of mixture models and gives detailed accounts of useful algorithms,

motivated by applications such as clustering and outlier detection. The third chapter deals with the special case of multivariate normal mixtures. Of course, real data often are heavy-tailed and subject to outliers making the normal distribution of limited use in practice. As such, McLachlan and Peel provide a chapter-long account of mixture modelling of multivariate *t* distributions. The motivating examples are of applications of robust clustering. This chapter also gives some background on M-estimation of multivariate mixtures, and, like most chapters, provides details of EM algorithms for estimating the models.

The book covers a very diffuse range of models. Simple univariate mixtures, multivariate normal and multivariate *t* models have already been mentioned. Other models include mixtures of continuous and categorical variables, mixture modelling of failure time data (with an extended example), mixtures of generalized linear models, mixture modelling of directional data (with an extended geostatistical example), mixtures of factor analysers, hierarchical mixtures of experts (providing a bridge between the statistical and machine learning literature) and mixture modelling of dependent data via hidden Markov models.

As stated above, this book is rather technical and in places can be a little superficial, but these aspects are to be expected of a book that covers such a huge amount of material. For anyone interested in learning more about the possibility for application of mixtures models in their own work, or for anyone who wants more background information and a valuable source of references, this book will surely provide an extremely valuable starting point.

Statistics in Medicine: Happy 25th Birthday from ISCB!

David W. Warne

Statistics in Medicine is celebrating its 25th birthday this year.

Since 1983 and ISCB3 Rotterdam, with the exception of ISCB4 in Paris, there has been one SiM issue, usually printed at the end of the year following the conference, containing selected ISCB papers.

Up to the last issue in December 2005, a total of 284 papers had appeared, with 610 authors listed. As might be expected, many authors are named once (525), and 55 have written 2 papers. A total of 14 people appear 3 times (A. H. Zwinderman, D. M. Berridge, E. Goetghebeur, I. van der Tweel, J. Benichou, J. Hilden, M.

Abrahamowicz, M. Buyse, P. Boracchi, R. Henderson, R. J. Simes, S. D. Walter, S. G. Thompson, T. Stijnen).

The following 10 authors appear 4 times: A. Whitehead, D. J. Spiegelhalter, D. R. Jones, E. Marubini, E. Svensson, K. R. Abrams, M. G. Valsecchi, P. C. Lambert, R. J. Marshall, S. J. Pocock. Only 3 have written 5 papers: C. Chastang, J. D. F. Habbema, M. Schumacher.

Which brings us to the top 3:

- 8 Stephen Senn,
- 10 Hans van Houwelingen and
- 11 John Whitehead.

Elections for Executive Committee 2007-08

From Harbajan Chadha-Boreham, ISCB Secretary

In accordance with the Constitution, we ask for nominations for positions on the Executive Committee for 2007-08. The current situation is:

John Whitehead	will end term as President and become Past President for one year, 2007
Emmanuel Lesaffre	will become President for two years 2007-08
Norbert Victor	ends his 2 nd term as Treasurer as is not eligible for re-election as Treasurer
Harbajan Chadha-Boreham	ends her 1 st term as Secretary and is eligible for re-election
Koos Zwinderman	ends his 2 nd term as Ordinary members
Peter Lachenbruch, Rumana Omar, Catherine Quantin, Jenő Reiczigél, Marie Reilly, Martin Schumacher and Vana Sypsa	all end their 1 st term as Ordinary members are eligible to stand for a 2 nd term as Ordinary members

For the end of term it is meant the end of the calendar year (2006).

Nominations for

- Vice President,
- Secretary,
- Treasurer and
- up to 8 ordinary members

are therefore sought.

Please contact the Nominations Committee chair, Jørgen Seldrup. Furthermore, use the ISCB template (giving the names of two nominating persons and the agreement of the nominee) as provided to you by the Nominations Committee and send it by fax or by email (scanned letter) to the chair (Jorgen.seldrup@quintiles.com) no later than 31 August 2006).

If there are more nominees than vacant positions, an electronic ballot will be held.

Book Review by Richard Kay (UK)

Gerlad van Belle, Lloyd D. Fisher, Patrick J. Heagerty and Thomas Lumley	Biostatistics: A Methodology for the Health Sciences (Second Edition)	Wiley (2004) 0-471-03185-2
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This is a methodical and fairly comprehensive coverage of the key areas of biostatistics.

Following a couple of introductory chapters tracing the history of statistics in biomedical research and presenting some basic ideas in the design of biomedical investigations the next three chapters provide a routine coverage of descriptive statistics and methods of inference; the normal distribution, sample and population, estimation, one-sample and two-sample inference and sample size calculations. Chapters 6 and 7 look at discrete settings covering the binomial and Poisson distributions and contingency tables. There is also discussion of log-linear models in section 7 although interestingly nothing is mentioned on logistic regression; this only comes later in the context of classification and discrimination. Non-parametric methods, including permutation and randomisation tests, are nicely covered in chapter 8 and the next three chapters develop the linear model framework through simple linear regression, analysis of variance, repeated measures and analysis of covariance. Chapter 12 looks at multiple comparisons but includes only a brief discussion of other areas where multiplicity is a problem. As mentioned earlier, discrimination and classification are covered in chapter 13, while principal components and factor analysis are dealt with in chapter 14. Rates and proportions are covered in chapter 15 and this provides a nice lead in to survival analysis in chapter 16. Chapters 17 and 18 deal with observational studies, covering sample size considerations within such studies and then the design and evaluation of longitudinal studies. Clinical trials, a new topic in this second edition, are discussed in the final methodology chapter in the book. There is also a Personal Postscript from the authors as the last chapter which documents several particularly interesting applications that the authors have been involved in.

On the positive side the presentation throughout is clear and concise and statisticians will find the

development straightforward to follow. There is also a vast array of excellent examples and those involved in teaching biostatistics at both undergraduate and postgraduate levels will find a wealth of material here.

In contrast however there are some aspects of this book that are of concern. For a biostatistical audience there is far too little on clinical trials (21 pages out of 816), although I accept that this was not the main thrust of the book. Nonetheless, some important clinical trial topics are excluded, in particular non-inferiority and equivalence, and meta-analysis, while group sequential designs and interim analyses get only a very brief mention. According to the Preface the book is aimed at various groups including biologists, dentists, health administrators, nurses and physicians. I have to disagree. The mathematical treatment is far too difficult for these folks, certainly in the UK; maybe things are different in the US or elsewhere, but I doubt it. This is unashamedly a book for biostatisticians and epidemiologists. My final concern about the book is that it is very US-centric. In a book of 816 pages, providing a comprehensive coverage of biostatistics, to have no references to any paper by Doug Altman, Peter Armitage (except as a sub author to the well-known Peto, Pike et al (1977) British Journal of Cancer) and Stephen Senn I find very surprising and mildly irritating.

Overall however, and despite my concerns, I did find the book well-structured, easy to follow and potentially useful as a reference and in my teaching and consultancy there will be examples here that I will refer to and topics that I will look up. Whilst it would not be my first choice as a general reference book for biostatistics, most biostatisticians will find it a useful addition to their library.

The authors present the book as a "standalone text for a contemporary year-long course in statistical methods" with "statistics majors at the master level or other quantitatively oriented disciplines at the doctoral level" as the target audience. The hard binding, the volume (753 pages with 200 figures), and the fact that it belongs to the Springer Text in Statistics series are certainly in accord with the book's aim to be comprehensive. The authors were perhaps even over-zealous in that sense since some introductory material and some software-related appendices might arguably have been skipped. However, the core material is of high standard, and the book also brings scientific contributions in terms of novel graph types.

While it uses case studies as its main pedagogical vehicle, the book is obviously software-oriented. That is in line with the authors' belief that "statistics students need to become proficient with at least one high-quality statistical software", which is incontestable. On the other hand, that inevitably means that plenty of space is devoted to quoting code and presenting computer output, so in spite of the book's thickness, a reader with non-mathematical background is left desiring less terse explanations of the statistical methods and a little more overall verbosity, while mathematicians might find some parts not rigorous enough. To be fair to the authors, though, one should bear in mind the very ambitious scope of the book, together with the fact that a graduate textbook (and the authors clearly state that the book stems from their own teaching needs) can always be fully complemented by lectures.

All the data and code required to follow the book can be downloaded from the publisher's website; the SAS code reproduces all the tabular output and most of the graph types, while the S-PLUS commands and functions also produce all the figures in the book (the latter are available for download in compressed format). In both languages, the material is packed into the library named HH. I am not a SAS user, and I test-ran only the R code. Nevertheless, the S-PLUS examples (on which the book is actually based, rather than on R) should be beyond any doubt (especially in the light of the first

author's active involvement in S-PLUS development), while the SAS code, of which I have asked my colleagues to test casually selected examples, should also be technically impeccable.

In the Preface, the authors write that previous exposure to statistics is assumed from the target audience, yet the book starts with basic introduction to and motivation for statistics (Chapter 1). At the start of Chapter 2, the introduction to the types of data and the basic guidelines for tabulating and calculating data make no harm to read regardless of the reader's expertise, but the extremely terse introduction to S-PLUS and SAS could have perhaps been moved into Appendices B and C, respectively. Chapter 3 (Statistics Concepts) enhances the impression that once introductory topics had been chosen, they could have been written more carefully. For example, the very first section (A Brief Introduction to Probability) jumps right into odds, before defining union, intersection and conditional probability. Or, in the Expectation and Variance of Random Variables section, the notation regarding random variables (capital letters) and sample values (small letters) is not consistent (equations 3.7 and 3.8 do not follow it). Reading on, the definition of the population median for discrete distributions (section 3.3.2) is not correct (it should be the maximum of h for which the inequality 3.10 holds), and the definition of symmetric and skewed distributions (section 3.3.3) could be more informative ("A symmetric distribution has equivalent behaviour on either side of its mean. In particular, its tails, the values of density function away from centre, are mirror images. A skewed distribution is one that is not symmetric.").

On the other hand, some material in Chapter 3 is excellent despite its brevity, such as the presentation of discrete bivariate and conditional distributions (Table 3.2), and the section on sampling (3.10). In the introduction to graphs (Chapter 4), which emphasises ecological correlation, scatterplot matrices and data transformation, I found myself wishing even more strongly that I had been taught statistics that way. Within the coverage of introductory inference (Chapter 5), I found the depreciation of normal approximation to the confidence

interval for an unknown proportion (section 5.1.2) particularly commendable. Even though Chapter 5 starts with the note that the discussion is "at a speed appropriate for review of material learned in the prerequisite course", I found it actually more useful than Chapter 3, which lacks such a disclaimer.

In any case, the central contents of the book start with the introduction to the analysis of variance (Chapter 6), which is followed by a detailed treatment of multiple comparisons (Chapter 7). Introduction to simple (Chapter 8) and multiple linear regression (Chapter 9) is followed by discussion of dummy variables and contrasts (Chapter 10), and regression diagnostics (Chapter 11). The general linear model is further explored in the chapters on two-way ANOVA (Chapter 12), factorial design of experiments (Chapter 13) and complex experimental designs (Chapter 14). A step aside in terms of underlying theory, and also a small step back in terms of comprehensiveness, is made by the three following chapters, which address discrete bivariate data (Chapter 15), non-parametrics (Chapter 16) and logistic regression (Chapter 17). The concluding topic is time series analysis (Chapter 18), which is a highly welcome addition with regard to comparable contemporary and older textbooks. With it, the authors have taken into account the amount of actual analyses of different types performed daily in academic, public-sector and business settings, where the students reading the book will most probably end up working and the professionals reading the book mainly work.

Even naming all the topics addressed in these central chapters would require too much space for a review. To motivate the potential reader, let me just list some names of the novel graph types introduced in the book: main effect and interaction plots (perhaps the trademark of the book, with an example reproduced on the cover page), ladder-of-power plots, analysis of covariance plots, ODOFFNA plots, ARIMA-trellis plots, mean-mean multiple comparison (MMC) plots, transposed trellis plots, and odds-ratio confidence interval plots.

Book Review by Gaj Vidmar (continued)

The book has eight appendices. Appendix A, talking briefly and casually on statistical, word processing and graphics software, as well as operating systems and mathematical fonts, fits into the picture of wishing the material had been either avoided or improved, which I had in relation to the majority of Chapter 3. I believe the readership will know too much about computers, and not share the anti-GUI and anti-Microsoft bias unanimously enough to appreciate the material. In contrast, the next two appendices, dealing respectively with installation and use of S-PLUS and R (Appendix B) and SAS (Appendix C) on the Windows and Unix platforms, together with details on installation and contents of the HH library, are highly useful and professionally composed. Appendix D, which reviews the operations with probability distributions in S-PLUS and SAS, is also a good resource, and it is usefully referenced in Chapter 3. Appendix E, entitled Editors, has again some of the misplaced casual air, and I would have preferred it to focus entirely on Emacs and the

useful general guidelines on working style, typography, orthography, programming style and results presentation, since the comments on Word and warnings against Excel are not on the state-of-the-art level of the majority of the rest of the book. Appendix F on mathematics preliminaries is a standard feature of similar textbooks, but over the years I have grown strong doubts over the value of such material. It would have been more useful had all the matter been accompanied with statistical software code, rather than the isolated example of calculating eigen-values and eigenvectors in S-PLUS. Appendix G makes a pleasant finale, since it gives a clear overview of the authors' paradigm of structured sets of graphs, i.e., graphs built on the Cartesian product principle, which theoretically ground and extend the trellis paradigm.

As initially indicated, my overall impression of the book is very good. I believe that the authors have managed to balance innovativeness and accessibility, writing a detailed text that does not try to hide their

opinions and preferences. To the best of my judgment, it is both a valid textbook for students and teachers alike, and a useful reference book for practitioners. The book is faithful to the authors' key statements from the introduction, to which I subscribe, which include the view of statistics as art, the requirement for the data analyst to know a huge variety of subject areas, the importance of communication skills for statisticians, and the central role of graphs as both tools for and products of data analysis. Of course, other software packages could also have been chosen, and the contents could have been balanced differently between the topics of chapters 6 to 14 (GLM) and the topics of chapters 15 to 17 (categorical data). Nevertheless, putting aside some dispensable introductory and appended parts, even a reader who is not fascinated by sheer wealth and detail of graphical displays will get a professional foundation for contemporary practice of statistical data analysis from this book.

Book Review by Andreas Wienke (Germany)

Ettore Marubini and Maria Grazia Valsecchi	Analysing Survival Data from Clinical Trials and Observational Studies	Wiley (2004) 0-470-09341-2
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The book starts with a short overview how survival analysis has evolved since the 17th century, and goes on by explaining the specific nature of time-to-event data, including the role of censoring. Several datasets are introduced, which are used in the following chapters as motivating examples. Chapter 2 includes a nice discussion of practical aspects of randomised clinical trials, including the role of randomisation, intention-to-treat principle and subset analysis. Chapters 3 and 4 cover non-parametric estimation and comparison of survival functions including life tables, the Kaplan-Meier method, the Mantel-Haenszel test and its variations. Furthermore, problems of qualitative interaction, time-dependent covariates and sample size determination are addressed. Chapter 5 introduces failure-time distributions in a formal way by a calculus-based definition of the hazard function. Statisticians may have problems with this order of chapters, discussing basic statistical concepts of survival analysis in the first chapters before introducing formal definitions and theoretical concepts. Chapters 6 and 7 provide an excellent introduction into the proportional hazards model including stratification, time-dependent covariates, model checking and validation. Furthermore, a useful discussion of the concept of internal and external covariates is given. Parametric regression models are discussed

in Chapter 8. The next chapter deals with prognostic factors and the assessment of treatment effects. Problems of variable selection, like forward stepwise selection, are outlined and recommendations are given. The final two Chapters 10 and 11 cover statistical tools for competing risks and meta-analysis.

The book not only covers the basic methods but also extends in appendixes to quite difficult statistical ideas. It is an excellent first course for medical researchers or statisticians who are interested in an introduction to survival analysis. Advantages and disadvantages of the treated models are carefully described and alternative solutions to the problems are suggested. Asterisks are used to indicate the more technical sections. Since the first publication of the book (1995) the field of survival analysis has moved forward somewhat; thus the book looks a little bit old-fashioned with examples and references dating from a rather long time ago. I miss topics like frailty or cure models, and the integration of statistical computing. Statistical software for survival analysis is only briefly mentioned in the preface.

In summary, this is a well-written book, useful for both, statisticians and medical doctors as well, interested in practical application of methods from survival analysis.

Books for Review by Harry Southworth

Books for review:			
Author(s)	Title	Publisher (year) ISBN	Reviewer
1. H. Brown and R. Prescott.	Applied Mixed Models in Medicine (Second Edition)	Wiley (2006) 0 470 02356 2	
2. Robert Gentleman, Vincent J. Carey, Wolfgang Huber, Rafael A. Irizarry and Sandrine Dudoit (Editors).	Bioinformatics and Computational Biology Solutions Using R and Bioconductor	Springer (2005) 0 387 25146 4	
3. David L. DeMets, Curt D. Furberg and Lawrence M. Friedman (Editors).	Data Monitoring in Clinical Trials	Springer (2006) 9 780387 203300	
4. Stephen Senn.	Dicing with Death	Cambridge (2003) 780521540230	
5. G. A. Young and R. L. Smith.	Essentials of Statistical Inference	Cambridge (2005) 780521839716	
6. D. C. Hoaglin, F. Mosteller and J. W. Tukey.	Exploring Data Tables, Trends, and Shapes	Wiley (2006, 1985) 0 470 04005 x	
7. Eric Stallard, Kenneth G Manton and Joel E Cohen	Forecasting Product Liability Claims: Epidemiology and modeling in the Manville Asbestos Case	Springer (2005) 0-387-94987-9	
8. Kunio Takezawa.	Introduction to Nonparametric Regression	Wiley (2006) 0 471 74583 9.	
9. Julian J. Faraway	Linear Models with R	Chapman & Hall/CRC, (2005) 1-58488-425-8	
10. Robert E. Weiss	Modeling Longitudinal Data	Springer (2005) 0-387-40271-3	
11. Daniel Zelterman.	Models for Discrete Data (Revised Edition)	Oxford (2006) 9 780198 567011	
12. Frank R. Hampel, Elvezio M. Ronchetti, Peter J. Rousseeuw and Werner A. Stahel	Robust Statistics: The Approach Based on Influence Functions	Wiley (2005) 0-471-73577-9	
13. Frank R. Hampel, Elvezio M. Ronchetti, Peter J. Rousseeuw and Werner A. Stahel.	Robust Statistics: The Approach Based on Influence Functions	Wiley (2005) 0 471 73577 9	
14. Stephen D. Simon.	Statistical Evidence in Medical Trials	Oxford (2006) 0 190856760 X	
15. S. Chevret (Editor).	Statistical Methods for Dose-Finding Experiments	Wiley (2006) 0 470 86123 1	
16. Rasmus Nielsen (Editor)	Statistical Methods in Molecular Evolution	Springer (2005) 0-387-22333-9	
17. A. C. Davison.	Statistical Models	Cambridge (2003) 780521773393	
18. David A. Freedman.	Statistical Models, Theory and Practice	Cambridge (2005) 780521671057	
19. Lemuel A. Moye.	Statistical Monitoring of Clinical Trials	Springer (2006) 0 387027781 1.	
20. Tomasz Burzykowski, Geert Molenberghs and Marc Buyse (Editors)	The Evaluation of Surrogate Endpoints	Springer (2005) 0-387-20277-3	
Books reviews in this issue:			
Author(s)	Title	Publisher (year) ISBN	Reviewer
1. Ettore Marubini and Maria Grazia Valsecchi	Analysing Survival Data from Clinical Trials and Observational Studies	Wiley (2004) 0-470-09341-2	Andreas Wienke, Germany
2. George G. Woodworth	Biostatistics: A Bayesian Introduction	Wiley (2004) 0-471-46842-8	Victor Moreno, Spain
3. Gerlad van Belle, Lloyd D. Fisher, Patrick J. Heagerty and Thomas Lumley	Biostatistics: A Methodology for the Health Sciences (Second Edition)	Wiley (2004) 0-471-03185-2	Richard Kay, UK
4. Geoffrey McLachlan and David Peel	Finite Mixture Models	Wiley (2000) 0-471-00626-2	Harry Southworth, UK
5. George A. F. Seber and Alan J. Lee	Linear Regression Analysis (Second Edition)	Wiley (2003) 0-471-41540-5	Bruno M Cesana, Italy
6. Richard M Heiberger and Burt Holland	Statistical Analysis and Data Display: An Intermediate Course with Examples in S Plus, R and SAS	Springer (2004) 0-387-40270-5	Gaj Vidmar, Slovenia
Books reviews to appear in the next issue:			
Author(s)	Title	Publisher (year) ISBN	Reviewer
1. M. M. Desu and D. Raghavarao	Nonparametric Statistical Methods for Complete and Censored Data	Chapman & Hall/CRC, (2004) 1-58488-319-7	Julia Singer, Belgium

Books for Review (continued)

Books recently sent for review:			
Author(s)	Title	Publisher (year) ISBN	Reviewer
1. David J. Spiegelhalter, Keith R. Abrams and Jonathan P. Myles	Bayesian Approaches to Clinical Trials and Health-care Evaluation	Wiley (2003) 0-471-49975-7	Andy Vail, UK
2. Daniel Zelterman	Discrete Distributions: Applications in the Health Sciences	Wiley (2004) 0-470-86888-0	Béla Hajtman, Hungary
3. Mark Woodward	Epidemiology: Study Design and Data Analysis (Second Edition)	Chapman & Hall/CRC, (2005) 1-58488-415-0	Anneke Grobler, South Africa
4. David Collett	Modelling Survival Data in Medical Research (Second Edition)	Chapman & Hall/CRC, (2003) 1-58488-325-1	Janez Stare, Slovenia
5. Jean Dickinson Gibbons and Subhabrata Chakraborti	Nonparametric Statistical Inference (Fourth Edition)	Chapman & Hall/CRC, (2003) 0-8247-4052-1	Elisabeth Svensson, Sweden
6. Phillip Good	Permutation, Parametric, and Bootstrap Tests of Hypotheses (Third Edition)	Springer (2005) 0-387-20279-X	Gaj Vidmar, Slovenia
7. Shein-Chung Chow, Jun Shao and Hansheng Wang	Sample Size Calculations in Clinical Research	CRC (2003) 0-8247-0970-5	Jorgen Selstrup, France
8. Vance W. Berger	Selection Bias and Covariate Imbalances in Randomized Clinical Trials	Wiley (2005) 0-470-86362-5	Kim Hawkins, UK
9. Warren J. Ewens and Gregory R. Grant	Statistical Methods in Bioinformatics: An Introduction	Springer, (2005) 0-387-40082-6	Hamid Pezeshk, Iran
10. Murray Aitkin, Brian Francis and John Hinde	Statistical Modelling in GLIM 4	Oxford (2005) 0-19-852413-7	Herwig Friedl, Austria
11. George E. P. Box, J. Stuart Hunter and William G. Hunter	Statistics for Experimenters (Second Edition)	Wiley (2005) 0-471-71813-0	Faans Steyn, South Africa

Books sent for review quite a long time ago			
Author(s)	Title	Publisher (year)	Reviewer
1. J. Edward Jackson	A User's Guide to Principle Components	Wiley (2003) 0-471-47134-8	Nicole Close, USA
2. J M Bernardo et al (eds.)	Bayesian Statistics 7	Oxford University Press (2003) 0-19-852615-6	Stefan Tigan, Romania
3. Daniel Sorensen and Daniel Gianola	Likelihood, Bayesian, and MCMC Methods in Quantitative Genetics	Springer (2002) 0-387-95440-6	Sada Nand Dwivedi, India
4. George A. F. Seber	Multivariate Observations	Wiley (2004) 0-471-69121-6	Elzbieta Pleszczyńska, Poland
5. Eric Vittinghoff, David V. Glidden, Stephen C. Shiboski and Charles E. McCulloch	Regression Methods in Biostatistics: Linear, Logistic, Survival and Repeated Measures Models	Springer (2005) 0-387-20275-7	Rainer Muehe, Germany
6. John Aitchison, Jim W. Kay and Ian J. Lauder	Statistical Concepts and Applications in Clinical Medicine	Chapman & Hall/CRC (2005) 1-58488-208-5	Denis Enachescu, Romania
7. John P. Klein and Melvin L. Moeschberger	Survival Analysis: Techniques for Censored and Truncated Data	Springer (2003). 0-387-95399-X	Sarah White, Malawi
8. Marc Aerts, Helena Geys, Geert Molenberghs and Louise M. Ryan	Topics in Modelling of Clustered Data	Chapman & Hall/CRC (2002) 1-58488-185-2	S.H. Heisterkamp, Netherlands
9. John Verzani	Using R for Introductory Statistics	Chapman & Hall/CRC (2005) 1-58488-450-9	Justin Clayton, USA

Books sent for review a long time ago			
Author(s)	Title	Publisher (year)	Reviewer
1. Martin J Crowder	Classical Competing Risks	Chapman&Hall/CRC (2001) 1-59488-175-5	Dario Gregori, Italy
2. Allen Cato, Lynda Sutton, Allen Cato III (eds)	Clinical Drug Trials and Tribulations (2 nd ed)	Marcel-Dekker (2002) 0-8247-0314-6	Axel Hinke, Germany
3. Shein-Chung Chow & Jen-Pei Liu	Design and Analysis of Bioavailability and Bioequivalence Studies	Marcel-Dekker (2000)	Graham Kimber, UK
4. Donald C Monkhouse & CT Rhodes (Eds.)	Drug Products for Clinical Trials	Marcel Dekker (1998)	Koos Lubsen, Switzerland
5. Peter Armitage (ed)	Encyclopedia of Biostatistics: Vol. 4: Med-Pre	John Wiley (1998)	Aurelio Tobias, Spain
6. Kirkwood	Essentials of Medical Statistics	Blackwell	Dick Bezemer, Netherlands
7. CF Jeff Wu & Michael Hamada	Experiments: Planning, Analysis, and Parameter Design Optimisation	John Wiley (2000)	Gilg Seeber, Austria
8. Michael Healy	Matrices for Statistics	Oxford (2000)	Istvan Janosi, Hungary
9. Michael Finkelstein, Bruce Levin	Statistics for Lawyers (2 nd ed.)	Springer (2001) 0-387-95007-9	David A. Sclar, USA

Book publishers' webpages:

Arnold	http://www.arnoldpublishers.com/
Blackwell	http://www.medirect.com/
Cambridge University Press	http://publishing.cambridge.org/stm/mathematics/stats/
Chapman & Hall, CRC	http://www.crcpress.com/shopping_cart/categories/categories_products.asp?parent_id=104
Marcel Dekker	http://www.dekker.com/catalog/search.jsp?category=%2FStatistics
Oxford University Press	http://www4.oup.co.uk/
Springer	http://www.springer.de/statistic/books/newbooks.html
John Wiley & Sons	http://catalog.wiley.com/

Important note to potential reviewers:
 We regularly receive books from publishers for review in the Newsletter. We are most grateful for these "donations", the reviews of which we regard as a service to you, our members.
Regretfully, some individuals, despite repeated reminders, neither return a review, nor the book to ISCB... When requesting a book, please remember that you're making a commitment to the Society to do a little work in return for keeping the book.

Please do a little work in return for keeping the book and your name will be published in the News!
 For the format and length, please see recent issues of ISCB News. You can send the review in a variety of formats but plain text email, html, RTF or Word are preferred. The reviews may be edited for clarity (English grammar and spelling, punctuation etc.).

George G. Woodworth	Biostatistics: A Bayesian Introduction	Wiley (2004) 0-471-46842-8
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This is an introductory textbook on Bayesian statistics with a selection of life sciences applications. The aim of the author is to present the foundations of Bayesian reasoning and how to interpret from a Bayesian perspective analysis performed and reported in a classical frequentist approach. The intended reader is that person already “exposed” to one or more courses of statistics following a classical approach. The author aims to stress the limitations of the classical approach and provide tools to analyse and interpret analysis from the Bayesian perspective. The first chapter is an introduction to statistical science. The author takes the position that “statistical science is about rationally converting data into knowledge” and does not agree with other definitions of statistics about collecting and organizing data. Chapters 2 and 3 are about probability. Though the focus of later applications is on biostatistics, the author chooses to explain probability with casino examples. Three definitions of probability are presented: objective, relative frequency and subjective. Following the Bayesian perspective, objective (“casino”) and relative frequency probabilities are criticized as being circular definitions and that, when scrutinized in detail, both have subjective traits. Thus, subjective probability is the best, self consistent, and includes the other definitions as special cases. The author proposes as a method to assign values to probabilities the “fair price of a standard bet”; that is, the price one would be willing to pay for buying a bet or receiving for selling a \$1.00 bet about a proposition. In a standard American casino, with numbers 1 to 36 plus 0 and double 0, the fair price for “red” would be $18/38 = 0.47$. However, the casino will charge 0.50 because bets in casinos are not fair. In more complicated situations, this

fair price is subjective and need not be the same for every person. For example, anyone can have a different fair price for events like “next president will be a democrat”. Nevertheless, fair prices should be consistent and obey certain rules to avoid what the author calls a “Dutch book”. A book is a list of bets that carries a person who buys or sells such bets. Since this person may manage simultaneously bets on multiple facts, there is a danger that one gambler buys a bet for one price and sells another, related bet, for a different price in such a way that always has a net benefit and the book always loses. This is the situation known as carrying a “Dutch book” (I found a website explaining the origin of this designation: <http://www1.fee.uva.nl/creed/wakker/miscella/Dutchbk.htm>). The author uses the Dutch book argument to explain the laws and properties of probabilities: probabilities of combinations of events, conditional probabilities, the product rule, the concept of independence, etc. The parallel between fair prices and probabilities is used throughout to explain the concepts. I ought to say that I have enjoyed reading these 3 introductory chapters and I think they are the best of the book. Chapter 4 is about distributions and descriptive statistics, with simple definitions of stem plots, frequency tabulations and histograms as ways to represent distributions. Then quantiles and moments are defined as descriptive summaries for quantitative variables. Chapter 5 is an introduction to statistical inference. Here models are defined as a representation of some part of reality and Bayes’ rule is offered as a tool to update previous beliefs about a series of models with the information provided by data. Ball games are used to illustrate the scenarios; even when two nice biological examples are analysed (a diagnostic test and the evidence

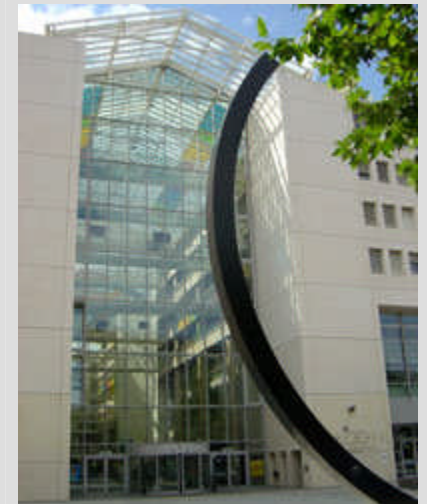
provided by DNA fingerprint) the author returns to black and white balls in a cup when working the calculations. This teaching resource may be effective, but I found that this preliminary part of the text is generally far from biology, at least further than expected for a text on biostatistics. Probably, the author was also conscious of this and to compensate, the chapter finishes with an application of Bayes’ rule to the analysis of rates. An Excel spreadsheet is offered at the author’s website for solving simple Bayesian analysis of rates. Chapter 6 is on continuous probability distributions, with definitions of probability density functions. The normal distribution is used as an example for explaining the characteristics and how to compute probabilities as areas under the normal density curve. The analysis of the posterior distribution of a rate is approximated using the normal distribution and the concept of credible intervals is introduced. Finally, the beta distribution is presented as an exact method to calculate the posterior distribution of a rate. After reading this chapter I felt that the author had chosen to present an extreme simplification of Bayesian procedures and omits many relevant issues of Bayesian analysis. For example, the use of the beta distribution is used without any justification. In fact, the book never presents formally the equation “posterior \propto likelihood \times prior”, and the concept of conjugate distributions is also avoided.

(continued on p.23)

ISCB27 – Geneva 2006 – Draft Programme – May 2006

An updated version of this with all details will be available from June 2006 on www.iscb2006.info.

Time	Sun 27	Mon 28	Tue 29	Wed 30	Thu 31			
0800-0830	Registration	Registration	Registration	Registration	Registration			
0830-1030	0900- Courses	Opening Invited Session 1	Special Session 3	Contributed Sessions 11-13	Invited Session 3	Contributed Sessions 16-17	Special Session 5	Contributed Sessions 25-27
1030-1100	Refreshments	Refreshments	Refreshments	Refreshments	Refreshments			
1100-1200	Courses	Special Session 1	Contributed Sessions 01-03	Invited Session 2	Contributed Sessions 14-15	Keynote Lecture		Invited Session 4 Closing
1200-1230						ISCB Annual General Meeting All Participants Welcome!		
1230-1300	Lunch	Lunch	Lunch	Lunch	Lunch			
1300-1400	Poster Discussions		Excursions		Special Session 4	Contributed Sessions 18-20		
1400-1530	Courses	Special Session 2	Contributed Sessions 04-06	Refreshments	Contributed Sessions 21-24			
1530-1600	Refreshments	Refreshments	Reception	Dinner	Poster session			
1600-1730	Courses	Contributed Sessions 07-10	Poster session	Poster session	Poster session			
1730-1800								
1800+								
Day								



Uni-Mail

ISCB Executive Committee Meeting: 1400, Sunday 27 August 2006.

ISCB27 – Geneva 2006 – Draft Programme – May 2006

Overview 1

Sun 27		Course 1	Course 2	Course 3	Course 4
0900 1030					
1100 1230					
1400 1530					
1600 1730					
Mon 28					
21	0830 1030	211 Opening & IS1 Competing Risks			
22	1100 1250	221 SS1 Robust statistical methods	222 CS01 Design, Modelling and Analysis of Competing Risk Data	223 CS02 Statistical Issues in Modelling Prognosis	224 CS03 Subfertility Statistics and Studies in Infants
23	1400 1530	231 SS2 Subfertility statistics	232 CS04 Competing Risks Modelling for Detection and Management of Chronic Disease	233 CS05 Spatial Data Modelling in Medicine and Ecology	234 CS06 Health Survey Statistics I
24	1600 1750	241 CS07 Building and Validating Prognostic and Predictive Models	242 CS08 Early Clinical Trials	243 CS09 Cluster Randomized Trials	244 CS10 Health Survey Statistics II
Tue 29					
31	0830 1030	311 SS3 WHO Statistics	312 CS11 Biomarker Identification and Validation for Longitudinal Data	313 CS12 Relative Survival Models	314 CS13 Safety Analysis and Case Series
32	1100 1250	321 IS2 Drug sensitivity and drug resistance	322 CS14 Biomarker Identification and Pharmacogenetic Studies	323 CS15 Causality and Propensity	
Wed 30					
41	0830 1030	411 IS3 Regulatory affairs – Compliance or science?	412 CS16 Statistical Approaches to Gene Expression Data in Pharmacogenomics	413 CS17 Cure Models and Stochastic Disease Models	
42	1100 1300	421 KS0 Adaptive designs ISCB Annual General Meeting			
43	1400 1530	431 SS4 Advanced variable selection and multivariable modelling	432 CS18 Superiority and Non-inferiority Designs	433 CS19 Methods for Complex Survival Data	434 CS20 Modelling and Presenting Clinical Data
44	1600 1750	441 CS21 Trial Designs Fit for Purpose	442 CS22 Design and Analysis in Pharmacogenomics and Pharmacogenetics	443 CS23 Meta Analysis: Methods	444 CS24 Complex Data: Interval Censoring, Dentistry Applications
Thu 31					
51	0830 1030	511 SS5 Statistics in Dentistry: Methodological challenges in the analysis of oral health data: Split-mouth studies	512 CS25 Adaptive Designs	513 CS26 Meta Analysis: Applications	514 CS27 Recruitment, Post Treatment and Long-term Survival Analysis
52	1100 1250	521 IS4 Adaptive clinical trials & Closing			

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Overview 2

Sun 27				
0900 1030	Course 1	Course 2	Course 3	Course 4
1100 1230				
1400 1530				
1600 1730				
	Course 1:	Course 2:	Course 3:	Course 4:
Title	Sample sizes for clinical trials with continuous data	An introduction to the role and applicability of data mining in drug development	Assessment of predictive performance by cross-validation and bootstrapping, with applications to high dimensional data	The use of fractional polynomials in regression modelling
Speakers	Steven Julious, Michael Campbell (Sheffield, UK)	Diego Kuonen (Lausanne, Switzerland)	Hans van Houwelingen (Leiden, NL), Martin Schumacher (Freiburg, D)	Patrick Royston (London, UK), Willi Sauerbrei (Freiburg, Germany)
Overview	The course is a basic introduction to methodologies for the calculation of sample sizes for clinical trials where the primary outcome is anticipated to be continuous and the analysis parametric. A number of types of trial will be discussed: superiority; non-inferiority; equivalence and bio-equivalence as well as trial designs: cross-over and parallel group. The course will be a mixture of lectures and practical exercises. It will also cover regulatory requirements.	In various presentations of the FDA's "Critical Path Initiative", the use of data mining technology and methodology is mentioned as one major approach to optimise various phases of drug development. This course will give the participants an introductory overview of the potential and limitations of clinical data mining and its applicability throughout the drug development life cycle. As such, this course starts with a brief discussion of the role and applicability of data mining. Next, a general overview of data mining, the art and science of learning from data, will be given, followed by a software-vendor independent methodological overview of the classification methodology. Finally, as an example application the use of DNA microarray analysis for cancer classification will be considered.	In building prognostic models, it is important to obtain an unbiased assessment of the predictive performance. There exist easily available measures like AIC (Akaike's Information Criterion), BIC (Bayesian Information Criterion) and Generalised Cross-validation that might be biased if the underlying assumptions are not valid. Cross-validation and bootstrapping provide a methodology that is assumption free. In the course, we will discuss i) the general principles of the assessment of predictive performance ii) measures of performance for different type of data (normal, binary, survival) iii) different strategies to assess the performance (cross-validation, bootstrapping) and demonstrate the use of publicly available software. Special attention will be paid to applications with high-dimensional genomic or proteomic data.	We aim to raise awareness of the problems of modelling multiple continuous predictors, and to demonstrate that a structured approach based on fractional polynomials can give a broadly satisfactory practical solution to the problem of identifying 'important' predictors and determining the functional form for continuous predictors. In fitting regression models, the analyst must often choose a model from several potentially influential predictors. Common practice is either to assume a linear relationship for continuous predictors, or to categorise them and postulate step functions. In this course, we will show how to model non-linearity in the relationship between the outcome and several continuous predictors by estimating smooth functions of the predictors. We will discuss the background, and motivate and describe the multivariable fractional polynomial (MFP) approach to model selection from data comprising continuous and categorical predictors. We will compare our results with those from other approaches in examples, present a small simulation study to compare the functional form of the relationship obtained by fitting fractional polynomials and splines to a single predictor variable, and demonstrate Stata and SAS software to fit the models.

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Mon 28					
210830	1030211	Opening & IS1 Competing risks in chronic disease management Per Kragh Andersen (Copenhagen, Denmark), Elia Biganzoli (Milan, Italy)			
0900-0930		Jason Fine (Wisconsin-Madison, USA): An overview of competing risks			
0930-1000		Thomas Scheike (Copenhagen, Denmark): Regression models for competing risks			
1000-1020		Discussant: Patrizia Boracchi (Milan, Italy)			
1020-1030		Discussion			
221100	1250221	SS1 Robust statistical methods Maria-Pia Victoria-Feser (Geneva, Switzerland)	222	CS01 Design, Modelling and Analysis of Competing Risk Data	223 CS02 Statistical Issues in Modelling Prognosis
1100-1120		Maria-Pia Victoria-Feser (Geneva, Switzerland): Important concepts in robustness and key results	1100-1122	085 Per Kragh Andersen (Copenhagen, Denmark): Regression Analysis For Competing Risks Data From Large Register-Based Studies In Psychiatric Epidemiology	131 Andreas Ziegler (Lübeck, Germany): Practical Experiences On The Necessity Of External Validation
1120-1140		Stéphane Héritier (Sydney, Australia): From robust estimation to robust testing	1122-1144	104 Jan Beyersmann (Freiburg, Germany): The ONKO-KIS Study On Infectious Complications After ???	121 Delphine Maucort-Boulch (Pierre Benite, France): Susceptibility To Censorship Of Predictive Accuracy Measures
1140-1205		Eva Cantoni (Geneva, Switzerland): Robust data analysis for longitudinal data	1144-1206	156 Joanna Marro (London, UK): Illustration Of The Use Of Time-Dependent Cox Models To Investigate The Relationship Between Non-Fatal Events And Mortality	193 Rumana Omar (London, UK): Explaining Variation In Binary Health Outcomes: A Comparison Of Methods
1205-1230		Samuel Copt (Sydney, Australia): Robust data analysis in mixed linear models	1206-1228	095 Paula Williamson (Liverpool, UK): Competing Risks For Anti-Epileptic Drug Withdrawal: Design And Analysis Issues	060 Duolao Wang (London, UK): A Varying-Coefficient Model For Assessing The Changing Risk Factors Of Cardiovascular Death
1230-1250		Discussion	1228-1250	057 Aurelien Latouche (Villejuif, France): Planning Studies Accounting For Competing Risks	288 Havi Murad (Ramat Gan, Israel, SCA): Estimating And Testing Interactions In Linear Regression Models When Explanatory Variables Are Subject To Classical Measurement Error
					224 CS03 Subfertility Statistics and Studies in Infants
					071 Steve Roberts (Manchester, UK): Modelling Assisted Conception Data With Embryo-Level Covariates: Prognostic Factors And The Potential For Single Embryo Transfer
					115 Krisztina Boda (Szeged, Hungary) (CAS): Application Of Multivariate Analyses To Find Predictors Of Multiple Gestations Following In Vitro Fertilization
					257 Dominik Grathwohl (Lausanne, Switzerland): A Mixed Model For Infant Growth
					087 Robert Ntozini (Harare, Zimbabwe, CAS): Predictive Value Of Plasma HIV RNA Levels Measured At 6 Weeks Between In-Utero And Intra-partum HIV-Infected Zimbabwean Infants On Mortality At 6 And 12 Months
					017 Dariusz Radomski (Warsaw, Poland): The Application Of A Generalized Additive Model For

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Mon 28						
231	1400-1530	231 SS2 Subfertility statistics René Eijkemans (Rotterdam, Netherlands)		232 CS04 Competing Risks Modelling for Detection and Management of Chronic Disease	233 CS05 Spatial Data Modelling in Medicine and Ecology	234 CS06 Health Survey Statistics I
	1400-1425	David Dunson (Research Triangle Park, NC, USA): Bayesian non-parametric density regression with applications in reproductive epidemiology	1400-1422	277 Jean-Marie Boher (Chilly-Mazarin, France): How To Easy Implement Proportional Hazards Regression Models For The Sub-distribution Of Competing Risks Using Standard Statistical Procedures	275 Christina Yap (Glasgow, UK): Long-Term Exposure To Air Pollution And Cardiovascular And Respiratory Diseases In Scotland	259 Mona Kanaan (Beirut, Lebanon): Evaluation Of The Measles Epidemic In Lebanon From Case Notification Data In 2003-2005 And Tracing Of Notified Cases In 2005
	1425-1450	Niels Keiding (Copenhagen, Denmark): Design and analysis of time to pregnancy studies in epidemiology	1422-1444	216 Ilaria Ardoino (Rome, Italy): Nonparametric Estimation For Marginal Distribution Of Time To Distant Metastasis In Early Breast Cancer	007 Samuel Manda (Leeds, UK): Hierarchical Bayesian Spatial Modelling Of Multivariate Disease Illustrated Using Incidence Rates Of Six Types Of Cancer In The Yorkshire Region Of England	281 Märt Möls (Tartu, Estonia, CAS): Identifying HIV Risk Factors In Intravenous Drug Users Ñ A Likelihood-Based Approach For Respondent-Driven Samples
	1450-1505	René Eijkemans (Rotterdam, Netherlands): Life-table methods for treatment-outcome in subfertility: informative censoring, competing hazards and heterogeneity	1444-1506	092 Thomas Filleron (Montpellier, France): Scheduling Follow-Up Visits From Prognostic-Oriented Parametric Cumulative Incidence Functions	078 Christophe Demattei (Montpellier, France): Multiple Spatial Cluster Detection: An Application To Functional Magnetic Resonance Imaging Data	099 Hideki Suganami (Tokyo, Japan): An Optimal Measurement Schedule Of Intra-ocular Pressure For Evaluating The Drug Effect In A Glaucoma Trial Consideration Diurnal Variation
	1505-1520 1520-1530	Andy Vail (Manchester, UK): Meta-analysis issues of subfertility trials Discussion	1506-1528	059 Yohann Foucher (Montpellier, France): A Semi-Markov Model For Interval-Censored Data And Multiple Final Event Application To The Evolution Of Kidney Transplant Recipients	010 Gillian Lancaster (Liverpool, UK): Reducing Bias In Ecological Studies: A Stratified Method Combining Ecological And Survey Data	074 Adrian Esterman (Adelaide, Australia): The Impact Of Selective Non-Steroidal Anti-Inflammatory Drugs On Admissions For Endoscopically Confirmed Upper Gastrointestinal Haemorrhage In South Australia. A Case-Control Study
241	1600-1750	241 CS07 Building and Validating Prognostic and Predictive Models		242 CS08 Early Clinical Trials	243 CS09 Cluster Randomized Trials	244 CS10 Health Survey Statistics II
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	1130-1200	Ian Hastings (Liverpool, UK): The role of chance in the spread of drug resistant malaria	1122-1144	219 Andrea Jorgensen (Liverpool, UK): Genetic Factors Suggested To Affect Resistance To Anti-Epileptic Drugs: Statistical Methods For Exploring Association Between SNP Genotypes And Time To Event Outcomes	061 Christiana Drake (Davis, CA, USA): Observational Studies, Propensity Scores And The Need To Find Comparable Exposure Groups	
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0830-0855		Marc Buyse (Brussels, Belgium): Computer-intensive data checking in clinical trials	0830-0852	024 Manuela Hummel (München, Germany): Ontologic Analysis: Challenges For Global Testing	199 Paul Lambert (Leicester, UK): The Estimation And Modelling Of The Cure Fraction In Population Based Cancer Studies
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421100	1300	421 KS0 Adaptive designs John Whitehead (Reading, UK) Annual General Meeting			
1100-1200		Peter Bauer (Vienna, Austria): Adaptive designs: Looking for a needle in a haystack –a new challenge in medical research			
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44	1600-1750	441 CS21 Trial Designs Fit for Purpose		442 CS22 Design and Analysis in Pharmacogenomics and Pharmacogenetics	443 CS23 Meta Analysis: Methods	444 CS24 Complex Data: Interval Censoring, Dentistry Applications
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0830-0900		Philippe Hujuel (Seattle, USA): A fatal attraction towards split-mouth designs?	0830-0852	100 Jixian Wang (Basel, Switzerland): Optimal Adaptive Two-Stage Designs With Variable Conditional Stage-2 Power	248 Axel Hinke (Langenfeld, Germany): Problems In The Interpretation Of Meta-Analysis Data Due To Patient Heterogeneity In Cancer Studies	022 Vladimir Anisimov (Harlow, UK): Predictive Patient-Recruitment Modeling In Clinical Trials
0900-0915		Carol Redmond (Pittsburgh, USA): A critical review of split-mouth studies	0852-0914	038 Katrin Jensen (Heidelberg, Germany): Blinded Sample Size Recalculation In Multicenter Trials	075 Rebecca Turner (Cambridge, UK): Bias Modelling In Evidence Synthesis	253 Friederike Barthel (London, UK): Variability In Total Trial Time In Clinical Trials With A Time-To-Event Outcome
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521100	1230	521 IS4 Adaptive clinical trials Gerd Rosenkranz (Basel, Switzerland), Sue Todd (Reading, UK) Closing				
1100-1125		Nigel Stallard (Warwick, UK): Estimation following a clinical trial with treatment selection				
1125-1145		Martin Posch (Vienna, Austria): Estimation in designs with adaptive treatment selection				
1145-1205		Werner Brannath (Vienna, Austria): Estimation after design adaptations in classical group sequential trials				
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Posters: Classification

A: Methods and Applications of Clinical Trials	Regulatory Affairs, Design and Sample Size, Simulation, Survival, Meta-Analysis
B: Modelling and Explanatory Methods for Diagnosis and Prognosis	Advanced Variable Selection, Prognostic Models, Biomarkers, Genomics and PGx
C. Public Health, WHO Themes, Epidemiology and Risk Analysis	Screening and Prevention, Causal Models, Biologics, Spatial Models, Subfertility, WHO Themes, Competing Risks

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246 Federico Ambrogi (Milan, Italy)	A	2. Selection Of Artificial Neural Network Models
284 Mohammed Aqeel (Abha, Saudi Arabia)	A	3. Clinical Trials: An Overview
247 Gholamreza Babaei (Tehran, Iran)	C	4. Agreement Analysis Using Improved Association Models: Application To IOTN Data
264 G.Nural Bekiroglu (Istanbul, Turkey)	C	5. Survey On Complaints Related To The Occupation Among Dentists
279 Jean-Marie Boher (Chilly-Mazarin, France)	B	6. Loss In Efficiency From Omitting Covariates In Proportional Hazards Regression Models For Recurrent Event In Randomized Trials
273 Sorana Daniela Bolboaca (Cluj-Napoca, Romania)	C	7. Communication Of Screening Studies Results: Confidence Intervals
256 Christophe Bonaldi (Saint Maurice, France)	C	8. Assessment Of The Number Of Hospitalised Acute Myocardial Infarction In France In 2003 Based On Hospital Discharges Databases: An Evaluation Study
174 Mariann Borsos (Budapest, Hungary)	B	9. Spatial Regression Modelling Of Hypertension Data With Handling Of Missing Values And Autocorrelation Factors
116 László Börzsönyi (Budapest, Hungary)	C	10. Application Of Models Of Analysis Of Variance To Investigation Of Electromagnetic Effects In Human And Veterinary Medicine
267 Hendriek Boshuizen (Bilthoven, Netherlands)	B	11. Accounting For Measurement Error In A Two-Step Procedure Using Multivariate Longitudinal Models.
86 Andrea Burton (Oxford, UK)	B	12. A Simulation Study Investigating Multiple Imputation Techniques For Handling Missing Covariate Data In Prognostic Modelling Studies
65 Math Candel (Maastricht, Netherlands)	A	13. Efficiency Of Unequal Cluster Sizes In Multilevel Studies With Realistic Sample Sizes
186 James Carpenter (Freiburg, Germany)	A	14. Bias In Meta-Analysis: Funnel Plot Tests And Beyond
251 Josep L. Carrasco (L'Hospitalet de Llobregat, Spain)	C	15. Measuring Concordance Between Two Questionnaires Of Alcohol Intake
262 Bendix Carstensen (Gentofte, Denmark)	C	16. The 10 Commandments Of Age-Period-Cohort Modelling
89 Christel Castelli (Montpellier, France)	B	17. A Semi-Markov Model And Regression Method For Cost-Effectiveness Analysis With Censored Data In Colo-Rectal Cancer

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8 Prem Chandra (New Delhi, India)	C	19. Statistical Issues Related To Design And Analysis Of Randomized Controlled Clinical Trial On Remnant Ablation In Differentiated Thyroid Cancer
68 Mario Comelli (Pavia, Italy)	C	20. Prevalence-Value-Accuracy Plots Vs. Roc Analysis To Assess The Diagnostic Value Of Different Ultrasound Colour Mappings Of The Carotid Plaque, For A Cerebrovascular Condition
242 Paola De Lorenzo (Monza, Italy)	A	21. Web-Based International Studies In Limited Populations: An Experience In Paediatric Leukaemia
245 Mirko Di Martino (Ravenna, Italy)	C	22. Under-Use Of Anti-hypertensive Drugs And Resources Allocation In Hypertension Management: A Real Practice Analysis
158 Sofia Dias (Salford, UK)	C	23. Assessing The Quality Of Randomised Controlled Trials In Subfertility
178 Sarah Donegan (Liverpool, UK)	A	24. Meta-Analysis Of Cluster-Randomised Trials
165 Geir Egil Eide (Bergen, Norway)	A	25. Attributable Fractions With Survival Time Models
47 Jayne Fountain (Leeds, UK)	C	26. Comparison Of Statistical Methods In The Analysis Of Daily Diary Data
285 Yasemin Genc (Ankara, Turkey, CAS)	A	27. Statistical Methods For Paired Clustered Binary Data
291 Clare Gillies (Leicester, UK)	C	28. Development of evidence synthesis methods for the assessment of health policies involving screening and intervention
180 Andreas Gleiss (Vienna, Austria)	B	29. Identifying Predominantly Differential Gene Expression In A Micro-array Experiment
153 Erika Graf (Freiburg, Germany)	A	30. Quantifying Completeness Of Follow-Up In Ongoing And Completed Studies With A Survival Endpoint
202 Kenneth Gundersen (Stavanger, Norway)	B	31. Adaptive Model For Shock Outcome Prediction
145 Siew-Wan Hee (Singapore, Singapore)	B	32. Multiple Logistic Regression Analysis Of Tumour Descriptors For Breast Ultrasonography Diagnosis
67 Siew-Wan Hee (Singapore, Singapore)	A	33. Phase Ii Oncology Trials With Time-To-Event Endpoints
190 Eric Henninger (Geneva, Switzerland)	A	34. Development Of An Endpoint Combining Benefit And Risk In Psoriasis
187 Ping Hu (Bethesda, MD, USA)	C+	35. The Study Early Markers Of Lung Cancer Among Tin Miners In Yunnan, China: Results After 7 Years Of Follow Up.

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197 Raluca Ionescu-Ittu (Montreal, Qc, Canada)	B	38. Comparison Of Methods To Correct For Bias Resulting When Inaccurate Diagnosis In Administrative Databases Is Used As Inclusion Criteria For Pharmaco-epidemiologic Studies
274 Lorentz Jäntschi (Cluj-Napoca, Romania)	C	39. Pearson Versus Spearman, Kendall's Tau Correlation Analysis On Structure-Activity Relationships Of Biologic Active Compounds
13 James Johnson (Durham, NC, USA)	A	40. Application Of Trial Simulations For Estimating Clinical Outcomes Following A Cardio-Diagnostic Study
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286 Ewa Kawalec (Krakow, Poland, CAS)	C	42. Are Psychological Factors Associated With Smoking? Results Of The Pol-Monica Cracow Project
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29 Guido Knapp (Dortmund, Germany)	A	46. Primary Prevention By Physical Activity: A Meta-Analysis
185 Michael Koller (Basel, Switzerland)	C	47. Validity Of Coronary Risk Predictions In The Elderly: Results From The Rotterdam Study
112 Corinna Kühnast (Essen, Germany)	A	48. The Use Of Nonparametric Tests In The Analysis Of Medical Studies
83 Günther Kundt (Rostock, Germany)	A	49. A Randomised Interaction Study To Analyse Induction Of Cyp3a By St. John's Wort And Dependence On Hyperforin Dose
82 Günther Kundt (Rostock, Germany)	B	50. Predicting The Risk Of An Early Atherosclerotic Disease Development In Children After Repair Of Aortic Coarctation
149 Jan Terje Kvaløy (Stavanger, Norway)	B	51. Modelling Seasonal And Weather Dependency Of Cardiac Arrest Using The Covariate Order Method For Intensity Regression
11 Gillian Lancaster (Liverpool, UK)	C	52. Standardisation Of A Culturally Appropriate Developmental Assessment Tool For Screening Children In A Rural African Population
226 David Lewin (Philadelphia, PA, USA)	A	53. Using Instrumental Variables To Improve Side Effect Estimates From A Clinical Trial
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43 Geetha Menon (New Delhi, India)	C	57. Measuring The Burden Of Major Non-Communicable Diseases In India
37 Geetha Menon (New Delhi, India)	A	58. Subjective Beliefs As A Source Of Priors In Bayesian Meta-Analysis
5 Eva Miller (Yardley, PA, USA)	A	59. Implementation Of Adaptive Randomisations For Clinical Trials
157 Reza Ali Mohammadpour (Sari, Iran)	C	60. Uses Of Statistical Methods In Journal Of Mazandaran University Of Medical Sciences Sari, Iran
14 Satoshi Morita (Kyoto, Japan)	A	61. Application Of An Adaptive Design To A Randomized Phase Ii Selection Trial In Gastric Cancer
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41 Yuko Palesch (Charleston, SC, USA)	A	65. Response-Adaptive Randomization For Therapeutic Stroke Trials
106 Tom Palmer (Leicester, UK)	A	66. Incorporating Measures Of Study Similarity
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46 Maria Pritsch (Heidelberg, Germany)	A	69. Combined Group-sequential Adaptive Design With Sample Size Adjustment - A Practical Example
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50 Jenő Reiczig (Budapest, Hungary)	A	71. Confidence Sets For Two Binomial Proportions
93 Laurent Remontet (Pierre Benite, France)	B	72. Estimating Relative Survival And Modeling Effects Of Prognostic Factors In Cancer Survival Studies: An Overall Strategy Based On Regression Models
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124 Benjamin Riche (Pierre Benite, France)	B	74. Model Selection And Classification Performance

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192 Bronno Van der Holt (Rotterdam, Netherlands)	A	98. Standardization Of Derivation Of Endpoints From Patient Data In Clinical Trials
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Chapter 7 is on the comparison of two rates. This chapter starts with an attempt to calculate the posterior distribution of the difference between two rates using a spreadsheet approach but quickly reaches the conclusion that this is not a practical way to solve the problem unless one is willing to have low resolution. Then, instead of shifting to sophisticated quantitative Bayesian methods, the author chooses the normal approximation. This chapter also contains a criticism of conventional (frequentist) statistical practices of significance testing, calculations of p values and confidence intervals. The author proposes to interpret confidence intervals as credible intervals calculated under a “flat”-non informative-prior. Also a method is presented to convert a p value and a point estimate into an approximation to the probability that the parameter is greater than a (null) value. Finally, the author describes methods to compare rates in ratios as relative risks derived from prospective studies and introduces the need to use odds ratios in retrospective case-control studies. The calculations of the posterior distributions of the relative risk and odds ratios are based on the assumption that their log transformed values approximately follow a

normal distribution. The usual outputs from SAS statistical package PROC FREQ are used and a Bayesian interpretation is given under the assumption of flat-priors.

I will summarize the rest of the book here. Chapters 8 to 12 cover, respectively, inference on means, linear regression, logistic regression, hierarchical models and survival analysis. These are nice summary introductions to the methods and the author provides tools to perform a Bayesian interpretation of the analyses performed under a conventional approach. The chapter on hierarchical models uses meta-analysis as an example and is, perhaps, where a full Bayesian approach is more clearly used, because other chapters generally rely on reinterpretation of classical solutions. WinBugs software is used when a full Bayesian solution is required. There is an appendix with a useful tutorial for beginners on the use of this software. The last chapter (13) is on decision analysis. Here evidence is combined with costs in decision trees and methods to choose the best strategy in simple situations are presented. This chapter ends with methods that attempt to calculate the sample size needed for several scenarios from a Bayesian perspective.

The book has 3 appendices, one with tail probabilities for the normal distribution and quantiles for the *t* distribution, and two tutorials of statistical software; one about WinBugs and other about SAS. Each chapter ends with some proposed exercises, without solutions, and relevant bibliographical references.

In summary, I found this text to be a great introduction to probability concepts from a Bayesian perspective. These are usually difficult to teach to medical or biology students and I found the “fair price” approach interesting and easy to follow, though far from the life sciences field. The rest of the book is perhaps a simplified introduction to the most important biostatistical techniques. The author has avoided using the usual mathematically complicated scenario of Bayesian texts in favour of a simple introduction to the techniques and ways to interpret conventional analysis from a Bayesian perspective. This has obvious limitations; the text probably is not suitable for a statistics degree, but may be a very good initial introduction to the Bayesian reasoning in statistics for students and researchers in life sciences that already know some basics of conventional statistics.

This book comes, after about 25 years, as the second edition of the famous book *Linear Regression Analysis* by G. A. F. Seber, 1977, with 557 pages instead of the 465 of the first edition. It has been rewritten with the inclusion of a second author (A. J. Lee), but it maintains the same structure as the first edition. The first edition was presented as a “theoretical book that is satisfying the mathematically minded reader” and it was written “as suitable university text that takes a middle road between giving no proofs of results and giving proofs in complete generality”. I have to say that the first edition completely succeeded in its aims.

The major changes in this second edition are summarized in the Preface by the Authors. Although this second edition has 12 chapters, as did the 1977 first edition, the old chapter 6 “Departures from Underlying Assumption” has been moved to chapter 9; the contents of the old chapter 10 “Analysis of Covariance and Missing Observations” has been drastically shortened and moved to paragraph 8.8 of chapter 8 (Analysis of Variance, since it can be “now treated as a special case of multiple linear regression”). Chapter 10 is now a continuation of chapter 9, dealing with “Departures from Underlying Assumption: Diagnosis and Remedies”. Finally, chapter 12 now is more generally titled “Prediction and Model Selection”, instead of “Choosing the ‘Best’ Regression” as in the first edition. The other chapters are the same with only a few minor changes the wording of the titles.

The topics of the twelve chapters of this book are as follows.

Chapter 1, “Vectors of Random Variables” deals with Statistical Models, Linear Regression Models, Expectation and Covariance Operators, Mean and Variance of Quadratic Forms, Moment Generating Functions and Independence. Of course, this chapter, together with Appendix A, “Some Matrix Algebra”, has to be considered as a prerequisite for the understanding of the many theorems given throughout the book and of the outlined topics.

Chapter 2 “Multivariate Normal Distribution” considers the derivation of the Multivariate Normal Distribution, its moment generating functions, the statistical independence and the distribution of quadratic forms.

Chapter 3, which is very important for the remaining topics of the book (but it has to be said that it is a practically impossible task ranking the relevance of all the twelve chapters of the book) starts

considering the Linear Regression; this topic deals with Estimation (firstly, the (ordinary) least squares estimates shown geometrically and algebraically through the normal equations, the properties of the least squares estimates, the unbiased estimation of the variance (σ^2) and the distribution theory concerning maximum likelihood estimation in the next paragraph. Afterwards, this chapter considers the full-rank model (Orthogonal Columns in the Regression Matrix § 3.6) with the aspect of Introducing Further Explanatory Variables (§ 3.7), and the design matrix of less than full-rank (§ 3.9). The remaining aspects of the estimation are considered in the paragraphs 3.8 (Estimation with Linear Restrictions), 3.10 (Generalized Least Squares), and 3.12 (Bayesian Estimation). The topics of Centering and Scaling the Explanatory Variables and of the Robust Regression (together with the corresponding estimates) are dealt in the paragraphs 3.11 and 3.13, respectively.

Chapter 4, “Hypothesis Testing”, deals with the Likelihood Ratio Test (§ 4.2), with the F-test (§ 4.3), the Multiple Correlation Coefficient (§ 4.4), the Canonical Form for H (the matrix expressing the null hypothesis, § 4.5), the Goodness-of-fit test (§ 4.6), the F-test and the projection matrices (§ 4.7).

Chapter 5 considers “Confidence Intervals and Regions”; this topic deals mainly with considering simultaneous interval estimation (§ 5.1), confidence bands for the regression surface (§ 5.2), prediction intervals and bands for the response (§ 5.3), together with an interesting paragraph (§ 5.4) on the effect of the inclusion of an extra regressor on the width of the confidence intervals considered in the previous paragraphs.

Chapter 6 deals with Straight-Line Regression together with the confidence intervals for the slope and intercept and for the response; this section considers also the inverse prediction or calibration case; paragraph 6.2 is devoted to the model of a straight line through the origin together with the weighted least squares for the straight line model (known weights and unknown weights (§ 6.3), the problem of comparing straight lines (§ 6.4), the two-phase linear regression (§ 6.5) and the local linear regression (§ 6.6).

Chapter 7 is a short but exhaustive part about Polynomial Regression in one variable and in several variables, and includes a paragraph about Piecewise Polynomial Fitting with spline functions and smoothing splines.

Chapter 8 is devoted to “certain special cases of multiple regression model”

arising from the Analysis of Variance (one-way classification, two-way classification unbalanced and balanced, and designs with simple block structure). The topics of the different parameterisations, confidence intervals, the underlying assumptions, and hypothesis testing are considered for each design. This chapter considers also the case of the two-way classification with “one observation per mean” (§ 8.5) leading to a situation in which all the parameters cannot be estimated without imposing at least one constraint, and further to higher-way classifications with equal numbers per mean (§ 8.6). The chapter ends with a short paragraph on the analysis of covariance (§ 8.8).

Chapter 9 deals with “Departures from Underlying Assumptions”: the bias of the estimates of the regression coefficients due to under-fitting and to over-fitting is considered in two sections of paragraph 9.2; therefore, it covers the topics of an incorrect variance matrix assumption, the effect of outliers, the robustness of the F-test to non-normality, the effect of random explanatory variables (measured without and with error), and collinearity. The effect on the variances of the estimated coefficients, variance inflation factors, variances and eigen-values, perturbation theory, collinearity and prediction are the sections of the last paragraph of this section.

Chapter 10 considers the diagnosis and remedies of Departures from Assumptions. After having shown the different kind of residuals (§ 10.2), together with the importance of the “Hat matrix”, there are reported the problems of “Dealing with Curvature” (§ 10.3: Visualizing Regression Surfaces, Transforming to Remove Curvature, and Adding and Deleting Variables), “Non-constant Variance and Serial Correlation” (§ 10.4: Detecting Non-constant Variance, Estimating Variance Functions, Transforming to Equalize Variances, and Serial Correlation and the Durbin-Watson Test), “Departures from Normality” (§ 10.5: Normal Plotting, Transforming the Response, and Transforming Both Sides), “Detecting and Dealing with Outliers” (§ 10.6: Type of Outliers, Identifying High-Leverage Points, Leave-One-Out Case Diagnostics, Test for Outliers, and Other Methods: Masking and Swamping), and “Diagnosing Collinearity” (§ 10.7: Drawbacks of Centering, Detection of Points Influencing Collinearity, and Remedies for Collinearity: Ridge Regression and Principal Component Regression).

Chapter 11 is a long section dealing with several computational algorithms for fitting a regression model. Three methods are considered in details: the first method (§ 11.2) starts from the $X'X$ matrix and directly solves the normal equations: it is shown by using Gaussian elimination and sweeping (Goodnight, 1970); a variation of Gaussian elimination, through a sweep operator and the Cholesky decomposition. The second (§ 11.3) starts directly from the X matrix and it is based on the QR (or WU) decomposition which uses a Modified Gram-Schmidt Algorithm or Householder Transformations, or Givens Transformations. Finally, the third method is based on the Singular Value Decomposition (§ 11.4) and, even if it is computationally more expensive, it is recommended since it is numerically stable. Weighted least squares (§ 11.5), Updating Formulas by Adding and Deleting Cases and Adding and Deleting Variables (§ 11.6) in the case of the above outlined three computational methods, and Centering the Data (§ 11.7) are other following topics of this chapter. Paragraph 11.8 deals with the comparison of the computational methods in terms of computer resources, efficiency, and accuracy and then gives computer code (in R, I suppose) for the above calculations. The Rank-Deficient Case is considered in paragraph 11.9, together with Modifications of the QR Decomposition and Singular Value Decomposition. Computing the Hat Matrix Diagonals (§ 11.10), Calculating Test Statistics (§ 11.11), and Robust Regression Calculations (§ 11.12) are the three last paragraphs of this chapter.

The last chapter, 12, is devoted to Prediction and Model selection. Why Select ? (§ 12.2), Choosing the Best Subset (§ 12.3) with the aspects of Goodness-of-fit Criteria, Criteria based on Prediction Error, Estimating Distributional Discrepancies, and Approximating Posterior Probabilities; Stepwise Methods (§ 12.4) with the Forward and Backward Selection and the Stepwise Regression; and Shrinkage Methods (§ 12.5) with the Stein Shrinkage approach, and Ridge Regression together with its alternatives, the Garrote and Lasso Estimate. Paragraph 12.6 is devoted to Bayesian Methods based on Predictive Densities, together with aspects of Bayesian Prediction, and Bayesian Model Averaging. The Effect of Model Selection on Inference (Conditional and Unconditional Distribution, Bias, and Conditional Means and Variances) is considered in paragraph 12.7. Finally, Computation Considerations and Comparison of Methods are the two last paragraphs of this chapter.

There are three Appendices. The first (Appendix A) on more Matrix Algebra to complete the basic part in Chapter 1; the second (Appendix B) on Orthogonal Projections; and the third (Appendix C)

on Statistical Tables (the first - C1 - of the percentage points of the Bonferroni t-Statistic, the second - C2 - on the distribution of the largest absolute value of k Student t variables, and the third - C3 - on the Working-Hotelling Confidence Bands for Finite Intervals). So, Appendix C of the first edition dealing with the Normal Probability Paper has been omitted and the three others (D, E and F) constitute the actual appendix C.

The book ends with the Section References, surprisingly at a first glance, of only 18 pages (from page 531 to page 548) instead of the 25 pages of the first edition. However, in this edition the references (about 370) are considered only by the surname of the first author, according to the current standard, and not for the surname of all the authors as in the first edition. Only about 130 references are common with the first edition, since many among the oldest have been dropped. The index section of 9 pages (from page 459 to page 557) ends the book.

It is a bit surprising that the computational algorithms for fitting a regression are so deeply treated in a theoretical book (Chapter 11); usually, practitioners are completely confident (and sometimes too confident) of the validity of the statistical software they use and are absolutely uninvolved in computational aspects. However, this is a very important topic and can become particularly relevant in the analysis of some particular sets of data; so, its knowledge (at least as a general overview) is a basic prerequisite for teaching and understanding the linear model, not only theoretically but also in its actual use in statistical work. Furthermore, this chapter deals with computational aspects in a much more detailed way and more completely than the chapters of the manuals of statistical software about this topic.

One of the other merits of this book is the huge number of exercises (more than 200), together with numerous examples. Except for chapters 5 & 7 in which there are exercises only at the end, all other chapters have exercises embedded between the different paragraphs and also between the sections of each paragraph (numbered with the number of the chapter followed by a letter in alphabetical order). The Outlined Solutions to Selected Exercises comprises pages from 491 to 530. I was a little surprised in reading the above title instead of the "Outlined Solutions to Exercises" of the first edition, so I checked and found that the outlined solution is practically reported for all the exercises except for a small number of exercises in Chapter 11 that are mainly devoted to computational aspects and 2 exercises of Chapter 12 (12g group) about writing a computer program.

On the back cover, it has been written that the book is concise, mathematically

clear, and comprehensive and serves as both a reliable reference for the practitioner and a valuable textbook for the student. I totally agree with the first part of this sentence, but I have to disagree about the fact that a "practitioner" can use this book. The book is devoted to statisticians aimed at using statistical methods with a deep knowledge of their theoretical background, or at teachers of statistics in courses at least at an intermediate level. For stressing this interpretation, I think that it is useful to report as an example that in this second edition on page 13 it is reported "it is assumed that the reader is familiar with the m.g.f. (moment generating function) of x^2 , (with a $-1/2$ instead of the correct $-r_2/2$ as the exponent of the last formula of the following Example 1.10), but in the first edition the moment generating function of a x^2 distributed variable was shown (page 19 as a Lemma and then the actual example 1.10).

What I have to say about this book?. I used the first edition as a reference book for giving some proofs of the statistical theorems during my courses on the linear model and regression analysis at the Specialization School in Medical Statistics. Obviously, I recommended it to my mathematically oriented students (students with a degree in statistics or mathematics) and to some physicians with a particular attitude in approaching the statistical theory. However, since it was practically not possible to find the book, this second edition has to be very warmly welcomed.

Furthermore, owing to the many topics that have been updated and to a complete treatment of some other subjects, this second edition has to be considered as a very important new statistical book and not just a replacement of the old first one. Consequently I warmly recommended statisticians and "mathematically oriented" students and researchers to put it on their bookshelves, maybe together with the first edition. Indeed, I think that the first edition remains a precious book for the old references, for comparing the different treatment of some subjects in order to learn also their evolution, and the new (since 1977) approaches in this statistical field. As a final comment, this book is written according to the current statistical style, but, in my opinion, it is a pity that the elegant gothic letters (E for Expected, V for variance and C for covariance, etc.) used in the first edition have been eliminated. Just a final remark on the actual "printing style", there is a square bracket in a formula on page 35 that was perfect in the first edition (page 42) and there is a "flying sheet" that corresponds to page 468 (white in the book) that has to be immediately fixed for avoiding to be lost.

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How to Contact the ISCB Subcommittees (continued)

Title & Email	Terms of Reference	Members	Email addresses
Membership	To explore strategies to increase the ISCB membership by means of: 1. Highlighting the unique position of the ISCB, i.e. bringing together clinicians, methodologists, epidemiologists and biostatisticians 2. Make strategic links with medical and epidemiological societies in order to make publicity at their meetings and bring clinicians/epidemiologists with a methodological/biostatistical interest to our ISCB meeting 3. Widen the geographical spread of the ISCB members 4. Ensure the regeneration of our current core membership. 5. Provide guidelines for future conference organisers on choosing a scientific programme committee that will help in widening membership	Chair/Secretary: Emmanuel Lesaffre (B) Members: Harbajan Chadha-Boreham (CH) Norbert Victor (D), John Whitehead (UK)	emmanuel.Lesaffre@med.kuleuven.ac.be Harbajan.Chadha-Boreham@Actelion.Com victor@imbi.uni-heidelberg.de j.r.whitehead@reading.ac.uk
National Groups Isccb-national-groups@yahoogroups.com	1. To help those who are interested in forming a National Group through the approval process. 2. To review the arrangements with the current National Groups, specifically regarding financial matters. 3. To set rules and standards for funding of ISCB members of National Groups and others from countries with exchange control restrictions or barriers. 4. The Subcommittee administers the Conference Awards for Scientists for the annual ISCB meetings.	Chair/Secretary: Julia Singer (B), Members: Elia Biganzoli (I), Krista Fischer (EST) Ewa Kawalec (PL), Catherine Quantin (F) Norbert Victor (D), John Whitehead (UK)	JSINGER2@PRDBE.JNJ.COM elia.biganzoli@unimi.it Krista.Fischer@ut.ee mxkawale@cyf-kr.edu.pl catherine.quantin@chudijon.fr victor@imbi.uni-heidelberg.de j.r.whitehead@reading.ac.uk
Statistics in Regulatory Affairs isccb-reg-aff@yahoogroups.com	The subcommittee on Regulatory Affairs will review, comment upon and seek to influence the development of regulatory requirements, guidelines and other documents concerning the scientific aspects of data generation, collection, management, analysis, and reporting. In general, the subcommittee will seek out and handle all regulatory issues in the name of the Society with the approval of the President or in his/her absence, the Vice-President.	Chair/Secretary:: Jørgen Seldrup (F) Members: Helmut Schäfer (D), Harbajan Chadha-Boreham (CH), Christoph Gerlinger (D), Anna Petroccione (I) Martin Schumacher (D)	Jorgen.seldrup@quintiles.com hsimbe@med.uni-marburg.de Harbajan.Chadha-Boreham@Actelion.Com Christoph.Gerlinger@Schering.de anna.petroccione@nervianoms.com ms@imbi.uni-freiburg.de
Student Conference Awards isccb-stud-conf-awrd@yahoogroups.com	Student conference awards are available for registered postgraduate students to attend the annual meeting and present a paper. The Subcommittee shall receive submissions, judge them, and administer the awards. The rules are announced in a timely issue of the Newsletter.	Chair/Secretary: Kyungmann Kim (USA) Members: Marc Buyse (B), Bruno Cesana (I), Jan Lanke (S), Marie Reilly (S) Vana Sypsa (GR)	kmkim@biostat.wisc.edu Marc.Buyse@iddi.com cesana@med.unibs.it jan.lanke@stat.lu.se Marie.Reilly@ki.se vsipsa@cc.uoa.gr

ISCB Membership Information

The **International Society for Clinical Biostatistics (ISCB)** was founded in 1978 to stimulate research into the principles and methodology used in the design and analysis of clinical research and to increase the relevance of statistical theory to the real world of clinical medicine.

The ISCB organises an annual scientific meeting which members and non-members are able to attend. The main objective of the annual scientific meetings is to create an opportunity for the exchange of knowledge, experience and ideas among clinicians, statisticians and members of other disciplines, such as epidemiologists, clinical chemists and clinical pharmacologists, working or interested in, the field of clinical biostatistics.

The scientific meetings cover a broad spectrum of biostatistical interests and regularly include sessions on the design and analysis of clinical trials, epidemiology and statistical methodology, as well as from time to time considering more specialist issues such as, for example, education of biometricians and biometrics users, pharmacokinetics, medical data-bases and pharmaco-epidemiology.

Meetings in recent years have been held in Stockholm (2001), Dijon (2002), London (2003), Leiden (2004) and Szeged (2005) and the next meeting will be held in Geneva (2006). A selection of talks at the meetings, for which papers are submitted for review and which are eventually accepted, are published in *Statistics in Medicine*. The ISCB benefits from a special journal concession from John Wiley & Sons Limited, the publishers of *Statistics in Medicine*, so that members are able to subscribe to the journal at a preferential rate.

The ISCB also organises courses to cover particular statistical topics. These are run to precede or follow on from the annual scientific meeting and are given by the foremost researchers in the field.



The composition of the **Executive Committee** (ExCom) for 2006 is as follows:

Officers:

President: John Whitehead (UK),
Vice-President: Emmanuel Lesaffre (B),
Secretary: Harbajan Chadha-Boreham (CH),
Treasurer: Norbert Victor (D).

Members:

News Editor: David W. Warne (CH),
Webmaster: Bjarne Nielsen (DK),
Peter Lachenbruch (USA), Rumana Omar (UK),
Catherine Quantin (F), Jeno Reiczigel (H),
Marie Reilly (S), Martin Schumacher (D),
Vana Sypsa (GR), Koos Zwinderman (NL).

The Annual General Meeting of the ISCB is organised to coincide with the scientific meeting. Membership of the Society is drawn from about 40 countries worldwide and the number of members is nearly 800.



The ISCB also has special **Subcommittees** dealing with particular aspects of biostatistics.



The Society publishes a **Newsletter** twice a year. The ISCB News editor is David W. Warne, Chemin du Petit-Bel-Air 115, CH-1226 Thônex, Switzerland. Items for inclusion in the Newsletter should be sent to him via email to: **david_w_warne@bluewin.ch**


Membership of the Society is open to all with an interest in biostatistics. The current annual (to 31 December 2006) Ordinary membership fee is €40. The Full-time Student Membership fee is €20.

Applications for membership should be sent to:

ISCB Permanent Office,
P.O. Box 130,
Datavej 24,
DK-3460 Birkerød, Denmark

Tel: +45 4567 2279
Fax: +45 7022 1571
email: office@iscb.info
www: http://www.iscb.info

**INTERNATIONAL SOCIETY FOR CLINICAL BIostatISTICS
2006 Membership Subscription**

Surname: _____		First Name _____	
Title (Prof/Dr/etc): _____		Post held: _____	
Address: _____ _____			
Post code and country: _____			
Phone No: _____		Email: _____	
Fax No: _____		Please provide your email address as it will be used to send you the ISCB News in the future.	
SUBSCRIPTION: <input type="checkbox"/> Ordinary membership of ISCB (to 31 December 2006): Euros (EUR) 40.00 (please tick only one) <input type="checkbox"/> Full-time Student Membership of ISCB (to 31 December 2006): Euros (EUR) 20.00 (students should provide a letter from their supervisor or head of department)			
Have you previously been a member of ISCB? <input type="checkbox"/> Yes <input type="checkbox"/> No			
PAYMENT IS MADE BY:			
Credit Card Authorisation: <input type="checkbox"/> VISA <input type="checkbox"/> VISA Electron <input type="checkbox"/> Master Card <input type="checkbox"/> Euro Card <input type="checkbox"/> JCB			
Signature: _____		Date: _____	
Your name on credit card: _____	Card number to debit (16 digits): _____	Validation code (3 digits) (CVC/CVV) _____ from the back of your credit card	Expiry date (MM/YY): _____
Cheque/Money Order:			
<input type="checkbox"/> A cheque made payable in Euros – drawn on a bank in the United Kingdom			
<input type="checkbox"/> A Money Order			
Cheque / Money Order No: (if known) _____		Date sent: _____	
Cheques must be made payable to the International Society for Clinical Biostatistics and returned with this form to the Permanent Office address.			
Note: Non-Euro cheques, bank cheques not drawn on a U.K. bank, and cheques not made payable to ISCB will be returned.			
Bank Transfer: Please transfer direct to: Barclays Bank plc PO Box 69 121 Queen Street Cardiff CF1 1SG UK		<input type="checkbox"/> Euro Account No. 6687 4511 Bank Sort Code: 20-18-15 IBAN: GB28 BARC 2018 1566 8745 11 SWIFT/BIC: BARCGB22	
Please return this form either by Email to: office@iscb.info			
or by post to: ISCB Permanent Office P.O. Box 130 Datavej 24 DK-3460 Birkerod Denmark			
Tel: +45 4567 2279 Fax: +45 7022 1571			

Calendar

29 July - 02 August 2007

Alexandroupolis, Greece

Info: **ISCB28**
 Giota Touloumi email: gtouloum@med.uoa.gr, hotel web: <http://www.thrakipalace.gr>



For the latest conference info, see:

<http://isi.cbs.nl/calendar.htm>



Jul 12-14	Methodology of Longitudinal Surveys (MOLS) 2006: An IASS -sponsored international conference focusing on methods for longitudinal and panel surveys, to be held at the University of Essex, United Kingdom. Tel: +44 1206 872957 E-mail: MOLS2006@essex.ac.uk Web: http://www.iser.essex.ac.uk/ulsc/mols2006	Sep 4-5	International Statistical Institute Briefing Seminar on International Statistics for Chief Statisticians, to be held in Ottawa, Canada This Seminar has two main objectives: • to provide Chief Statisticians an inside look at the complex system of international statistical organisations and arrangements; • to address contemporary challenges faced by NSOs, in particular the management of a National Statistical Office and statistics system in a continuously changing environment. Info: ISI Permanent Office, 428 Prinses Beatrixlaan, P.O. Box 950, 2270 AZ Voorburg, The Netherlands. Tel: +31-70-3375737 Fax: +31-70-3860025 E-mail: smha@cbs.nl Web: http://isi.cbs.nl/events/briefing.htm
Jul 16-21	XXIII rd International Biometric Conference to be held in Montreal, Quebec, Canada. Web: http://www.ibc2006.org	Sep 4-6	KNEMO – Workshop on Knowledge Extraction and Modelling. Organised by the Department of Mathematics and Statistics, University of Naples-Federico II. Villa Orlandi, Island of Capri, Italy. See Compstat 2006 Web: http://www.knemo.unina.it
Jul 16-21	International Conference on Robust Statistics (ICORS 2006), Technical University of Lisbon, Portugal. ICORS is the main meeting devoted to discuss recent results and to present the state-of-the-art on robust statistics and related subjects. The conference will include invited lectures, contributed papers and poster sessions. Both theoretical and applied contributions are welcome. Fax: +351-218417048 E-mail: icors2006@math.ist.utl.pt Web: http://www.math.ist.utl.pt/icors2006	Sep 5-7	Soft Methods in Probability and Statistics (SMPS-06), University of Bristol, UK. SMPS 2006 brings together experts in soft probability and statistics. We welcome papers combining probability and statistics with fuzzy logic, Dempster-Shafer theory, possibility theory, generalized theories of uncertainty, generalized random elements, and generalized probabilities. E-mail: smps-2006@bris.ac.uk Web: www.enm.bris.ac.uk/SMPS
Jul 24-28	26 th European Meeting of Statisticians, Thorun, Poland. Info: Adam Jakubowski (Chairman of the Local Organising Committee) Web: http://www-m4.mathematik.tu-muenchen.de/m4/erc/ , http://www.ems2006.umk.pl	Sep 6-8	International Conference on Statistical Latent Variables Models in the Health Sciences, to be held at the Perugia University, Perugia, Italy. See Compstat 2006 . Web: http://www.stat.unipg.it/forcina/shlav/shlav.html
Jul 24-28	2 nd Sipta School on Imprecise Probabilities, Madrid, Spain. The school is intended as a wide and deep introduction to imprecise probability topics, both theoretical and applied. Info: Enrique Miranda Rey Juan Carlos University C-Tulipán, s/n 28933 Móstoles, Spain E-mail: enrique.miranda@urjc.es Web: http://bayes.esctet.urjc.es/~emiranda/sipta	Sep 7-10	Designed Experiments: Recent Advances in Methods and Applications (DEMA2006), to be held in Southampton, UK. DEMA2006 will bring together researchers and practitioners for the interchange of new ideas on the design and analysis of experiments. More information is available on the website. Info: Susan Lewis and David Woods University of Southampton, UK Tel: +44 (0)2380 595117 E-mail: doe@soton.ac.uk Web: http://www.doe.soton.ac.uk/dema2006/
Jul 24-28	The 17 th Brazilian Symposium of Probability and Statistics, will be held at the Hotel Gloria, in the city of Caxambu, Minas Gerais state. The program includes conferences, short courses, round tables, oral and poster communications. Info: Associação Brasileira de Estatística C. P. 66281-Ag. Cidade de São Paulo 05315-970 São Paulo-SP Brasil E-mail: abe@ime.usp.br Web: http://www.redeabe.org.br	Sep 10-14	Royal Statistical Society 2006 International Conference, Queen's University, Belfast, U.K. Key topics will include: official (regional) statistics, machine learning, environment/climate change, communication of statistics, medical statistics/bioinformatics, statistics and the law. Info: Paul Gentry Tel: +44 (0)20 7614 3918 Fax: +44 (0)20 7614 3905 E-mail: conference@rss.org.uk Web: www.rss.org.uk/rss2006
Jul 30-Aug 4	IMS Annual Meeting and X Brazilian School of Probability (XEBP) Instituto Nacional de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil. Statistics program (Jul 30–Aug 2), Fifth International Symposium on Probability and its Applications (Aug 2–4) Travel grants available for students and new researchers. Info: Elyse Gustafson E-mail: erg@imstat.org Web: http://www.imstat.org/meetings/IMS2006/	Sep 11-15	Summer school "Recent Developments in Spatial Statistics-statGIS06" at the University of Klagenfurt, Austria. Info: Philipp Pluch E-mail: philipp.pluch@uni-klu.ac.at Web: http://www.uni-klu.ac.at/statgis06
Aug 1-5	Ninth Meeting of New Researchers in Statistics and Probability, University of Washington, Seattle, WA The purpose of the conference is to promote interaction among new researchers primarily by introducing them to each other's research in an informal setting. Info: Peter Craigmile and Peter Hoff E-mail: nrc@stat.ohio-state.edu Web: http://www.stat.ohio-state.edu/~pfc/NRC/	Sep 15-17	"Conference on Nonparametric Statistics and Related Topics" at Carleton University Organizers: Ehsanes Saleh, Majid Mojirsheibani and Natalia Stepanova (Carleton) Contributed talks are invited for 15-minute presentations. Deadline to submit: Jul 31, 2006. Info: event organizer A. K. E. Saleh E-mail: esaleh@math.carleton.ca Web: http://www.fields.utoronto.ca/programs/scientific/06-07/nonparametric/
Aug 6-10	Joint Statistical Meeting, organized by the American Statistical Association and to be held at the Seattle Convention Center, Seattle, Washington. Web: www.amstat.org/meetings	Sep 17-20	Applied Statistics 2006, to be held at the Hotel Ribno, Bled, Slovenia. The main goal of this conference is to provide an opportunity for researchers in statistics, and related fields to come together, present their research, and learn from each other. Cross-discipline and applied paper submissions are especially welcome. Info: Andrej Blejec, Chair of AS2006 LOC Tel: +386 1 423-33-88 Fax: +386 1 257-33-90 E-mail: info.AS@nib.si Web: http://ablejec.nib.si/AS2006
Aug 21-25	Prague Stochastics 2006, joint session of the 7 th Prague Symposium on Asymptotic Statistics and the 15 th Prague Conference on Information Theory, Statistical Decision Functions and Random Processes will be held in Prague, Czech Republic. Info: Zuzana Praskova, Dept. of Statistics, Charles University, Sokolovska 83, 186 75 Prague, Czech Republic E-mail: praskova@karlin.mff.cuni.cz Web: http://www.utia.cas.cz/pragstoch06	Nov 1-3	The 23 rd International Methodology Symposium "Methodological Issues in Measuring Population Health", organised by Statistics Canada, Ottawa, Canada, will bring together statistical methodologists and analysts addressing a variety of topics related to producing reliable information on population health. Info: Milorad Kovacevic Tel: 1-613-951-9891 E-mail: symposium2006@statcan.ca Web: http://www.statcan.ca/english/conferences/symposium2006/index.htm
Aug 23-25	Workshop on Data and Information Visualization, to be held at the Humboldt-Universität zu Berlin, Wirtschaftswissenschaftliche Fakultät, Berlin, Germany. See Compstat 2006 .	Nov 10	SPSS Users Meeting 2006, to be held in the University of York. It shall be a meeting for users of the statistical package SPSS organised and presented by fellow users, independently of SPSS. Details on website. Info: Peter Watson Tel: (01223) 355294 x 801 E-mail: peter.watson@mrc-cbu.cam.ac.uk Web: http://www.spssusers.co.uk/Events/2006/confprog.html
Aug 27-31	ISCB27 Geneva 2006: 27 th Meeting of the International Society for Clinical Biostatistics Geneva 2006. The annual ISCB conference fosters collaboration between the academic community, government agencies, and biomedical research organizations. ISCB 2006 in Geneva will provide a forum for the international exchange of methods, applications, and theory of biostatistics in medical research and medical practice. For more information, contact David W. Warne (david_w_warne@bluewin.ch), Chair, Local Organising Committee, or Lutz Edler (edler@dkfz-heidelberg.de), Chair, Scientific Programme Committee. Web: www.iscb2006.info	Dec 13-15	Privacy in Statistical Databases (PSD2006), IStat, Rome, Italy. New developments in Statistical Disclosure Control will be discussed to build a bridge between theory and practice. Info: Josep Domingo-Ferrer, Rovira i Virgili University, Catalonia E-mail: psd2006@urv.net Web: http://vneumann.etse.urv.es/psd2006
Sep 1-4	SCRA2006/FIM xiii-International Conference on Interdisciplinary Mathematical & Statistical Techniques, to be held in Tomar, Portugal. Abstracts deadline: Jul 15. Invited Speakers: C. R. Rao, Barry C. Arnold, Malay Ghosh, Francine Blanchet-Sadri, Carlos Braumann, Ivette Gomes, Tadeusz Calinski, Richard Davis, Angela Dean, Steven Gilmour, Benjamin Kedem, John Stufken (more to be invited). Info: Carlos A. Coelho, cmac@fct.unl.pt , Sat N. Gupta, SNGUPTA@uncg.edu , Satya Mishra, mishra@jaguar1.usouthal.edu . Web: http://scra2006.southalabama.edu	Dec 18-20	The book of Ester Samuel-Cahn: From Empirical Bayes to Prophet Inequalities. A Conference in Honor of Professor Ester Samuel-Cahn, who recently retired from the Hebrew University, will be held near Jerusalem. It will celebrate Ester's lifelong commitment and contributions to the profession and science of statistics. Info: Prof. Isaac Meilijson, Chair, Program Committee: E-mail: isaco@post.tau.ac.il Tel: +972-3-640-8826 Web: http://www.EsterConference.huji.ac.il