The Open University Statistics Group

2009 Report

1.   Membership

Professor P.H. Garthwaite (Head of Group)
Dr C.J. Albers (to July)
Dr K. Anaya
Professor F. Critchley
Dr A.E. Faria
Professor C.P. Farrington
Professor J.C. Gower
Dr M.N. Hocine
Dr G.E. Iossif
Professor M.C. Jones
Mr I.W. Martin
Professor K.J. McConway
Dr C.M. Queen
Dr N.T. Trendafilov
Dr S. Unkel (from October)
Dr S.K. Vines
Dr H.J. Whitaker

Full–time research students

Mr O. Anacleto (from October)
Mr T. Collins (joint with Computing)
Mr S. De (to August)
Mr F. Elfadaly
Mr D. Gragn
Ms A. Noufaily
Mr S. Unkel (to September)

Part–time research students

Mr N. Calleja
Ms A. Gjini
Mr G. Kafatos
Mr A. Owen
Mr J. Urquhart (joint with Applied Mathematics)

Support staff

Mrs S. Frain, Group Secretary

Visitors

Professor J.B. Copas (University of Warwick)
Professor S. Eguchi (Institute of Statistical Mathematics, Tokyo)
Professor N. Ghazzali (Université de Laval, Canada)
Dr P.V. Larsen (University of Southern Denmark)

Professor N. Le Roux (University of Stellenbosch, South Africa)
Dr L. Levesque & Ms L. Smith (Queens University, Canada)
Professor P.K. Marriott (University of Waterloo, Canada)
Professor Z. Shkedy & Mr E. Del Fava (Hasselt University, Belgium)
Dr S. Sisson and Dr Y. Fan (University of New South Wales, Australia)
Dr P.C. Taylor (University of Hertfordshire)
Professor P.W. Vos (East Carolina University, U.S.A.)

2. Introduction

2009 was, inevitably, another active year for Statistics at the Open University in both research and teaching.

The revision of M346 *Linear Statistical Modelling* was successfully presented for the first time in 2009. Substantial work continued on both our new web-based course M347 *Mathematical Statistics* and on the revision of M343 *Applications of Probability*. Our contribution to the Science Faculty's short course programme, SMK184 *Chance, Risk and Health*, came to an end. The Group's courses attracted a total of over 2200 students in 2009.

The end of 2009 saw some changes in personnel/positions. Our long employment of John Gower came to an end as he retired (and not for the first time!). We are delighted to say that John is continuing to work with us in the capacity of Visiting Professor with the title of Emeritus Professor shortly to be conferred. Casper Albers left his postdoctoral position (in the summer) to take up a post as University Lecturer in Statistics at the University of Groningen in the Netherlands. The postdoctoral positions of Mounia Hocine and Karim Anaya also came to an end. Mounia is now Maître de Conférences at CNAM, the Conservatoire National des Arts et Métiers, in Paris, while Karim remains with us in a different postdoctoral capacity. Steffen Unkel has also graduated from research student to research associate. These changes have been met with sadness, but our very best wishes, where people have gone away, and by relief and pleasure at their continued presence here when they haven't!

We are delighted to be able to report the promotion during 2009 of Kevin McConway to a Chair in Applied Statistics.

In the course of the year, members of the Department published 21 papers in refereed journals (see Section 6), including some of the very best outlets. Pre-publication papers and other research material can be found in our technical report series, at http://statistics.open.ac.uk/TechnicalReports/TechnicalReports_Intro.htm. 2009 was a particularly successful year for our international profile with members of the Group taking part in numerous international conferences and hosting a large number of research visitors. And our domestic profile was enhanced too by no fewer than three contributions to our long-standing series of Open University conferences in Statistics.

The Statistical Advisory Service to support research in other departments at the Open University continued to run. Its usual leader, Alvaro Faria, was on study leave in Portugal for much of the year but Paul Garthwaite, assisted at various times by Paddy Farrington, Karen Vines and Heather Whitaker, continued to provide advice. A website explains the service: http://www.mathematics.open.ac.uk/advisory.

Further information on the Department is available through our web pages at http://statistics.open.ac.uk/index.html

3. Teaching

Presentation

The Department presented four courses of 30 CATS points each, namely, M248 *Analysing Data*, M249 *Practical Modern Statistics,* M343 *Applications of Probability* and M346 *Linear Statistical Modelling*, and one course of 10 CATS points, SMK184 *Chance, Risk and Health*, which ran four times in the year.

Each of the first level mathematics courses, MU120 *Open Mathematics* and MST121 *Using Mathematics*, contains substantial amounts of statistical material (roughly one quarter of each) with which Alvaro Faria, Heather Whitaker and Nickolay Trendafilov were involved.

Kevin McConway contributed to the presentation of SDK125 *Introducing Health Science*.

Production

The Group has continued production of M347 *Mathematical Statistics*. As well as enhancing our third level provision with a new course that gives "the theory behind the methods", this course is notable for leading the way within the Department of Mathematics and Statistics in terms of electronic presentation. M347 is to be presented entirely on-line, and we are investigating ways of making the very best use of modern web-based tools. Catriona Queen and Chris Jones are course team co-chairs; Paddy Farrington, Ian Martin and Heather Whitaker are also course authors; and Robert Hasson (Applied Maths) has an important role, especially in facilitating the interface between Latex drafting and the University's Virtual Learning Environment.

Gillian Iossif is leading the revision of M343 *Applications of Probability.* This old, but very successful, course is in need of a certain amount of improvement and updating. Gillian is single-handedly authoring the entire revision. She has help in the form of Nickolay Trendafilov with respect to software aspects.

Awards

Our courses are compulsory components of degrees in Mathematics and Statistics, Computing and Statistics, Mathematics and its Learning. Economics and Mathematical Sciences and Business Studies with Accounting, as well being specified options in certain other awards. Forty-four students were awarded the Mathematics and Statistics degree in 2009. The undergraduate Diploma in Statistics is now awarded to students who successfully study M248, M249, M343 and M346 (or their predecessors). A little under 100 students are awarded the Diploma each year.

4. Ph.D.s awarded

Swarup De for his thesis *A Bayesian Space-Time Dynamic Linear Model for Radioactivity Deposition after a Nuclear Accident* (supervisors: A.E. Faria and K.J. McConway).

Steffen Unkel for his thesis *Factor Analysis of Data Matrices: New Theoretical and Computational Aspects with Applications* (supervisors: N.T. Trendafilov and M.C. Jones)

5. Research interests

The Department is home to three Research Groups:

Multivariate Statistics: Critchley (chair), Albers, Anaya, De, Faria, Garthwaite, Gower, Gragn, Jones, Queen, Trendafilov, Unkel, Vines, Constantine (CSIRO, retired), Cook (University of Minnesota), Marriott (University of Waterloo), Taylor (University of Hertfordshire).

Bayesian Statistics: Queen (chair), Albers, De, Faria, Farrington, Garthwaite, McConway, Vines, Whitaker.

Medical Statistics: Whitaker (chair), Farrington, Garthwaite, Hocine, Unkel, Vines.
Clearly, these three general groupings cover a huge variety of research projects in Statistics. Inter alia, they organise informal internal research meetings. Research also continues, of course, on topics not directly covered by these Research Groups, of which distribution theory, kernel smoothing, robust statistics, time series forecasting and influence analysis are but a small selection. Strong ongoing collaborations continue in areas such as medicine, psychology, traffic modelling and ecology.
For details, see the publications, talks and other items to follow.

6. Publications

6.1 Publications in refereed academic journals

Blasius, J., Eilers, P.H.C. & **Gower, J.C.** (2009) Better biplots. *Computational Statistics and Data Analysis*, **53**, 3145-3158.

Crawford, J.R. & **Garthwaite, P.H.** (2009) Percentiles please: The case for expressing neuropsychological test scores and accompanying confidence intervals as percentile ranks. *Clinical Neuropsychologist*, **23**, 193-204.

Crawford, J.R., **Garthwaite, P.H.** & Betkowska, K. (2009) Bayes theorem and diagnostic tests in neuropsychology: interval estimates for post-test probabilities. *Clinical Neuropsychologist*, **23**, 624-644.

Crawford, J.R., **Garthwaite, P.H.** & Howell, D.C. (2009) On comparing a single case with a control sample: an alternative perspective. *Neuropsychologia*, **47**, 2690-2695.

Crawford, J.R., **Garthwaite, P.H.**, Lawrie, C.J., Henry, J.D., MacDonald, M.A., Sutherland, J. & Sinha, P. (2009) A convenient method of obtaining percentile norms and accompanying interval estimates for self-report mood scales. *British Journal of Clinical Psychology*, **48**, 163-180.

Crawford, J.R., **Garthwaite, P.H.** & Slick, D.L. (2009) On percentile norms in neuropsychology: Proposed reporting standards and methods for quantifying the uncertainty over the percentile ranks of test scores. *Clinical Neuropsychologist*, **23**, 1173-1195.

El-Bassiouny, A.H. & **Jones, M.C.** (2009) A bivariate *F* distribution with marginals on arbitrary numerator and denominator degrees of freedom, and related bivariate beta and *t* distributions. *Statistical Methods and Applications,* **18**, 465-481.

Farrington, C.P., Firth, M.J., Moulton, L.H., Ravn, H., Anderson, P.K. & Evans, S. (2009) Epidemiological studies of the non-specific effects of vaccines: II – methodological issues in the design and analysis of cohort studies. *Tropical Medicine and International Health*, **14**, 977–985.

Farrington, C.P., **Whitaker, H.J. & Hocine, M.N.** (2009) Case series analysis for censored, perturbed or curtailed post-event exposures. *Biostatistics*, 10, 3-16.

Farrington, C.P., **Whitaker, H.J.,** Wallinga, J. & Manfredi, P. (2009) Measures of disassortativeness and their application to directly transmitted infections. *Biometrical Journal*, **51**, 1–21.

Garthwaite, P.H. & Jones, M.C. (2009) A stochastic approximation method and its application to confidence intervals. *Journal of Computational and Graphical Statistics*, **18**, 184-200.

Hannachi, A., **Unkel, S., Trendafilov, N. T.** & Jolliffe, I. T. (2009) Independent component analysis of climate data: A new look at EOF rotation. *Journal of Climate, 22*, 2797-2812.

Hocine, M.N., Musonda, P., Andrews, N.J. & **Farrington, C.P.** (2009) Sequential case series analysis for pharmacovigilance. *Journal of the Royal Statistical Society Series A*, **172**, 213–236.

Jones, M.C. (2009) Kumaraswamy's distribution: a beta-type distribution with some tractability advantages. *Statistical Methodology, 6*, 70-81.

Jones, M.C. & Henderson, D.A. (2009) Maximum likelihood kernel density estimation: on the potential of kernel convolution sieves. *Computational Statistics and Data Analysis*, **53**, 3726-3733.

Jones, M.C. & Pewsey, A. (2009) Sinh-arcsinh distributions. *Biometrika*, **96**, 761-780.

Nielsen, J.P., Tanggaard, C. & **Jones, M.C.** (2009) Local linear density estimation for filtered survival data, with bias correction. *Statistics, 43*, 167-186.

Queen, C.M. & Albers, C.J. (2009) Intervention and causality: forecasting traffic flows using a dynamic Bayesian network. *Journal of the American Statistical Association*, **104**, 669-681.

Trendafilov, N.T. & Vines, K. (2009) Simple and interpretable discrimination. *Computational Statistics and Data Analysis*, **53**, 979-989.

Whitaker, H.J., Hocine, M.N. & Farrington, C.P. (2009) The methodology of self-controlled case series studies. *Statistical Methods in Medical Research*, **18**, 7–26.

Wieringa, J., Dijksterhuis, G., **Gower, J.C.** & van Perlo, F. (2009). Generalised Procrustes analysis with optimal scaling: exploring data from a power supplier. *Computational Statistics and Data Analysis*, **53**, 4546-4554.

6.2 Refereed conference proceedings

Unkel, S. & Trendafilov, N. T. (2009) Factor analysis as data matrix decomposition: a new approach for quasi-sphering in noisy ICA. In Proceedings of the 8th International Conference on Independent Component Analysis and Signal Separation, eds: T. Adali et al., Lecture Notes in Computer Science 5441, Springer, pp. 163-170.

7. Seminars and conferences at The Open University

In 2009, the Statistics Group organised no fewer than three of its "annual" conferences.

The first of these, held in March, was entitled **Traffic Modelling**. The organising committee comprised Catriona Queen, Casper Albers, Sarah Frain, Sara Griffin (secretary in Mathematics & Statistics Department) and Joan Serras (Design Group, Open University). Speakers at this one-day meeting were:

Haibo Chen (University of Leeds) *Use of neural networks in traffic and environment modelling – example studies*

Malcolm Farrow (University of Newcastle) *Stochastic models and diagnostic plots for road traffic vehicle headways*

Richard Gibbens (University of Cambridge) *Data, modelling and inference in road traffic networks*

Jeff Johnson (The Open University) *Complexity science and transport systems*

Lyudmila Mihavlova (Lancaster University) *Vehicular traffic modeling and traffic flow estimation with particle filtering methods*

Catriona Queen (The Open University) *A graphical dynamic approach to forecasting road traffic flow networks*

Joan Serras (Dept of Design, Development, Environment and Materials, The Open University) *Modelling very large transport systems*

David Watling (University of Leeds) *Statistical inference for traffic network models*

Eddie Wilson (University of Bristol) *Differential equation models for forecasting highway traffic flow*

The second conference, held in May, was a two-day conference on **Statistics for Health Registers and Linked Databases**, organised by Paddy Farrington, Sarah Frain, Sara Griffin, Heather Whitaker, Mario Cortina (Institute of Child Health, London) and Liam Smeeth (London School of Hygiene and Tropical Medicine). Financial support for this conference was provided by a grant from the Wellcome Trust. Speakers were:

Sheila Bird (MRC Biostatistics Unit, Cambridge) *Best laid plans: record linkage illuminates public health, and other jurisdictions*

Paul Boyle (St Andrews University) *The value of linking lives through time for health research*

Harvey Goldstein (Bristol University) *Efficient use of prior information about record mismatches in analysing linked data*

Catherine Quantin (Dijon University) *Linking multiple and heterogeneous databases: confidentiality and patient identification issues*

Mario Cortina (Institute of Child Health, London) *Copula models for record linkage*

Stijn Vansteelandt (Ghent University) *Estimating direct effects in cohort and case-control studies*

Bianca De Stavola (London School of Hygiene and Tropical Medicine) *Sensible uses of linked registry data when either outcome or exposure data are missing*

Chris Jackson (MRC Biostatistics Unit, Cambridge) Modelling combinations of population and survey data in epidemiological studies

Marie Reilly (Karolinska Institute, Stockholm) *Assessment of bias in familial risks estimated from population register data*

Paddy Farrington (Open University) *Case series methods for the analysis of linked data and clinical records*

Hans van Houwelingen (Leiden University) *Modelling long term survival data: beyond the proportional hazards model*

Bendix Carstensen (Steno Diabetes Centre, Denmark) *Practical use of Lexis diagrams in the analysis and routine reporting from population registers*

Daniela De Angelis (MRC Biostatistics Unit, Cambridge and Health Protection Agency, London) *A Bayesian approach to estimating disease prevalence using information from multiple sources: HIV and HCV in England and Wales*

Ismail Ahmed & Pascale Tubert-Bitter (INSERM, Paris) *Signal ranking-based comparison of automatic detection methods in pharmacovigilance: a hypothesis test approach*

There was also a roundtable discussion led by Liam Smeeth (London School of Hygiene and Tropical Medicine) and Carol Dezateux (Institute of Child Health, London)

And in July, there was our third event! This was **WOGAS,** a **Workshop on Geometric and Algebraic Statistics.** The organising committee consisted of Frank Critchley, Karim Anaya-Izquierdo, Sarah Frain and Sara Griffin. The speakers at this one-day event were:

Frank Critchley (Open University) *Emerging geometries for statistical science: an introduction*
Paul Marriott (University of Waterloo, Canada) *Sensitivity analysis for statistical science: embedding in the space of distributions*

John Copas (University of Warwick) *Lack of fit and model choice*

Henry Wynn (London School of Economics) *Algebraic structures in statistical models*

Giovanni Pistone (Politechnico di Torino, Italy) *Three examples of applications: combinatorial optimization, Kriging in computer experiments and $\mathcal{K}$ - exponential models*

Karim Anaya-Izquierdo (Open University) *Sensitivity analysis for statistical science: constructing the perturbation space*

Matt Parry (University of Cambridge) *Local scoring rules*

Peter Jupp (St Andrews University) *An intrinsic van Trees inequality*

Shinto Eguchi (Institute of Statistical Mathematics, Tokyo) *Maximizing t-values for all functions of a feature vector*

And, again, a roundtable discussion, including contributions from Phil Dawid (University of Cambridge), Pia Larsen (University of Southern Denmark), Eva Riccomagno (University of Warwick) and Paul Vos (East Carolina University).

The group also ran its usual seminar programme with invited speakers. Over the year we heard:

Patrick Groenen (Erasmus University, Rotterdam, Netherlands) *Support vector machines in the primal using majorization and kernels*

David Firth (University of Warwick) *Working with over-parameterized models*

Jochen Einbeck (University of Durham) *Smoothing, sampling, and Basu's elephants*

Mike Powell (University of Cambridge) *The BOBYQA algorithm for bound constrained minimization without derivatives*

Natesh Pillai (University of Warwick) *Behaviour of MCMC algorithms in high dimensions*

Stephen Walker (University of Kent) *A decision theoretic approach to Bayesian learning*

Yanan Fan (University of New South Wales, Sydney, Australia) *Likelihood-free inference with Sequential Monte Carlo sampler*

Ivonne Solis-Trapala (Lancaster University) Modelling cognitive performance in the young and the older

We ran our sixth Annual Research Students' Research Day, where speakers were Tom Collins, Fadlalla Elfadaly, Doyo Gragn, Angela Noufaily, Alun Owen, Steffen Unkel and John Urquhart.

And we still found time for an internal research morning at which speakers were Doyo Gragn, Paul Garthwaite, Paddy Farrington, Karen Vines and Chris Jones.

8. Conference papers and posters presented

K. Anaya

Workshop on Geometric and Algebraic Statistics (WOGAS), Open University *Sensitivity analysis for statistical science: constructing the perturbation space*

2nd Workshop of the European Research Consortium for Informatics and Mathematics (ERCIM) group on Computing and Statistics, Limassol, Cyprus *On the geometry of generalised linear mixed models*

Conference in Honour of Federico O'Reilly, Universidad Nacional Autónoma México, Mexico City *On some geometric and non-geometric issues in goodness-of-fit*

C.J. Albers

International Meeting of the Psychometric Society (IMPS) 2009, Cambridge *Missing values in general forms of Procrustes analysis*

F. Critchley

11th conference of the International Federation of Classification Societies, Dresden, Germany *Principal axis analysis: a vivid example of invariant coordinate selection*

International Conference on Robust Statistics (ICORS) 2009, Parma, Italy *Sensitivity to model selection: a natural complement to robustness*

Workshop on Geometric and Algebraic Statistics (WOGAS), Open University *Emerging geometries for statistical science: an introduction*

International Meeting of the Psychometric Society (IMPS) 2009, Cambridge *Explicit minimisation of a convex quadratic under a general quadratic constraint*

F. Elfadaly

Statistics for Development and Good Governance: The Tenth Islamic Countries Conference on Statistical Sciences, Cairo, Egypt *On eliciting expert opinion in generalized linear models*

C.P. Farrington

Statistics for Health Registers and Linked Databases, Open University *Case series methods for the analysis of linked data and clinical records*

Royal Statistical Society conference, Statistics in a Changing Society, Edinburgh *Self-controlled case series analyses with event-dependent observation periods*

INSERM workshop on Novel Statistical Methods in Epidemiology, St Raphael, France *Case series methods: the basic model and some extensions*

Workshop on Statistical Methods for Infectious Diseases, Oberwolfach, Germany *Individual heterogeneity: effects and estimation for directly transmitted infectious diseases*

P.H. Garthwaite

21st Annual Conference of the Statistics Department, Cairo University, Egypt *Quantifying expert opinion as a prior distribution*

Workshop on Subjective Bayes, University of Warwick *Prior distribution elicitation for generalised linear and piecewise linear models* [with software demonstrated by F. Elfadaly]

J.C. Gower

11th conference of the International Federation of Classification Societies, Dresden, Germany *Trying to understand correspondence analysis*

International Meeting of the Psychometric Society (IMPS) 2009, Cambridge *Canonical variate analysis: ranks, ratios and fits*

57th Session of the International Statistical Institute, Durban, South Africa *David Kendall's contribution to applications of statistics in archaeology and related matters* [Invited paper in session in honour of David G. Kendall]

Classification and Data Analysis 2009, 7th meeting of the Classification and Data Analysis Group of the Italian Statistical Society, Catania, Italy *Extended canonical analysis: theory and applications* [Keynote paper]

D. Gragn

International Meeting of the Psychometric Society (IMPS) 2009, Cambridge *Penalized varimax*

Sparsity in Machine Learning and Statistics, Windsor *Sparse and interpretable components* [poster]

M.C.Jones

Annual doctoral day of the Graduate School in Statistics and Actuarial Science, Liege, Belgium *Distributionology*

A. Noufaily

International Conference on Statistical Modelling, Cornell University, Ithaca, NY, USA *On a family of distributions in the context of quantile regression*

Royal Statistical Society conference, Statistics in a Changing Society, Edinburgh *Generalized gamma distributions for parametric quantile regression* [Poster]

C.M. Queen

41st Annual Universities' Transport Study Group (UTSG) Conference, London *A graphical dynamic approach to forecasting and monitoring road traffic flow networks.*

Traffic Modelling, Open University *A graphical dynamic approach to forecasting road traffic flow networks*
S.Unkel

International Meeting of the Psychometric Society (IMPS) 2009, Cambridge *Exploratory factor analysis of data matrices with more variables than observations*

9. Other seminars and talks given

K. Anaya

Queen Mary, University of London *Sensitivity analysis, cuts and geometry*

F. Critchley

University of Glasgow *Sensitivity analysis for statistical science: a computational information geometry approach*

University of Padua, Italy *Sensitivity analysis for statistical science: a computational information geometry approach*

A. Faria

Universidade de Lisboa, Portugal *Multimodality of the geometric combination of Bayesian forecasting models*

C.P. Farrington

University of Dundee *The self-controlled case series method: applications in pharmacoepidemiology and pharmacovigilance*

Health Protection Agency, London *Individual heterogeneity - estimation from multivariate serological data*

M. Hocine

University of Kent *The self-controlled case series method*

M.C. Jones

Universidad de Extremadura, Cáceres, Spain *Simple exponential tails and skew t's: useful new families of univariate distributions?*

University of Manchester *Distributionology*

C.M. Queen

University of Kent *A graphical dynamic approach to forecasting and monitoring road traffic flow networks*

10. Editorial roles

F. Critchley

- Associate Editor: *Journal de la Société Francaise de Statistique*
- Editorial Board Member: *Studies in Classification, Data Analysis, and Knowledge Organisation* (book series, Springer)

C.P. Farrington

- Associate Editor, *Biostatistics*
- Editorial Board Member: *Epidemiology and Infection*

J.C. Gower

- Associate Editor: *The Mathematical Scientist*

M.C. Jones

- Associate Editor: *Annals of the Institute of Statistical Mathematics*
- Associate Editor: *Communications in Statistics*
- Associate Editor: *Journal of Statistical Planning and Inference*
- Associate Editor: *Journal of the Korean Statistical Society*
- Associate Editor: *Pakistan Journal of Statistics*
- Associate Editor: *Statistica Sinica*
- Associate Editor: *Statistical Methodology*

N.T. Trendafilov

- Associate Editor: *Computational Statistics*

11. Grants Awarded

C.P. Farrington & H.J. Whitaker

A grant of £304,000 from the Medical Research Council for the 3-year project *Inference for infectious diseases from multivariate serological survey data.*

C.P. Farrington & P.H. Garthwaite

A grant of £28,000 from the National Institute of Health Research for the 1-year project *Methodological development of syndromic and laboratory surveillance in England*

P.H. Garthwaite

An Overseas Research Student Award of £7,780 to help fund Fadlalla Elfadaly.

N.T. Trendafilov

Co-investigator on an Erasmus bilateral agreement (joint project 2009 - 2013) with the Institute of Control and System Research, Bulgarian Academy of Sciences; covers staff mobility and one year of PhD training in the Open University

12. Other activities

C.J. Albers

- organised and chaired a symposium on *Topics in Constrained Optimisation* at the International Meeting of the Psychometric Society (IMPS) 2009, Cambridge

F. Critchley

- visited Universities of Padua, Italy, and Liége, Belgium

A.E. Faria

- spent the last eight months of the year on study leave at Lisbon University, Portugal

C.P. Farrington

- member of the RSS Council and Council representative on RSS Research Section committee

- member of the WHO Ad-Hoc Committee on EPI Serology in Relation to Intermittent Preventive Treatment in Infants against Malaria

- member of the Wellcome Trust's Study Design Expert Group

- external examiner for the MSc in Statistical Science at the University of Lancaster

- examined a PhD at the London School of Hygiene and Tropical Medicine.

- gave an interview to PLUS Magazine, published in Sep-Dec 2009 issue, which is available (with podcast) from http://plus.maths.org/latestnews/sep-dec09/disease_package/

- gave his professorial inaugural lecture entitled *Sufficient statistics: practical analyses of accessible data*

P.H. Garthwaite

- external examiner for undergraduate statistics courses at the University of Mauritius

J.C. Gower

- member of the Sir Ronald Aylmer Fisher Memorial Committee of Great Britain

- foreign member of the Advisory Board of IOPS (Interuniversitaire Onderzoekschool voor Psychometrie en Sociometrie)

- visited Stellenbosch University, South Africa

M.C. Jones

- examined PhDs for the Universities of Bergen, Norway, and Copenhagen, Denmark

K.J. McConway

- is Associate Dean (Curriculum and Awards) of the Faculty of Mathematics, Computing and Technology

- external examiner for the MSc in Statistics at the University of Kent

- examined a PhD at the University of Kent

- academic consultant on three more series of the BBC Radio4/OU series 'More or Less'

N.T. Trendafilov

- elected to membership of the International Statistical Institute

S.K. Vines

- visited Erasmus University, Rotterdam, Netherlands