for Asymptopia (CMS newsletter, January 2002)

The MPhil in Statistical Science and CMS

The MPhil in Statistical Science course ran for the first time in 1998-9. The Statistical Laboratory has been teaching statistics to graduate students since 1947, and from 1965-2000 was housed in Mill Lane, in the former warehouse of Cambridge University Press, converted by the University as a 'temporary' measure in 1965.

Two of the recent developments that have greatly enhanced our new MPhil course are the following.

i) the growth in the use of the world wide web. We started using this, for example to publicise our courses, in about 1995. This has proved to be a wonderful resource in the context of attracting new graduate students to Cambridge, particularly from overseas.Our webpage address is

`http://www.statslab.cam.ac.uk`

ii) the move to our wonderful new buildings in Centre for Mathematical Sciences in April 2001. Our previous building had been very cramped, with facilities for students that, frankly, were not attractive. We now have a beautiful Library, magnificent lecture rooms, a spacious computer teaching room which is both comfortable and quiet, and a separate study room for the MPhil students with their own small reference library.

The entry requirements for our MPhil students are stringent, since students must have a very good background in Mathematics, and good English (they will need to write an MPhil dissertation in due course). Our MPhil students have come from UK, Ireland, France, Germany, Luxembourg, Portugal, Cyprus, Malta, USA, Jamaica, Guyana, Singapore, India, China, Hong Kong, Kenya, Nigeria, Ghana and Togo.

A distinguishing characteristic of the MPhil course is the Applied Project: each student is assigned a practical problem on which to cut his/her teeth, statistically speaking. There has been considerable demand by the MPhil students for projects arising from the world of banking/finance/insurance, and we are fortunate to be able to draw on the help of former students of the Laboratory, and others in the world of finance, who are willing to provide and supervise such projects. But there are several other fields from which projects naturally arise, for example econometrics, medical statistics, networks theory, educational statistics and traffic studies. Of course all of these are subjects that provide employment for statistically trained graduates, and

our MPhil students do enjoy excellent employment prospects.

For example, here are the titles of some recent MPhil Projects: the summaries of these projects may be seen on our web-page: 'Extreme-value analysis of remperature in the Antarctic, 1950-95', a project concerned with the construction of models to characterise extreme environmental events, 'The effect of single room heat recovery ventilation on asthmatic children', which analysed data from a new technique aimed to improve the air supply in the bedrooms of known asthmatics, 'Simulation and analysis of aggregate claims and ruin probabilities for a perturbed classical risk model' to investigate the problems faced by insurance companies in setting their premiums, 'Modelling of house prices in English regions, 1968-97': can we fit a model that will help us to predict future house-prices? 'Modelling the association between growth patterns and mode of feeding in a Longitudinal study of Cambridge infants': three different diets (bottle-fed, breastfed, and mixture) were compared by studying the growth records of 1094 babies born in the city of Cambridge over a given 6-year span, 'Factor analysis with arbitrage pricing restrictions', the aim being to find a model explaining stock movements, for data from the FTSE 350 index, 'An Options-theoretic approach to valuing hedge-fund management fees: analysis and implications': on what basis should a hedge-fund manager be paid? 'Acceptance policies in telephony gateways': relating to the problem of finding effective congestion control mechanisms for Internet traffic.
There is generally a good 'esprit de corps' among the MPhil students, considerably aided by the possibility of lingering over meals and cups of coffee in our Central Core dining area. Indeed some graduate students at the CMS seem happy to make the Central Core area their 'base' for working during the day-time, between lectures, classes and supervisions, and it is a real pleasure to see this large space, which is light, warm and cheerful, put to good use, particularly during the murky Cambridge winter days.

Patricia M.E.Altham, January 2002
http://www.statslab.cam.ac.uk