The Maths, Stats & OR Network is delighted to announce that the May and August editions of MSOR Connections, respectively, will be special issues focussing upon the use of GeoGebra and Minitab, within teaching and learning in higher education.

For the May issue GeoGebra's creator, Dr. Markus Hohenwarter, will provide a keynote article on this innovative teaching and learning resource, and we are seeking additional contributions from those using GeoGebra within Higher Education. For the August issue we will be actively seeking articles describing innovative ways that Minitab is used for teaching and learning, especially to non-specialist students of statistics. Further details will follow in the May issue of MSOR Connections.

GeoGebra is open-source software for teaching and learning mathematics that combines features of interactive geometry software and computer algebra systems in one easy-to-use tool for educators and students. With its graphics, algebra, and spreadsheet views the software allows direct manipulation of mathematical objects in multiple representations, making it a versatile tool for mathematics learning from elementary to university level (see screenshots opposite).

GeoGebra also allows the creation of interactive web-ready materials, so called dynamic worksheets. This feature has led to the sharing of thousands of user-created online resources on the GeoGebraWiki attracting 400,000 visitors from 188 countries per month.

GeoGebra's growing popularity as a mathematics education resource is likely due to several characteristics: versatility (multiple representations of mathematical objects), free availability in 42 language translations, and user involvement via wikis and forums. The widespread use of GeoGebra is an example of the growing international interest in open-source software in mathematics education.

The Network welcomes contributions for MSOR Connections from those using GeoGebra within their teaching. Further details on how to contribute to MSOR Connections are available by visiting www.mathstore.ac.uk/newsletter.
Understanding the UK Mathematics Curriculum pre-University

A Guide for Academic Members of Staff

In order to study a wide range of undergraduate programmes, including those in the Biological Sciences, Chemistry, Computer Science, Engineering, Materials Science, Mathematics, and Physics students need to have gained a mathematics qualification prior to entering university. This qualification may have to be at GCSE, AS or A level (in maths or further maths), or ordinary or higher level Scottish leaving certificate or equivalent. A vast array of pre-university mathematics qualifications exist within the UK, and for those working within the Higher Education sector, it is not always clear what mathematics content, methods and processes students will have studied or indeed can be expected to know and understand as they commence their university programmes.

The Maths, Stats & OR Network, in conjunction with the Subject Centres for Bioscience, Engineering, Information and Computer Sciences, Materials and Physical Sciences is seeking to commission a concise guide, written for those within the Higher Education sector, that seeks to outline what students with given prior qualifications in mathematics are likely to know and be able to do. The guide should address not only the factual knowledge that has been covered, but also the degree to which skills will have been retained, the sorts of learning and assessment approaches students have become used to and their motivations and attitudes.

The guide should be written in a suitable style so as to provide advice and guidance to colleagues within the following disciplines: mathematics, the biological sciences, information and computer science, engineering and materials science, physics and chemistry. It should cover both GCSE and A-level, along with other appropriate qualifications that students may have studied, and where possible, it should make reference to the new 14-19 diplomas. It should also advise on any additional sources of information that those within the higher education sector might utilise to familiarise themselves with the backgrounds of incoming undergraduate students, particularly as the pre-university mathematics curriculum is currently undergoing a period of considerable change.

A fee of up to £1,500 will be made available for the production of this guide. The Maths, Stats & OR Network will undertake the design and layout of this guide on behalf of the Subject Centres. It is intended that the guide will be published by the 1 September 2009.

Those wishing to undertake this work are asked to submit a brief expression of interest detailing their suitability for undertaking this work and costs to Michael Grove (M.J.Grove@bham.ac.uk) by 1 March 2009. Disciplinary experts will be available from each of the Subject Centres to provide advice and guidance during its creation.

CETL – MSOR Conference 2009: Call for Abstracts

On the 7th and 8th September 2009, the Maths, Stats & OR Network will be running its fourth annual learning and teaching conference in conjunction with the related Centres for Excellence in Teaching and Learning (CETLs). The 2009 Conference will be hosted by the Centre for Open Learning of Mathematics, Science, Computing and Technology (COLMScT), and will take place at the Open University in Milton Keynes.

The call for abstracts is now open and full details appear on the back cover of this issue of MSOR Connections.

Good Practice in Undergraduate Peer Support

From work undertaken by the Network and Sigma-CETL it has become apparent that students studying for mathematics degrees need more support beyond that available for the transition from school to undergraduate studies. Emerging evidence suggests that peer support can help progression and both motivate and encourage students with their studies. The mechanisms of interest involve the use of undergraduates to support other undergraduates either in the same or different year groups and either in formal or informal situations. To help develop this approach, the Maths, Stats & OR Network has commissioned the development of a Good Practice Guide for Undergraduate Peer Support for level 2 mathematics students and above.

The guide will give information on the current practices used in HE and the challenges and constraints of implementing such mechanisms. The guide will consider the nature of the support – whether this be face to face or via e-technologies. To collect views and current good practice, a short online survey has been prepared which is available at: http://www.surveymonkey.com/s.aspx?sm=wSyO1X1xy3lLZe3huy2kYw_3d_3d A direct link to the survey is available on the front page of the Network website at http://www.mathstore.ac.uk.