

Changing Faces of GIS Faculty, Keeping Pace with Change, and Recognition and Rewards

By Kenneth Field, Course Director, Kingston Centre for GIS

Many people have contributed to GIS at Kingston University London (KUL). Some remain, while some have moved on and made other significant contributions in academia and business, leaving openings where new faculty have taken up the reins. KUL has also benefited from its relationship with a number of major figures in GIS over the years. A substantial financial commitment was made in terms of staffing and computer technology to launch the course. This was vital to success, and resourcing remains a vital aspect of quality course provision. Over the years, the Kingston Centre for GIS has frequently been recognized and honored.

Here is a list of key individuals, important technological changes, and awards:

People

Legend credits the idea for the course to Tim Wood at Kingston Polytechnic who had been experimenting with GIS in geography modules alongside Peter Fisher, Graham Wilkinson and PhD student William Mackaness. Tim left to take a position in industry before the course started but the idea was implemented by an initial team of Giles Foody and Nigel Trodd at the Polytechnic alongside Alan Wood at KCFE. Seppe Cassettari joined Kingston in January 1989 and led the design of the degree specification as the first Course Director. Under David Rhind's tuition at Birkbeck College in 1984, Seppe was the first person in the UK to use what was then ARC/INFO.

David was a major contributor to the Chorley Report after becoming Professor in Geography at University of London in 1982 and prior to his appointment as Director General of Ordnance Survey. David has been Vice-Chancellor of City University, the first geographer in nearly 50 years to be elected Fellow of the Royal Society (the British National Academy of Sciences) and Honorary Fellow of the British Academy. KUL recognised his contribution to GIS and his role in setting up the course with an Honorary Doctorate. David was on the validation panel for the course, with Peter Dale. The validation meeting is recalled for a somewhat heated debate about the need for a new degree. Both David and Peter were adamant of the need and would not allow bureaucracy to stand in the way of a good idea! The course was supported by Trevor Kennea (Head of Geography) and Tony Mercer (Dean of Science) despite the nervousness of such a new venture by Kingston's Academic Board. David and Peter became the first external examiners of the new course and helped shape and steer it through the initial years. The course has benefited from a number of eminent external examiners including Ian Masser, Stan Openshaw, Paul Longley, Jonathan Raper, David Green and Mike Batty.

Faculty expanded with the appointment of Nigel Walford in 1989, followed in the early 1990s by former Kingston Polytechnic Geography graduate Ed Parsons, Alun Jones then, from Birkbeck College, Teresa Connolly, Dave Livingstone and Tim Linsey. Cherry Cane joined as part-time GIS administrator and Debbie Millard as School Cartographer (and part-time GIS degree student). The team was complemented by Peter Hicks and Ray Donnelly at KCFE. In January 2010, KUL is recognising Ed's contribution to GIS at KUL and his subsequent achievements with an honorary doctorate.

Nigel Trodd departed at the same time as the first cohort of graduates in 1992 and is now Principal Lecturer in Earth Observation by Remote Sensing and GIS at Coventry University.

William is Director of the MSc in GIS at the University of Edinburgh. Peter Fisher's career has been impressive and included the authoring of numerous seminal texts and Editorship of the *International Journal of Geographical Information Science* (IJGIS). He has held posts at Leicester and City Universities. Both Dave Livingstone and Nigel Walford remain at KUL with Nigel being the inaugural Professor of Applied GIS.

Seppe and Alun departed in the mid 1990s and in 1998 formed the hugely successful GeoInformation Group which thrives today as a leading provider of high-resolution aerial photography, geospatial information products and consultancy and training services. In 2008, GeoInformation Group won a Small Business of the Year award for its innovative and pioneering approach to production and delivery of high quality spatial information and they have recently launched UKMap, the first serious challenger to Ordnance Survey's dominance in UK mapping. Seppe has been President of the British Cartographic Society and his company continues their association with KUL as collaborators on the hugely successful CPD programme in GIS.

Having succeeded Seppe as Course Director, Tim moved to head the KUL Academic Development Centre (ADC), which he still leads. Neil Lucas joined in 1995 along with Munir Morad, as new Course Director, Richard Armitage and Doreen Boyd. Munir left in 2006 to become Head of Department at London South Bank University. Doreen went on to Ordnance Survey where she worked for Ed in the OS research and development team and is now Associate Professor at University of Nottingham, Neil is College Director and Principal at International College Wales, Swansea and Richard contributes to the UNIGIS MSc in GIS at University of Salford. During the 1990s a staff at KCFE continued to contribute to the course, in particular Andrew Williams re-shaped the Year 1 curriculum before he moved to head the Education

Development Centre at the KCFE. Other KCFE staff retired and were not replaced which reflected a decline in interest in the traditional mapping sciences though former KUL GIS student Matt Sexton became a GIS technician then Lecturer at KCFE and contributed to the course until 2008 when Ray retired and KCFE ended its interest in GIS provision.

The current course team comprises, beside myself (Course Director), Mike Smith, James O'Brien, Ian Greatbatch and Nigel Walford. I joined KUL in 2002 after 12 years as a Lecturer in GIS and Cartography at University of Northampton where I had set up new GIS courses, a dedicated lab running what was then PC ARC/INFO 3.4D and was one of the first in the UK to teach using ArcView 1.0. As Course Director, I am responsible for curriculum design and delivery and have driven forward a programme of restructuring and reform as well as development of new Master's courses. Mike joined in 2003, James in 2006 and Ian in 2007 (a former KUL GIS graduate) to manage the CPD course after Teresa moved to take up a post with the Open University.

The GIS course has always had dedicated computing support, initially provided by Matt Toon who is now Solution Architect for ESRI (UK) Ltd. Leigh Kemp replaced Matt and now works alongside Tim at ADC after developing the WebCT learning management environment across the GIS course during 1999–2000 which provided the benchmark for KUL adopting BlackBoard for all courses. Mike Brown was our third GIS support officer, subsequently replaced by Nick Brill when he took a senior position in the Web development team of the BBC.

Faculty have always published and presented widely at national and international levels including meetings of the Association of American Geographers, Royal Geographic Society with Institute of British Geographers, GISRUk and ESRI International User Conference. Teresa was a lead author of the classic *Understanding GIS: The ARC/INFO Method* workbook published by

John Wiley & Sons on behalf of ESRI in the early 1990s. Seppe's textbook on Introduction to Integrated Geoinformation Management became a must-read during the 1990s and Nigel Walford has authored several books on geographical data analysis. Neil assisted development of new learning strategies for GIS at the International Sakarov Institute of Radioecology in Belarus where he worked with Konstantin Krivoruchko and his team to support delivery of geostatistical techniques. Konstantin (and his entire team) was subsequently employed directly by ESRI at Redlands, California, where they developed geostatistical software. Geostatistical Analyst was released as part of ARC/INFO in 2001 and Neil contributed to the documentation and publication of *Using the Geostatistical Analyst*.

Alun, Ed, Tim, Matt and Dave were regular contributors and Editorial Board members of the GI business magazine *Mapping Awareness*. First published in 1986, *Mapping Awareness* (later retitled to *Mapping Awareness and GIS Europe*) provided advice, commentary and technical reports for geographic technology users and managers in the UK and Ireland. Staff continue to shape the GI Industry by regularly contributing to publications that succeeded *Mapping Awareness* such as *Geoconnexion*. The tradition of writing key texts continues with James and I co-authoring a book on the practical application of GIS for Schools. Mike is currently editing a book on the use of GIS in geomorphological mapping and I am contributing to the 6th Volume of the History of Cartography project as well as authoring a new book on Applied Cartography and working with ESRI (UK) Ltd's Paul Hardy on a chapter on cartography in GIS for a forthcoming book. Mike and I co-founded the online Journal of Maps in 2004 (www.journalofmaps.com) which has become widely accepted as an important international journal for the publication of original maps. I am also Editor of *The Cartographic Journal*. Staff are in demand to provide keynotes and invited lectures as experts in GIS. James

and I have recently delivered keynotes to the ESRI (Northern Ireland) conference in 2008 and the ESRI (UK) 'ArcGIS is evolving' conferences in early 2009. Perhaps the most bizarre invite was Alun receiving an invitation from the Welsh Office in the early 1990s as an 'important Welshman' to judge the annual sheep of the year competition at National Eisteddfod of Wales. There is no verification as to whether Alun accepted the offer.

Technology

The first dedicated GIS lab comprised 10 Intel 186 PCs running IDRISI, GIMMS mapping software and a range of other GIS packages. A GEMS image processing instrument provided remote sensing analytical capabilities with GEMS software of the time also used elsewhere to design and manufacture carpets and neck ties! The state-of-the-art GIS lab was decorated by Faculty staff prior to opening but stories of staff soldering together serial cables to ensure digitising tablets worked and the occasional fire caused by overheating PCs tell the story of early maintenance issues. ARC/INFO was licensed in the early 1990s via links with former Kingston Geography student, Roman Pryjomko, who had begun a career with ESRI in Redlands, California.

Dedicated computing facilities have always been supported and the course now benefits from two GIS laboratories. The main lab houses 24 Intel Quad Core PCs with a second geomatics lab housing 6 PCs, digitising tables, stereoscopic screens and other specialist equipment. KUL now runs ArcGIS Server Advanced Enterprise Edition across the campus under a site license deal through the UK's Combined Higher Education Software Team (CHEST) agreement. The license gives Faculty and students access to the full suite of ArcGIS desktop, server and mobile products and supports cross-disciplinarity.

The store cupboards at KUL tell a story of technological development with numerous, now obsolete, items of equipment having been central to the course at various times. These include Magellan Nav 500DLX GPS receivers which are the size of a house brick. Dating from 1996, they took at least 20 minutes to acquire a satellite fix, were accurate to 120m and lasted for 30 minutes running off 12xAA batteries. Resources have always been targeted at GIS acquisitions and non-essential items re-used wherever possible. The 1993 era filing cabinet used by Ed remains in use in my office, replete with Ed's tell-tale 'Apple' sticker. The use of online resources to support our teaching has developed substantially including use of ESRI's Virtual Campus which provides an excellent resource for students to reinforce their learning.

Recognition and Awards

The GIS course, Faculty and students have received a number of accolades. In recognition of its pre-eminent position in GIS education, *The Times Good University Guide* in 2004 cited Kingston as a 'world-leader in GIS' and Dr Roger Tomlinson recently credited KUL with being 'extremely important in the GI Industry.' A number of students have received national recognition such as the 2001 AGI Student of the Year award, national winners of the 2006 young entrepreneurship competition and runner-up in the 2007 British Cartographic Society New MapMaker award.

Faculty member Doreen was awarded best paper at the Fourth European Conference and Exhibition on GIS in Genoa, 1993 as well as best poster paper at the 7th International Conference on GeoComputation in 2003. I received the ESRI EMEA conference 'best software integration' and 'best overall' awards in the map gallery in 2008. Visiting Research Fellow Linda Beale (Imperial College London) received an award for best integrated software application at the 2007 ESRI User Conference for her work in developing the Rapid Inquiry Facility. Linda and

I collaborated on an analysis of historic Irish census data with our Geo-Genealogy of Irish Surnames map recognised at the 2009 ESRI User Conference with the Cartography Special Interest Group best map award; the most unique award and also the people's choice award. The GIS staff-student 5-a-side soccer team even won the KUL intra-mural competition for the last two years as well as coming runners-up in a national Universities competition.

KUL GIS is also extremely proud of its recent accreditation as an ESRI Development Center which provides recognition and special status to university departments that have exemplary programs. Being an EDC site brings a number of benefits to KUL including an annual student of the year award which conferred for the first time in 2009, suitably commemorating 20 years of the course. KUL GIS was, fittingly, the first EDC outside North America.

A number of companies have sponsored student awards in recognition of the importance of the courses for GIS education. Currently, Ordnance Survey sponsors two annual awards to the most outstanding Bachelor's and Master's students for their individual research projects. AGI sponsors the GIS 5-a-side football team and ESRI, through the EDC programme, provide an annual Student of the Year award.